Summer Internship

At

V-RAC Global Services, Delhi (April 1 to May 31st, 2020)

A Report

Knowledge, Perception, and Attitude of the youth (18-24 years) of Delhi about the Public Health System in India

By

RISHABH AGRAWAL

PG/19/070

Post-graduate Diploma in Hospital and Health Management

2019-2021

International Institute of Health Management Research, New Delhi

ACKNOWLEDGEMENT

First of all I thank almighty, for making everything possible by giving me strength and courage for the completion of this work.

I am grateful to International Institute of Health Management and Research, New Delhi for providing me with an opportunity to work on this major project at V-RAC Global Services, Delhi. The period of summer internship has been a good learning experience for me.

I take the opportunity to express my profound gratitude and deep regards to my internal guide Dr. Pradeep Panda, Dean Academics, IIHMR for his encouragement and for providing me the excellence guidance throughout the project completion.

I would also like to express my gratitude to Mr. Rahul Sharma and Ms. Eena Lamba, my external guides, during the complete training program for monitoring and constant encouragement throughout the course of this training program. The blessing, help and guidance given by them, time to time shall carry me a long way in the journey of life on which I am about to embark.

Lastly, I thank my parents, brother and friends for their cooperation, help and support.

CONTENTS

GLOSSARY

S. No.	Abbreviation/Term	Full Form/Description
1.	ANM	Auxiliary Nurse Midwife
2.	ASHA	Accredited Social Health Activist
3.	ATLAS TI SOFTWARE	Software used for quantitative data analysis
4.	AWC	Army Wellness Centre
5.	AWW	Anganwadi Workers
6. .	BMI	Body Mass Index
7.	CHC	Community Health Center
8.	CHE	Current health expenditure
9.	CTC	Cost To Company
10.	CV	Curriculum Vitae
11.	Digital India	Digital India is a campaign to ensure the Government's services are made available to citizens electronically by improved online infrastructure and by increasing Internet connectivity or making the country digitally empowered.
12.	ds RNA	Double stranded Ribonucleic acid
13.	eSanjeevani OPD	National Tele-consultation Service
14.	EY	Ernst & Young
15.	FGD	Focused Group Discussion
16.	FLW	Front Line Workers
17.	GOI	Government Of India
18.	Google Scholar	Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines
19.	Herd immunity	Herd immunity is a form of indirect protection from infectious disease that occurs when a large percentage of a population has become immune to an infection, whether through vaccination or previous infections, thereby providing a measure of protection for individuals who are not immune
20.	HOD	Head of Department
21.	HR	Human Resources

22.	IDI	In Depth Interview
23.	IT	Information Technology
24.	Janani Suraksha Yojana	a safe motherhood intervention being implemented with the objective of reducing maternal and infant mortality by promoting institutional delivery among pregnant women
25.	JSI	John Snow, Inc
26.	KAP SURVEYS	Knowledge, Attitude and Practices
27.	MDGs	Millennium Development Goals
28.	Mera Aspataal	Portal for patient feedback of public health facilities
29.	NCBI	National Center for Biotechnology Information
30.	NGO	Non-Governmental organization
31.	NHM	National Health Mission
32.	NPH health mobile application	Mobile application - enables a person to find nearby hospitals and blood banks across India.
33.	Online Registration System	Portal for online registration & appointment, payment of fees, online viewing diagnostic reports etc. in public hospitals.
34.	OOPE	Out Of Pocket Expenditure
35.	PF	Provident Fund
36.	PHC	Primary Health Center
37.	PMJAY	Pradhan Mantri Jan Arogya Yojana
38.	PSU	Primary Sampling Unit
39.	PubMed	PubMed is a free search engine accessing primarily the MEDLINE database of references and abstracts on life sciences and biomedical topics
40.	Rastriya Bal Swasthya Karyakram	initiative aiming at early identification and early intervention for children from bi rth to 18 years to cover 4 ‘D’s viz. Defects at birth, Deficiencies, Diseases, Development delays incl uding disability.
41.	Rogi Kalyan Samiti	Effective management structure. This committee, a registered society, acts as a group of trustees for the hospitals to manage the affairs of the hospital.
42.	RSBY	Rastriya Swasthya Bima Yojana
43.	SDGs,	Sustainable Development Goals
44.	SECC	Socio Economic Caste Census

45.	SHG	Self Help Group
46.	SPSS	Statistical Package for the Social Sciences
47.	STATA	Software for Statistics and Data Science
48.	Systematic Review	Systematic reviews are a type of literature review that uses systematic methods to collect secondary data, critically appraise research studies, and synthesize findings qualitatively or quantitatively
49.	UN	United Nations
50.	UNDP	United Nations Development Program
51.	UNICEF	United Nations International Children's Emergency Fund
52.	WFH	Work From Home
53.	WHO	World Health Organization

Organizational Case Study: V-RAC Global Services

V-RAC Global Services Private Limited is among India's top consulting and research firm providing services across the nation. The vision of the company is to accelerate healthcare and to witness the healthcare industry progress and thrive.

VRAC Global Services is an emerging player in business consulting, project management, large scale survey, trainings, assessment and evaluation in various states of India bridging gaps between western and regional management approaches. The organization serves key healthcare organizations and decision makers, such as government agencies, NGOs, life science and healthcare companies, health consumers/devices manufacturers and distributors.

V-RAC is headquartered in Greater Noida, and has offices in 7 states of the nation. VRAC Global have a fulltime in-house field team of over 1500 personnel, experienced in evaluations, household surveys, and conducting nationwide census surveys including qualitative and quantitative interviews, KAP surveys, Community surveys, FGDs, In-depth interviews, interviews involving community beneficiaries

CORE VALUES

- **Human Relation-** "We strive to show a deep respect for human beings inside and outside our company and for the communities in which they live."
- **Quality-** "What we do, we do well. Delivering our very best in all we do, holding ourselves accountable for results."
- **Integrity- "**We are honest, open, ethical, and fair. People trust us to adhere to our word."
- **Passion-** "Passion is at the heart of our company. We are continuously moving forward, innovating, and improving."

MISSION

"Our Mission is to provide quality services, advice, information and solutions that make a positive difference for our clients."

HUMAN RESOURCE POLICY

❖ COMMUNICATION CHANNELS

- **VIDEO – CONFERENCE:** is employed as an effective tool to conduct meetings between different locations. It is an extremely competent electronic medium for efficient communication with the employees of the organization at various geographical locations, and at the same time can act as a channel for reporting issues and progress of work. Employees have to setup active accounts on portals such as Skype and Zoom.
- **E-MAIL:** E-mails are the most common medium of sharing information between various employees and departments in VRAC. On the basis if the requirement, every employee is allotted an email id from VRAC, vital for intra and inter organizational communication, on request of the employee y the IT team.

❖ RECRUITMENT PROCESS

The HR department prepares recruitment budget, for the respective branch after the consultation and approval of HOD(s), taking the following points into account:-

1) Number of employees present in different departments along with the associated cost with them.
2) Number of required employees in different departments for the upcoming financial year and estimate of their associated cost. Keeping in mind the employee attrition trend in the organization.
3) Estimated budget for carrying out the process of recruitment.

✓ RECRUITMENT - INTERNAL SOURCE

Efforts must first be made to cover the requirement, from within the organization, by the following:

1) Optimizing the workforce of the company.

2) Promoting eligible employees working in our organization.

Process:

1) The new position has to be first advertised amongst employees of the organization. The advertisement will have all the required particulars regarding the position. This should include the number of open positions, department under which the position is open, academic and experience qualifications etc.
2) Employees found interested and eligible are summoned for an interview and selection for the position is made.
3) In case none of the employees are interested or are found eligible for the position within 2 weeks of the advertisement of the position (depending upon the need to fill the position, the period can be flexible), the HR has to recruit through external sources.
4) Promotional benefit will be admissible only in the event of selection for a position one step higher than the existing level of the selected candidate.

- ✓ **RECRUITMENT FROM EXTERNAL SOURCE**

- **WALK – IN INTERVIEWS/ RE-HIRING OF EX-EMPLOYEES/ EMPLOYEE REFFRALS**

Process:

1) The position should be advertised by the HR Head. The advertisement will contain all necessary details, such as, number of positions, department, minimum academic qualification and experience required for the position and/or any other requirement.
2) CV's will be screened for appropriate qualifications, work experience and other requirements.
3) Employee candidates found eligible are called for interview and selection made.
4) The selected candidates will be given the offer letter over email (after background check).
5) With-in 1 week of receipt of appointment letter, the candidate has to confirm the joining of the position. Once confirmed joining details will be communicated within 2 weeks of time.

- **NOTE IN CASE OF RE-HING OF THE EMPLOYEE –**
    1) The concerned employee must have had a good track record of performance and satisfactory conduct while he was in Company's employment
    2) Re-hiring will be treated as fresh employment and the past service will not be considered for any purpose whatsoever.

- **CAMPUS RECRUITMENT**

1) The job description is published in the campus along with the compensation details.
2) All the interested candidates can apply and submit their CV's.
3) CV's will be screened for appropriate qualifications, work experience and other requirements.
4) Selected candidates have to go through a written test (logical reasoning, verbal aptitude, data analysis, quantitative aptitude).
5) Candidates who qualify the written test undergo a group discussion.
6) Candidates who cleared group discussion will be called for panel interview (HR and technical). The interview would be of about (30-60 minutes).
7) The selected candidates will be given the offer letter over email (after background check).
8) With-in 1 week of receipt of appointment letter, the candidate has to confirm the joining of the position. Once confirmed joining details will be communicated within 2 weeks of time.

❖ INDUCTION

V-RAC hosts a warm welcome for all its employees, on the first day of employee joining. The day begins with orientation ceremony where the employees are greeted by the director, HR head, and his/her team head. After introduction about the company, services and leadership of the organization, the employees are made aware of the various rights and responsibilities of the employee, and all other HR policies at the organization. This is followed by a quick tour and brief introduction with the remaining company employees.

The HR representative will facilitate the joining formalities of a new recruit

1) An ‘Employee welcome Kit’ which contains a welcome letter, employee handbook, and other stationery/ laptop will be given to the new recruit.

2) Filling of various forms (Employee Personal detail Form, PF, Gratuity nomination form, etc.) by the new employee should be ensured.

❖ PROMOTION POLICY

- A promotion is an opportunity for an employee that will involve more duties and higher accountability and generally even a hike in compensation. Promotions of employees usually take place within their department. However, depending upon business requirement an employee may be transferred and promoted to a position outside his own unit, provided the employee possesses the required qualification and experience for the position.
- An employee has to complete at least one year’s service in his existing designation to be considered eligible for promotion to a higher position.
- Promotions usually take place from 1st April. But in cases of exceptional performance or where the management feels it necessary, promotion out of turn may be considered.
- Promotional benefit will include suitable increase in CTC plus revised perquisites admissible for the higher position.

❖ MENTORSHIP PROGRAMME

- Adjusting in a new work environment is at times quite a daunting task for interns and fresher employees. So in order to support our employees and make them feel more comfortable at VRAC we have mentorship program. Every intern and fresher employee will be assisted through a mentor for the first 6 months. The employee can discuss his or her concerns with the mentor and take help from the mentor whenever necessary.
- A mentor should be a working employee of the company with a minimum experience of 1 year at the organization, preferably from the same educational background. The mentor is supposed to have a minimum of 1 call every 2 weeks with the mentee.

❖ WORK FROM HOME POLICY

✓ WORK FROM HOME REQUEST PROCESS

A duly filled work from home request form should be submitted by the employee to the HR department. Depending upon the work profile/job description/targets/responsibilities/performance in office and prior WFH performance and efficiency of the employee the head HR will take the final and binding decision on granting permission from WFH to the employee.

✓ WORK FROM HOME GUIDELINES

To ensure that employee efficiency and productivity does not suffer in work from home arrangements, all employees are advised to stick to following guidelines:

- Choose a working space that is quiet and free of any distractions.
- Have a high speed internet connection, appropriate for their job.
- During working hours employees should dedicate entire attention to their job responsibilities.
- Obey to all the schedules, discussed with the manager beforehand.
- Managers and all the team members should collectively define weekly and monthly targets. Frequent meeting must be held to discuss the progress of assigned tasks.
- Employees should ensure that there is no loss of data or leak of any confidential information. They are advised to back up their data, to prevent any loss of data due to case of technical snag.
- The employees may use their personal equipment for work, if the organization has not provided with one for working from remote locations. But the employee should ensure there are no discrepancies in work due to using personal equipment.

❖ LEAVE POLICY

✓ ANNUAL PAID LEAVES

All employees are eligible for 15 working days of paid leaves of every financial year.

Every employee should submit a request for leave a minimum of 3 days prior the start of the leave(s).

- ✓ **SICK LEAVES**

All employees are eligible for 12 calendar days (planned and unplanned) of paid sick leaves of every financial year.

- In all cases the employees must submit a supporting medical document for eligibility of sick leaves.
- In case of planned leaves, the employee must submit a request for leave, a minimum of 7 days prior to the start of the leave(s).
- In case of unplanned leaves, the employee must submit a request for leave as soon as the employee joins back the organization after leave(s).
- If the employee somehow misses the criteria for eligibility to sick leave according to the management, the leaves will be counted as annual paid leaves. However, if the employee has used up all its annual paid leaves of the current financial year and accumulated paid leaves, it would lead to a loss of payment of salary.
- loss of salary will be calculated as = $\frac{\text{annual base salary}}{\text{No. of working days in the current year}} \times$ no. of leaves taken

- ✓ **COMPULSORY TIME OFF**

All the national holidays and festivals are compulsorily off for all the employees. VRAC does not offer any compensatory off for these holidays.

- ✓ **CARRY FORWARD AND ACCUMULATION OF LEAVES**

The employees can carry forward their unused annual paid leaves to the nest year. All the employees are eligible for an accumulation of a maximum of 60 annual paid leaves. More than 60 leaves will stand lapsed.

- ✓ **ENCASHMENT OF LEAVES**

At the time termination (either by the employee or the organization) the employees are eligible to en-cash their unused annual leaves, accumulated over the years of their service at

VRAC global services, as a part of their final settlement. The unused annual leaves cannot be used to waive off the notice period (if applicable) of the employee under any circumstances.

Encashment will be calculated as = $\frac{\text{annual base salary}}{\text{No. of working days in the current year}} \times$ annual unused leaves

✓ **MATERNITY LEAVES**

- Eligibility- the woman employee should have completed working for 80 days in the organization in the last 12 months.
- Women are eligible for a total of 26 weeks of paid paternity leave. The period of leave can be bifurcated for pre and post-delivery of the baby. Pre delivery maternity leaves can start as early as 8 weeks prior to the due date of delivery.
- In case of the third child of the woman employee, or adoption, she is eligible for a paid maternity leave of 12 months.
- The women employee is required to submit necessary medical documents for the same, at least 15 days before the start of the leave.

✓ **PATERNITY LEAVES**

There is no provision for paternity leaves at VRAC global services.

❖ EMPLOYEE CODE OF CONDUCT

Employees ought to follow all applicable laws, rules, and regulations at all times.

- Employees should be clean and well groomed. They should wear work appropriate clothes that project professionalism.
- Employees should take care of the organization's property (at workplace and anything given to them for work by the organization), and refrain from any action that results in damage of the property at any time.
- Employees should be punctual. He or she should report to work on time and also should keep up with the deadlines of any work allotted to the employee.

- Confidentiality should be maintained at all times by the employee. No information about the company (except for what is mentioned in public domain) should be shared outside the organization without permission.
- Employees should ensure to maintain a clean, safe and health work environment and should report all accidents, unsafe procedures and injuries to the management at the earliest.
- Employees must treat their fellow colleagues, juniors, seniors and other staff members with respect and maintain a harmonious work environment.
- Employees should not report to work under the influence of any drug or alcohol.
- Employees should refrain from using foul or abusive language in the workplace.
- Employees are prohibited to discuss any price or business terms or procedures with any of the organization's competitors, even if the purpose of sharing is non-malicious.
- Employees should not indulge in any form of bribery under any circumstances whether dealing with the private or government firms.
- Employees should be very cautious while using social media. They should not post anything disrespectful, derogatory or discriminatory on their social media accounts that impairs company's work environment. Employees should refrain from posting anything on social media that conflicts or violates the company's policy and results in any sort of damage to the organizational image.
- Employees should report any violations of any policy they encounter to the HR or senior management as soon as possible. VRAC will not conduct any retaliation against any whistle blower done with good intentions.
- In cases of conflict employees must cooperate with internal investigations of any kind.
- If any employee is found guilty of any breach or violation under the rules and regulations of the organization, he or she is liable to strict action.

❖ COMPANY PROPERTY POLICY

Employees should handle the company's property with care, in the workplace, as well as if any equipment such as laptop or other important files, documents is given to them for work should be taken care of.

Equipment that VRAC provides to its employees is VRAC's property. Employees must certify safety of the equipment. Employees must keep in mind the following points:

- Always keep equipment protected with a password.
- When not in use store the equipment in a clean and safe place.
- Follow all protection standards and data encryption.
- Don't download any illegal or unauthorized software.
- Personnel from HR department will discuss the need for insurance of the equipment with the employees.

In case of any damage to company property by an employee, the company may take disciplinary action against him/her, or the employee will have to compensate for the loss monetarily. Final decision for the same lies in the hands of the head HR.

❖ EMPLOYEE RELATIONSHIP MANAGEMENT POLICY

✓ CONFLICT OF INTERESTS

A conflict of interest arises when one's personal benefits or relationships affect the organizational objectives. Employees should use their best judgment at work at all times and in all possible ways. Employees should try to avoid such conflicts at all times, and take decisions that are beneficial for the organization at a priority. In case employees acknowledge any such conflicts, they should report it to the HR manager at the earliest.

The HR management holds full rights to scrutinize any such complaints and take necessary legal or non-legal action against the employee, if found employee is found guilty at any level.

✓ INTER PERSONAL CONFLICT

Employees should maintain a health and professional inter-personal relationships with all their colleagues, juniors, seniors and other staff members. All employees should treat each other with respect and politeness. Any employee should not indulge in any non-verbal, verbal or physical brawl with fellow members. However, if any conflict arises, because of personal or professional reasons, employees should first try to resolve them at personal level. In case the differences are aggravated or cannot be resolved on peer level, or are interfering with

work efficiency should be reported to the HR department or superiors for official action/resolution.

- ✓ **ANTI - DISCRIMINATION POLICY**

VRAC ensures equal working opportunities for all its employees. The company does not on any grounds (gender, sexuality, region, religion, caste, creed, race, ethnicity, nationality, physical appearance etc.) discriminate against any of its employee.

All the employees should ensure that they do not (knowingly or unknowingly) say or do anything that is derogatory or discriminatory to any of the company's employees. The organization will investigate and will take strict action (legal or non-legal) against any employee found guilty of any kind of discrimination in the workplace.

- ✓ **ANTI-HARRASSMENT POLICY**

Harassment can be defined as any gesture or phrase (written or spoken) based on any grounds, which offend the other person. Harassment leads to humiliation, mental stress and reduced work productivity and spoiled work environment.

Examples of harassment include:

- Making obscene gestures
- Making racial or ethnic slurs
- Staring or leering at someone
- Making sexual remarks or stereotypical comments based on gender, sexuality.
- Making jokes about a person's race, national origin, disability etc.

VRAC will not tolerate any sort of harassment against any employee by anyone under its roof. Strict action will be taken against the offender if found guilty in investigation.

- ✓ **SEXUAL HARASSMENT POLICY**

Sexual harassment is unwelcome and offensive conduct of sexual nature, which offends or humiliates a person. Anyone can be the target and offender of sexual harassment, regardless of the position in the organization and the gender of the target and the offender.

Examples of sexual harassment include:

- Requests of sexual favors, including sexual flirtations, romantic attention, repeated requests for coming on a date
- Making sex based comments, sexual jokes or use of sexually explicit language
- Unwanted physical contact or gestures
- Circulating sexual pictures or videos
- Harassment based on individual's sexual orientation or gender identity

VRAC will not tolerate any sort of sexual harassment against any employee by anyone under its roof. Strict action will be taken against the offender if found guilty in investigation.

ORGANOGRAM

VRAC global services have very simple one-dimensional organizational structure.

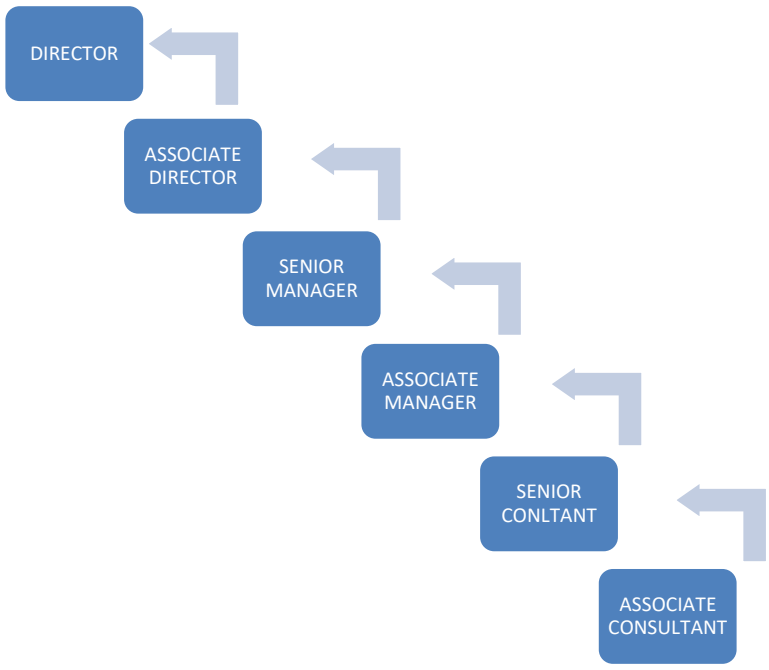

CHART. 1.1- A flowchart showing organogram of VRAC Global Services

SERVICES

VRAC has served numerous projects and has worked with a number of healthcare organizations, spanning government agencies, policymakers, donor agencies, healthcare and life sciences companies, researchers, medical device manufacturers and distributors. Services are offered in the following areas:

SERVICES	DESCRIPTION
❖ **System Strengthening**	1. Project Management Consulting 2. E-Governance 3. Project Monitoring and Evaluation 4. Project Management Unit 5. Public-private partnership
❖ **Training and Capacity Building**	1. Training needs assessment 2. Pre-Post assessment 3. Developing training module and other content 4. Training logistics management
❖ **Procurement and Supply**	1. Procurement of medical equipment/drugs 2. Supply of medical equipment/drugs to the last mile. 3. Drug Inventory Management and logistics
❖ **Payroll and Recruitment**	1. Recruitment 2. Pay roll Outsourcing 3. Overall human resources management services
❖ **CSR Consulting**	1. Partnership Management

	2. Policy design 3. Monitoring and evaluation 4. Impact Assessment
❖ **Hospital Accreditation and certification**	1. Consultation on making hospitals Ayushman Bharat (RSBY) complaint 2. NABH Accreditation for hospital
❖ **Survey**	1. Project Base Line Survey 2. Project Evaluation survey 3. Project /Facility Assessment survey 4. Project End Line Survey 5. Market Research and Data analysis

TABLE 1.1 - Various services offered by VRAC Global Services

VRAC has experience of working with Ministry of Health and Family welfare Gujarat, Uttar Pradesh, Madhya Pradesh, Jammu & Kashmir, Rajasthan and Ministry of Social Justices, Ministry of Tourism, Ministry of Corporate affairs, Uttaranchal and UN agencies like UNDP, WHO, UNICEF and JSI.

S. No	**Project Name**	**Organization**	**Services provided**
1)	Assessment and Landscape analysis of Government Health Insurance Scheme	EY	• Monitoring & Evaluation • Large scale Public Health Assessments/ • Research study (including qualitative quantitative methodology) • Evidence
2)	Data Assessment and developing transition plan for WHO-NPSP Unit, India	NPSP, WHO India Office	
3)	Formative study to understand perceptions of smart phone users regarding water proof phones as well	SAMSUNG	

	as the motivations/ triggers for seeking healthy behavior while using smart phone in Delhi.		Generation and implementation plan via data analytics support
4)	Training and Capacity building support to UNDP under ANCHAL project in Pune.	UNDP	
5)	High Level Advocacy for Tobacco Control in 4 States of India	Smith and Nephew	
6)	Comprehensive UIP Review	ITSU	
7)	Gap Analysis and revamp of Incredible India project	Ministry of Tourism, Government of India	
8)	Mapping and Installation of network booster in all 4 GMSDs. (Procurement and Supply)	UNDP	
9)	End line assessment in Goa	HealpAge India	
10)	End Line assessment in Amroha, UP	HelpAge India	
11)	Community Assessment through base line survey in Gajraula	HelpAge India	
12)	Third party evaluation study of Project on Accelerating efforts towards reducing burden of anemia via social mobilization, communication and system strengthening in selected villages of Rohtak, Haryana.	MAMTA	

TABLE 1.2 – some projects handled by VRAC Global Services

VRAC END LINE ASSESMENT PROJECT WITH SMILE FOUNDATION

Smile Foundation is a national level professionally managed development organization, is working to improve the lives of underprivileged population by addressing the gaps in access to education, healthcare and livelihoods under its thematic areas of education, health care, livelihoods and women empowerment in 25 states of the country, reaching out to more than 750,000 children and their families.

Smile foundation had done a project on improvement of health, education and earning potential of adolescent girls (14-19 years) in the Amirgarh block of Banaskantha district, in the state of Gujarat. Now Smile Foundation actually wanted to understand the improved situation and needs of the adolescent girls enrolled under the project. And therefore, an end line survey and improvised need assessment was required, for which VRAC Global Services were partnered with.

The specific outputs desired by Smile Foundation through the survey were:

1) To assess the improvement (actual nutritional status and prevalence level of anemia) and changes in the nutritional needs of the adolescent in the project area.
   - ✓ Nutritional pattern among adolescents during normal days and during menstruation
   - ✓ BMI – moderate/ mild / acute malnutrition levels (Prevalence of being thin (low BMI) and Stunting)
   - ✓ Anemia (iron deficiency) various levels
   - ✓ Prevalence of malnutrition in Adolescence
2) To understand the government linkages established, and community participation strengthened to address prevailing malnutrition among the adolescent girl.
   - ✓ Knowledge and practices of special nutrition requirement during Adolescence
   - ✓ Average House hold expenditure on food / nutrition

✓ Kind of food intake/ staple diet – Nutrition deficiency (Cultural pattern specific to tribal v/s nutrition)

✓ Gender discrimination on intra-household food and resource distribution/ allocation

3) To assess the livelihood and entrepreneurial initiatives undertaken for the adolescent girls.

✓ Livelihood and entrepreneurial initiatives undertaken

✓ Current prevalent occupations (any) – Status of help at home and help in fields

✓ Sanitation, drinking water resources and hygienic practices (including hand wash on key occasion, menstrual hygiene)

✓ House hold instances of water borne diseases and its frequency

✓ Other Government specific initiatives for nutrition (– reasons for their failure)

VRAC's approach to the end line survey is detailed below:

- **FRAMEWORK**

The duration to complete the task was divided into three phases.

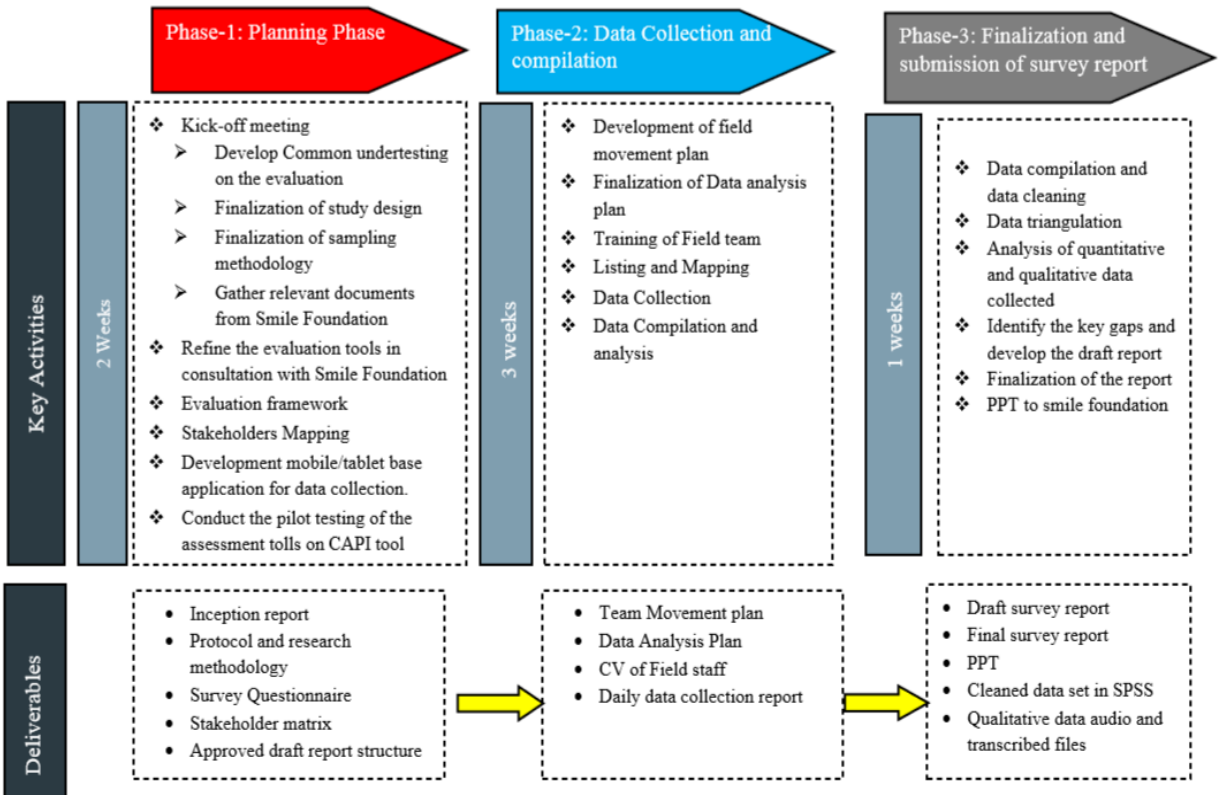

FIG. 1.1 – framework used by VRAC Global Services for an End Line Assessment project

- **SAMPLE SIZE FOR QUANITATIVE SURVEY**

1300 households was the sample size determined (after consideration of non-response rate, and also to reduce sampling errors and increase the precision) including both for treatment and control groups equally.

The Primary Sampling Units of the study comprise Gram Panchayats/ Villages and they were selected based on PPS sampling. On an average 22 households from a village survey, chosen with systematic random sampling. Villages with less than 150 households in the sampling frame will be linked to neighboring villages to create 'linked PSUs' with a minimum of 150 households. Villages with more than 300 households will be divided into three or more mutually exclusive and exhaustive physical units called 'segments'. Randomly two segments

were then selected by drawing appropriate notional maps of the village/segments to serve as the base maps for the household listing and mapping for this study.

- **QUALITATIVE SURVEY**

S. No.	Method Respondent	Type	Quantity
1	In-depth Interview	District level	1
2	In-depth Interview	Block level	1
3	FGD	Parents/Caregivers/mothers	24 (12 from intervention and 12 from non-intervention village)
4	In-depth Interview	Head of the family	5% of the household in the selected villages
5	GD	With community	4 (2 from intervention and 2 from non- intervention village)
6	FGD	FLW (ASHA/AWW)	4 (2 from intervention village and 2 from non-intervention village)
7	In-depth Interview	SHGs	4 (2 from Intervention and 2 from Non- intervention village)
8	Semi-Structure Interview	AWCs	Overall 10 % of AWCs in selected intervention and non-intervention villages

TABLE 1.3 – qualitative survey details

Pradhan or any other person who can give the whole picture of the community will be chosen as the key informant.

Structured questionnaire was used for quantitative study, and FGD, KPI was used for qualitative data collection.

- **EVALUATION FRAMEWORK**

The indicators were finalized based on the log framework. This study matrix was created after assessing all the dimensions of the logical framework. The study captured cross-cutting themes which affected performance of indicators. The effect of cross cutting areas like poverty, education and technology are not under direct purview of Ministry of Health, however, may influence the output.

- **STAKEHOLDER ANALYSIS**

Stakeholder mapping was undertaken in this study, i.e. a key personnel across all villages/wards was identified that was helpful in providing the required information.

- **DATA COLLECTION**

Digital survey tools (mobile or tablet based applications) was developed by VRAC which assisted surveyors to capture data in an appropriate format. Digital survey tools, compared to paper based alternatives, reduce data collection time, improve data quality, ease data management, and facilitate quick time data analysis and feedback. An android based survey tool for collection of data and a dashboard for data analysis and visualization was developed.

The android application allowed for online/ offline data capture to ensure seamless data entry even in no or low internet settings of the study. To ensure data quality, appropriate validations and algorithms was built into the application. The data was saved in a central server, accessible through a dashboard.

- **PILOT TESTING**

Pilot testing was done in selected village of the study area in consultation with Smile Foundation team. This helped in finding any gap in the tools and finalizing accordingly.

- **TRAINING THE TEAM**

VRAC Global provided widespread trainings to the field researchers on the various project aspects and objectives, as well as on the research tools to be utilized.

✓ Training involved practical exposure such as of filling up the dummy questionnaire, role pay of FGDs and IDIs, field visit to familiarize the field team about the entire arena, culture and procedure.

✓ Teams are extensively trained on the procedure to conduct random sampling in the field.

- **DATA ANALYSIS**

Appropriate bivariate, multivariate, propensity score matching, and Difference and Difference methods were used to meet the specific objectives of the study. Survey-CTO software was used for data processing. Quantitative data of the study was analyzed using Microsoft Office Excel, SPSS and STATA. Qualitative information was analyzed with the help of Atlas Ti software.

Basic data cleaning was done based on skipping patterns, filters and validation rules daily. Both type of data that was carefully collected, was then analyzed and triangulated against each and every indicator, and inferences were drawn based qualitative and quantitative review of every indicator, which later assisted in formulation of recommendations.

To ensure the quality of data, VRAC Global also conducted back checks of the sample of forms received on the server. This was done by calling the respondents and verifying the recorded response of a few basic questions.

An overall Draft Report was prepared incorporating detailed analysis. The draft report was submitted and presented to the client for their feedback and inputs. Based on the feedback the report was finalized.

REFERENCES

(n.d.). Retrieved from https://vracglobalservices.com/

To develop the organizational case study, I got huge help and support from the organization VRAC Global Services.

IMPACT OF ROTAVIRUS VACCINE ON DIARRHOEAL DEATHS AND HOSPITALIZATION OF CHILDREN BELOW 5 YEARS OF AGE

Rotaviruses are known to be the greatest cause of diarrhoea related disease and deaths among infants and under 5 children. Almost every child in the entire world has suffered from at least one episode of rotavirus infection by the age of five years. In 2013, rotaviruses caused 215,000 diarrhea related deaths of children worldwide, which is responsible for about 3.4% of total deaths in children; and almost 2 million more children had fallen severely ill. An estimate of approximately 11.37 million cases of gastroenteritis due to rotavirus infection is seen annually in India. These episodes of infection require about 32.7 lakhs of OPD visits, and 8.72 lakhs hospitalizations for treatment. These gastroenteritis cases kill about 78,000 children in a year in India. A strong immunity is developed after every infection, making consequent infections less severe. However, rotavirus infection is hardly found in adults.

Rotavirus is a, ds RNA virus belonging to Reoviridae family. Among the ten species of the genus, rotavirus A, is the most common and accounts for about 90% of all rotavirus infections in humans. Post transmission (through the faeco-oral route) the virus infects and damages the cells lining the small intestine leading to gastroenteritis.

Rotavirus vaccination was first discovered in 1998 by Wyeth by the name of RotaShield. Now, 6 types of rotavirus vaccines are available. The World Health Organization (WHO) in 2009 recommended the rotavirus vaccine to be included in every national routine vaccination programs. In India a live attenuated, monovalent, orally administered Rotavac vaccine, manufactured by Bharat Biotech International Limited is available.

ARTICLES REVIEWED

Title	Study Design	Methodology
1. "Effect of Rotavirus Vaccination on Death from Childhood Diarrhea in Mexico"	Quasi experimental	Data for < 5 child mortality due to diarrhoea was obtained from "National Institute of Statistics, and Informatics" and the "Ministry of Health's General Directorate of Health Information," from 2003 to 2009. Vaccine was introduced in 2006.

2. "Rotavirus gastroenteritis in India, 2011–2013: Revised estimates of disease burden and potential impact of vaccines"	Quasi experimental	Data for child mortality and Retrogressive cohort was obtained Indian Rotavirus Surveillance Network for 5 cohorts in India. Estimates were made for the effect of vaccine in entire country based on results observed in these 5 cohorts.
3. "Effect of rotavirus vaccine on childhood diarrhea mortality in 5 Latin American countries"	Retrogressive cohort	Data for mortality due to diarrhoea in < 5 children was taken from Pan American Health Organization Mortality Database form 2002 and 2009, for 5 countries which introduced rotavirus vaccine in 2006, and for 5 which did not introduce the vaccine until 2009.
4. "Impact of Rotavirus Vaccination on Hospitalizations and Deaths From Childhood Gastroenteritis in Botswana"	Quasi experimental	Data for diarrhoeal deaths and hospitalization of < 5 children was obtained from 4 hospitals in Botswana from 2009-2012 (pre vaccine period) and 2014-2014 (post vaccine period) and compared.
5. "Estimated reductions in hospitalizations and deaths from childhood diarrhea following implementation of rotavirus vaccination in Africa"	Quasi experimental	Data of regional burden of rotavirus and mortality (from WHO) was retrieved in 2016 for 29 African countries who introduced rotavirus vaccine in 2014.

TABLE 2.1 – articles reviewed for the study represented in a tabular format

METHODOLOGY

I screened 18 research papers from databases such as PubMed, Google Scholar, NCBI, searched on certain keywords such as *Rotavirus vaccine, under 5 mortality, Rotavirus hospitalization, Rotavirus diarrhoea, Rotavirus gastroenteritis, impact, efficiency, efficacy* etc. Out of these 18 papers, based on their title and abstract 10 full articles were retrieved,

and out of them 5 papers were selected for the final study and analysis. These studies on effectiveness of Rotavirus vaccine were done in India, Botswana, Mexico, Africa and Latin American countries.

INCLUSION AND EXCLUSION CRITERIA

Case control, and Randomized control trials were included in the study. Studies in phase III vaccine trials were also eligible to be included. 2 papers based in the same country were excluded from the study; the more recent paper was selected if both papers fulfilled other criteria. All the literature published prior to 2010 was not included in the study. The papers about systematic review or comparison of previously published research articles were found ineligible to be included.

OUTCOMES CONSIDERED

- Diarrhoea related deaths in children below 5 years of age, before and after introduction of vaccine.
- Diarrhoea related hospitalizations in children below 5 years of age, before and after introduction of vaccine.

FINDINGS

The following 5 tables are filled with consolidated data about the concerned outcomes, obtained from the 5 articles under the study. These tables will form the basis of comparison, analysis and discussion in lieu of the selected outcomes.

Country		Diarrhoea related death in children (rate is per 1 lakh children)								Reduction
Mexico		< 5		Infants		12-23 months		24-59 month 111		• < 5 - 35 % • Infant - 41% • 12-23 - 29% • 24-59 - 7%
		No.	Rate	No.	Rate	No.	Rate	No.	Rate	
	Before	1793	18.1	1197	61.5	421	21	175	2.9	
	After	1118	11.8	680	36	285	15	153	2.7	

TABLE 2.2 – data consolidated from – "Effect of Rotavirus Vaccination on Death from Childhood Diarrhea in Mexico"

Country		Diarrhoea related death rates in children < 2 years of age		Diarrhoea related hospitalization rates in children < 5 years of age		Reduction
Botswana		< 5 deaths per year	Infant deaths per year	< 5 hosp. per year	Infant hosp. per year	**DEATHS** • < 5 -22 % • Infant - 32%
	Before	77	65	1212	2955	**HOSP.** • < 5 – 23% • Infant-33%
	After	60	44	937	1950	

TABLE 2.3 – data consolidated from – "Impact of Rotavirus Vaccination on Hospitalizations and Deaths from Childhood Gastroenteritis in Botswana"

Country		Diarrhoea related death rate in children < 5 years of age	Diarrhoea related hospitalization rate in children < 5 years of age	Reduction
India	Before	58	643	**DEATHS** • 34%
	After	39	341	**HOSP.** • 53%

TABLE 2.4 – data consolidated from – "Rotavirus gastroenteritis in India, 2011–2013: Revised estimates of disease burden and potential impact of vaccines"

Country		Diarrhoea related death in children (rate is per 1 lakh children)				Reduction
Latin America (avg. for Brazil, Mexico, Panama, Nicaragua, El Salvador)		< 5		Infants		• < 5 - 27.5 % • Infant – 27.75%
		No.	Rate	No.	Rate	
	Before	585	15.5	416	46.5	
	After	424	11.2	301	33.6	

TABLE 2.5 – data consolidated from – "Effect of rotavirus vaccine on childhood diarrhea mortality in 5 Latin American countries"

Country		Diarrhoea related death in children < 5 years of age	Diarrhoea related hospitalization rate in children < 5 years of age	Reduction
Africa (median for 29 African countries)	Before	55168	294044	**DEATHS** • 38%
	After	20986	134714	**HOSP.** • 46%

TABLE 2.6 – data consolidated from – "Estimated reductions in hospitalizations and deaths from childhood diarrhea following implementation of rotavirus vaccination in Africa"

The introduction of rotavirus vaccine has led to a significant reduction in the number of hospitalization and deaths of children due to gastroenteritis and diarrhoea. Overall a very similar trend is observed in all the countries with respect to the rates of reduction in child mortality due to rotaviral diarrhoea. The average reduction in rate of, under 5 child mortality as a result of rotavirus immunization programs, as obtained from these 5 articles, is 31.3% with a standard deviation of 6.45. Even though the data is limited with respect to the reduction in infant mortality rates due to roataviral diarrhoea, we can conclusively say that the maximum impact of the rotavirus vaccine is seen in infants with an average of 33.5 % and a standard deviation of 6.7. The possible reason behind this is, since in infancy the immune system is very weak and developing, there is increased incidence of disease as well as a higher severity of disease. The maximum impact is seen in African countries where the reduction in death rates has been 38%.

Similarly the rotavirus vaccine has proven itself to be effective in reducing the number of hospitalizations due to severe diarrhoea caused by rotavirus infection. The average reduction in rate for hospitalization due to severe diarrhoea caused by rotavirus infection is 40.6 % and a standard deviation of 15.69. The maximum impact is seen in India with reduction in rates of hospitalization are as high as 53% (but this could be a billed figure as it is based on estimation).

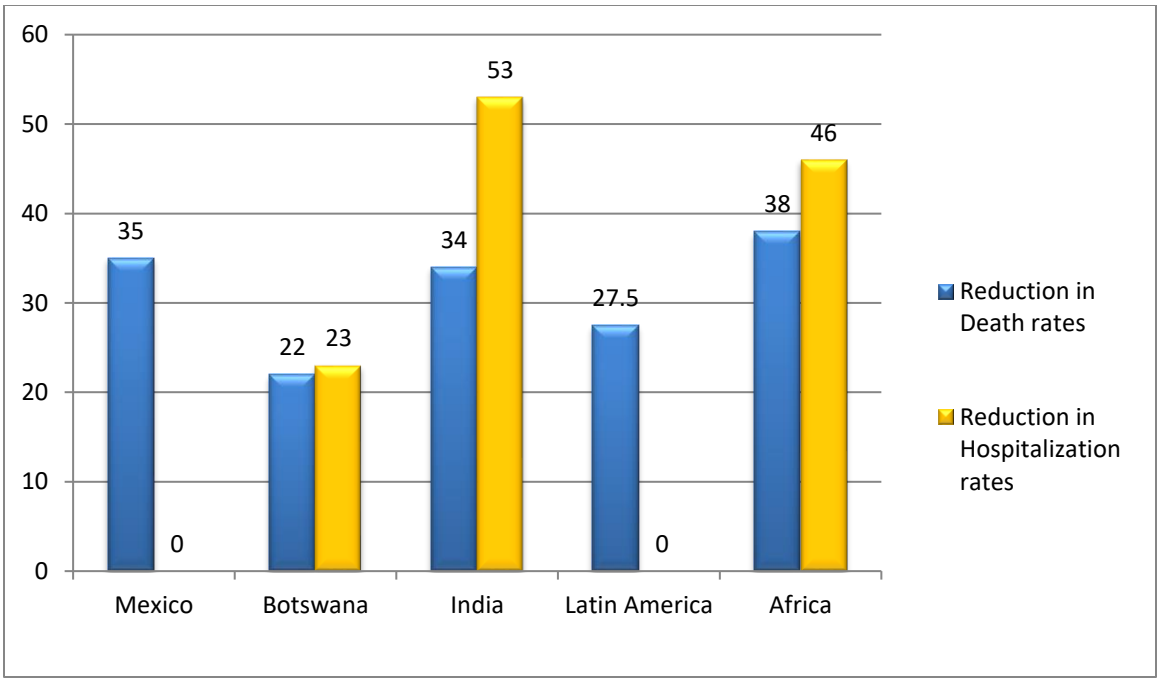

FIG. 2.1- chart displaying the reduction in rated of under 5 mortality and hospitalization due to severe diarrhoea caused by rotavirus infection in 5 different countries (data for reduction in rates of hospitalization in Mexico and Latin America was not available).

Furthermore we can observe that the difference in the reduction rate in mortality and hospitalization is not statistically significant (t test, p value = 0.101), which means that the impact of vaccine on these two parameters is proportional. As far as India is concerned where the difference in rates is 19%, the only valid explanation comes from the fact that the figures for India are estimated and not recorded and hence may need a check.

The reductions in rate of hospitalizations and deaths are dependent on various factors such as population size, and density, education level, income level, awareness, and cost of vaccine, surveillance, government and non-governmental organization's interventions, and effectiveness of the administered vaccine. One of the major factors that impact our results is vaccine coverage. Since we don't have any specific data for vaccination cover in these countries, it becomes questionable to deduce the impact of vaccine, and hence forms a limitation of the study. Other factor that affects the results is heard immunity. If incase the vaccine coverage is optimum then herd immunity comes in to play and thus can further lead

to reduction in outcomes, which can tamper our data to prove that the results obtained are directly from the impact of immunization only.

There are several evidence spotted in these studies which establish that rotavirus vaccine is effective in decreasing the rates of under 5 child mortality and hospitalization due to diarrhoea. Every country should include rotavirus vaccine in their routine vaccination programs and the coverage of the vaccination should reach high levels to reduce the burden of this disease.

REFERENCES

(n.d.). Retrieved from https://www.cdc.gov/vaccines/vpd/rotavirus/index.html

(n.d.). Retrieved from https://www.who.int/immunization/monitoring_surveillance/burden/estimates/rotavirus/en/

Effect of rotavirus vaccine on childhood diaarrhoe mortality in 5 latin american countries. (2015). *elsevier*.

Effectiveness and Impact of rotavirus vaccine in Europe . (2015). *Elsevier*.

Annmarie Pendleton, M. G. (2013). Impact of rotavirus vaccination in Australian children below 5 years of age. *Human Vaccines and Immunotherapeutics*.

Deborah Atherly, R. D. (n.d.). Rotavirus Vaccination: Cost-Effectiveness and Impact on Child Mortality in Developing Countries. *The Journal of Infectious Disease*.

K.BhancGagandeepKanga, A. l. (2014). Rotavirus gastroenteritis in India, 2011–2013: Revised estimates of disease burden and potential impact of vaccines. *Science Direct*.

Laura M. Lamberti, P. M. (n.d.). A Systematic Review of the Effect of Rotavirus Vaccination on Diarrhea Outcomes Among Children Younger Than 5 Years.

Leslie A. Enane, P. A. (2016). Impact of Rotavirus Vaccination on Hospitalizations and Deaths From Childhood Gastroenteritis in Botswana. *Clinical Infectious Diseases*.

Melinda K Munos, C. L. (2010). The effect of rotavirus vaccine on diarrhoea mortality. *International Journal of Epidemiology*.

Minesh P. Shah, J. E. (2017). Estimated reductions in hospitalizations and deaths from childhood diarrhea following implementation of rotavirus vaccination in Afric.

Vesta Richardson, M. J.-P.-S.-A.-A. (2010). Effect of Rotavirus Vaccination on Death from Childhood Diarrhea in Mexico. *The New England Journal of Medicine*.

Knowledge, Perception, and Attitude of the youth (18-24 years) of Delhi about the Public Health System in India.

INTRODUCTIION

Health of the society has been a concern to social and economic development in India right since independence. In every 5 year plan, or MDGs and SDGs, addressing and fulfilling the health needs of every individual and society as a whole, has been the priority. However, population health and its impact on the social and economic system remains a major development challenge in our nation.

In a nation like India which is densely populated and has about 22% of its population living in poverty, it is almost certain that the state-sponsored and the state-run public health system have to form the backbone of the entire health system of the country. To support the wide array of health needs and provide a structured primary, secondary and tertiary care services to the people the Indian public health system is distributed into 5 levels of health facilities with an increasing level of capacity. This would include Sub centers, Health and Wellness centers or Primary Health Centers (PHC), Community Health Centers (CHC), District Hospitals, Medical colleges and research centers. Numerous Community Health Workers are working in these facilities which play a keystone role in the delivery of health services in every possible corner of the country. Apart from the infrastructure, the Indian public health system is supported by various health related government schemes both (center and state) to support the poor and vulnerable population of the nation. With the onset of Digital India campaign by the GOI, the public health system is being revolutionized at an accelerating pace, by various initiatives to promote and provide health services using technology or digital health. Digital health programs supports to increase the accessibility, availability and efficiency of the system, and simultaneously, decreasing the cost of service delivery.

Despite of having such a well-planned, and robust health care system (with 156,231 Sub Centers, 25,650 PHCs, 5,624 CHCs), accessorized by various supporting schemes for the poor and vulnerable (e.g. PMJAY, Janani Suraksha Yojana, Rogi Kalyan Samiti etc), the domestic private health expenditure is 72.06% of current health expenditure (CHE), and the Out of Pocket Expenditure is US$ (PPP) 158.1 per capita or 62.45% of current health

expenditure (CHE) and becomes catastrophic expenditure. People are utilizing private health facilities either by choice or out of helplessness, or they are not aware of the available services or believe in a negative perception about these public health facilities.

RATIONALE

In developed countries the public health facilities are being utilized by every strata of society, not only these facilities provide admirable medical care, but also play a vital role in decreasing the burden of out of pocket expenditure on the people. In India as well, the public health facilities are meant to serve the entire population of the country in rural and urban areas, to both rich and poor. But still people are relying on private health care facilities for their health needs, for some reason.

Congregating information about knowledge, attitudes and perception through surveys is essential to understand the actual image of the public health system amongst the population. This information is also vital in the identification of loopholes in system and then further development of a mechanism that may help improve the state of affairs.

RESEARCH QUESTIONS

1) What is the level of awareness among Delhi youth about the public health infrastructure and health related government schemes/initiatives in India?
2) What is the perception and attitude of youth of Delhi about the Indian public health system?
3) Is there any relationship between education and level of knowledge, age and gender perception/attitude about the public health system?

METHODOLOGY

A cross sectional study design was adopted to understand the prevalence of knowledge, perception and attitude of youth (18-24) about health system. For the purpose of the study a self-administered survey questionnaire (refer Annexure I) was developed using Google Forms. The questionnaire was developed in English and the context was set in a manner that would be easy to understand by anyone irrespective of their educational qualifications. The form questionnaire had a total of 21 questions under 3 sections; consent form and

demographic details, knowledge about public health system and perception/attitude about public health system. To ensure genuine responses the purpose of the study was explained in the consent form as well as anonymity of candidates was assured. The questionnaire was approved by Dr. Pradeep Panda, Dean Academics, IIHMR (Delhi) before it was sent to candidates.

SAMPLE SIZE

The sample size for the study is calculated using the below formula:

$$n = \frac{z^2 * p\,(p-1)}{d^2}$$

z = 2.58 (99% confidence level)

p = 0.5 (estimated)

d = 0.10 (10% error margin)

Hence, n = 167

Therefore data of 167 candidates were collected.

INCLUSION AND EXCLUSION CRITERIA

Respondents' below18 years or above 24 years of age were not included in the study. Students of MBBS, BHMS, BAMS, BDS, BUMS, and MPH, MBA/PGDHM (health and hospital management) were excluded from the study to avoid any bias in the data. People living outside Delhi were also not included in the study. The study had no bar on the educational qualification of the candidates.

The questionnaire was distributed using email and social media platforms such as WhatsApp and Facebook. In total the questionnaire was sent to 712 eligible candidates from Delhi University, Jamia Hamdard and Amity University. Sampling method used was convenience sampling.

All the collected data was entered using Microsoft Excel (Version 2010) and analyzed using Microsoft Excel. Checks were performed to ensure data accuracy. All the incorrect entries were thoroughly examined and verified against the original questionnaires.

RESULTS

Out of the 712 candidates who received the questionnaire 169 candidates responded. Out of these 169 respondents, 2 did not provide consent and opted out of the survey, leaving 167 candidates who completely filed the questionnaire.

DEMOGRAPHIC DETAILS OF RESPONDENTS

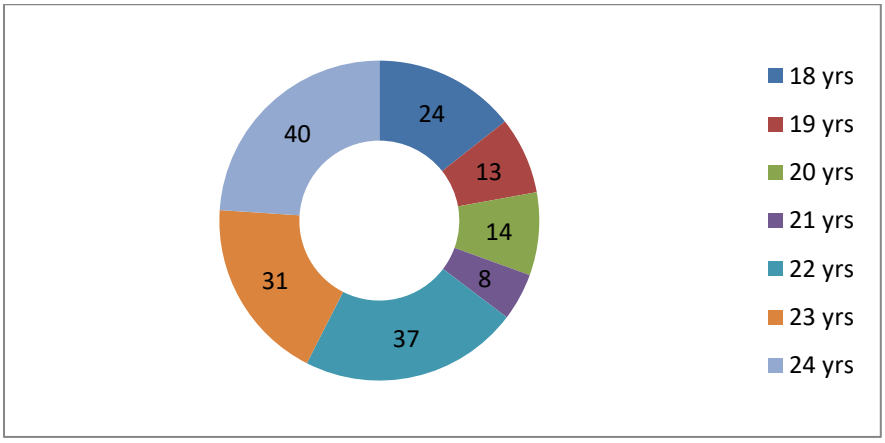

Chart 3.1-Age profile of sample.

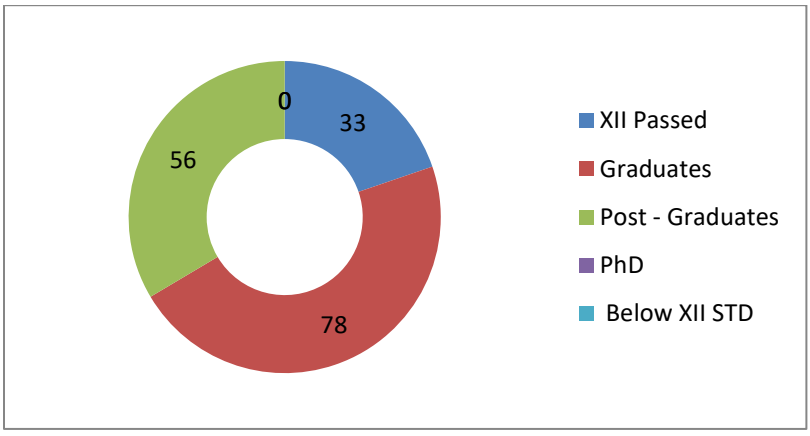

Chart 3.2- Education profile of sample.

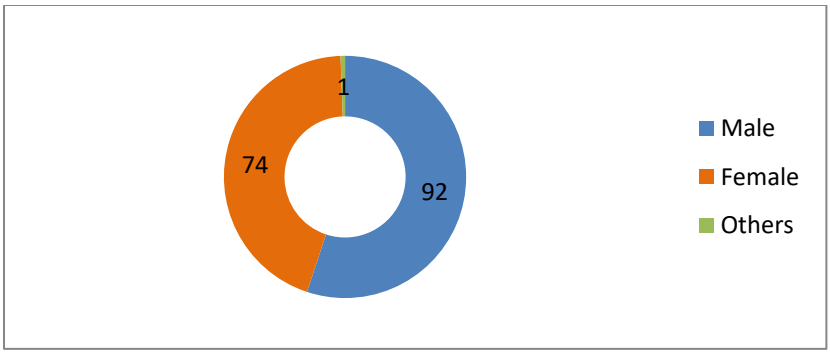

Chart 3.3- Gender profile of sample.

KNOWLEDGE ABOUT PUBLIC HEALTH SYSTEM

S. No.	Parameters	Only 1 options correctly identified	2 options correctly identified	3 options correctly identified	All 4 options correctly identified	Unaware/ Never heard of it
1	Sub Centers	25(14.9%)	13(7.8%)	9(5.4%)	7(4.2%)	113(67.7%)
2	PHC	44(26.3%)	23(13.8%)	9(5.4%)	13(7.8%)	78(46.7%)
3	CHC	41(24.5%)	23(13.8%)	8(4.8%)	9(5.4%)	86(51.5%)
4	ASHA Workers	13(7.8%)	23(13.8%)	16(9.6%)	19(11.3%)	96(57.5%)
5	PMJAY	33(19.8%)	38(22.8%)	28(16.8%)	26(15.5%)	42(25.1%)
6	Government Schemes related with NHM	51(30.5%)	30(18%)	15(9%)	8(4.8%)	63(37.7%)
7	Digital Health Initiatives by GOI	48(28.7%)	24(14.4%)	12(7.2%)	8(4.8%)	75(44.9%)

TABLE 3.1 - Showing results obtained from knowledge section of the questionnaire. Figures within brackets display the percentage proportion of a value for a particular parameter.

PERCEPTION ABOUT PUBLIC HEALTH SYSTEM

S. No.	Parameters	Poor	Neutral	Good
1	Accessibility of facility	64(38.3%)	73(43.7%)	30(18%)
2	Availability of services	85(50.9%)	58(34.7%)	24(14.4%)
3	Cost of care	29(17.4%)	47(28.1%)	91(54.5%)
4	Quality of care	84 (50.3%)	63(37.7%)	20(12%)
5	Hygiene and Environment	98(58.6%)	51(30.5%)	18(10.8%)
6	Waiting time	121(72.4%)	32(19.2%)	14(8.4%)

TABLE 3.2 - Showing results obtained from perception section of the questionnaire. Figures within brackets display the percentage proportion of a value for a particular parameter.

ATTITUDE ABOUT PUBLIC HEALTH SYSTEM

S. No.	Parameters	Unlikely	Neutral	Likely
1	Likeliness to visit a facility to seek medical care	107(64%)	41(24.6%)	19(11.4%)
2	Likeliness to visit a facility to seek medical care in case of an emergency	98(58.6%)	45(26.9%)	24(14.4%)
		Agree	**Neutral**	**Disagree**
3	Public health facilities are built for only	51(30.6%)	54(32.3%)	62(37.2%)

	socioeconomically weaker sections of society			
4	Public health facilities are improbable to improve due to corruption.	96(57.4%)	45(26.9%)	26(15.6%)

TABLE 3.3 - Showing results obtained from attitude section of the questionnaire. Figures within brackets display the percentage proportion of a value for a particular parameter.

DISCUSSIONS

KNOWLEDGE ABOUT PUBLIC HEALTH SYSTEM

- **Infrastructure**

  In case of infrastructure on all the 3 parameters, about 50% of the respondents have said that they have never heard about them. The worst performer among them seemed to be 'sub centers' for which 67.7% respondents have said that they are not aware of them, and only 4.2% were aware of all the 4 correct options. On the other hand for PHCs 7.8% identified all 4 options correctly, and 47% said that they are completely unaware of them (still a low score but maximum in the tally). About sub centers the 27% (highest) knew that sub centers are first point of contact between the community and health system, and only 10% knew that they will find a ANM and a male health in a sub center. Only 14.4% and 18% people knew that PHC and CHC act as referral systems, showing an image of the weak ladder of medical consulting in the country.

- **Community Health Workers**

  57.5% respondents said that they are unaware of ASHA workers while only, 11.3% identified various services provide by ASHA workers correctly. Data shows that there is poor awareness among the youth about the services of community health workers.

- **PMJAY**

  Maximum awareness among all the variables is seen in Ayushman Bharat scheme where only 25% respondents said that they have not heard about it and 15% picked up all the 4 correct options. The most known option was the fact that PMJAY - Provides a defined benefit medical cover of Rs.5 lakh per family per year', with 64%

respondents. The least known fact about PMJAY was that the 'selection of beneficiaries under the scheme was done according SECC'.

- **Government Schemes related with NHM**

  Out of RBSY, RSK, JSY, National Ambulance Service, the least chosen option was 'RKS' with only 16.2% people aware of the scheme and the most chosen was 'National Ambulance Service' with 44.3% people marking it as know/heard off. Although a sad figure of 37.75 respondents said they never heard of any of the 4 schemes.

- **Digital Health Initiatives by GOI**

  Digital health initiatives are relatively new initiatives by the government and hence require more advertising and greater outreach to public, thus these initiatives are well displayed by government health websites and are also advertised comparatively well. Still, 45% respondents said that they have never heard about any of the 4 digital health initiatives (eSanjeevani OPD, Online Registration System, Mera Aspataal Feedback portal, NHP health directory services mobile application). Maximum 43.7% people said that they are aware of 'Online Registration Service', while only 17% were aware of 'Mera Aspataal'.

  By dividing the sum of score of answers of a group of respondents (grouped on the basis of educational qualifications), by the total possible score of that group we obtained a consolidated score of every group as shown in the chart 3.1. The average score obtained by the groups was 27%, which shows that there is an extreme lack of knowledge about the public health system in India in youth of Delhi. Comparatively in younger or 'XII STD' group have better knowledge about the public health system. The differences in scores of groups are not statistically significant (t test, p value were 0.14, 0.37, 0.20 for groups 1 and 2, 2 and 3 and 3 and 1 respectively). The scores by each group are very similar and thus we can say that, the level of education has no significant role in the level of knowledge about the public health system. Thus it would not be wrong to conclude that the Indian education system is not spreading the word about the public health system in India.

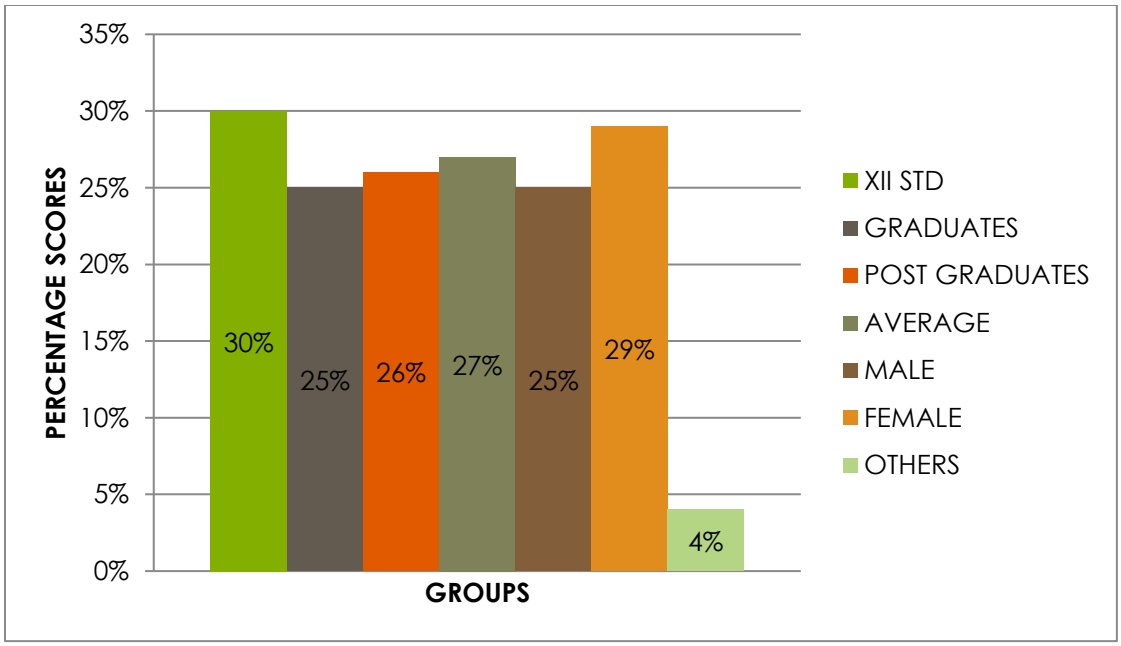

Chart 3.4- A plot of consolidated scores of each group.

PERCEPTION ABOUT PUBLIC HEALTH SYSTEM

On various aspects of a health facility, majorly the perception observed is poor or negative. Neutral was a popular category only in the accessibility of facility (43.7%), which means that people believe that the public health facilities are quite accessible. The best performer was cost of services, where 54.5% respondents believed that the services are highly affordable. With respect to categories like 'availability of services', 'quality of services', and, 'hygiene and environment', majority of people had a negative perception with 51%, 50% and 58% proportion of responses respectively. But the worst performer in the perception category remained 'waiting time', where 72.4% people believed that to seek medical care in government health facilities involves a long waiting time.

A very strong negative correlation (correlation coefficient of -0.99) exists between 'Cost of Services' and 'Quality of Care'. This means, that the respondents believe that medical services in public health facilities are highly affordable, and at the same time the quality of services are poor. This is in congruence with the popular belief that the services/product available at low cost are of also low quality. Medical care facilities are also affected with this prejudice.

The chart 3.2 below displays the percentage of consolidated count of negative, neutral and positive perception of all the 6 parameters mentioned above, for every group. Overall the perception is seen to be mostly negative (48%). Among the groups, 'Graduate' and "Post Graduate' respondents comparatively had a more negative perception regarding the public health system. But no significant impact of educational qualification is observed on perception.

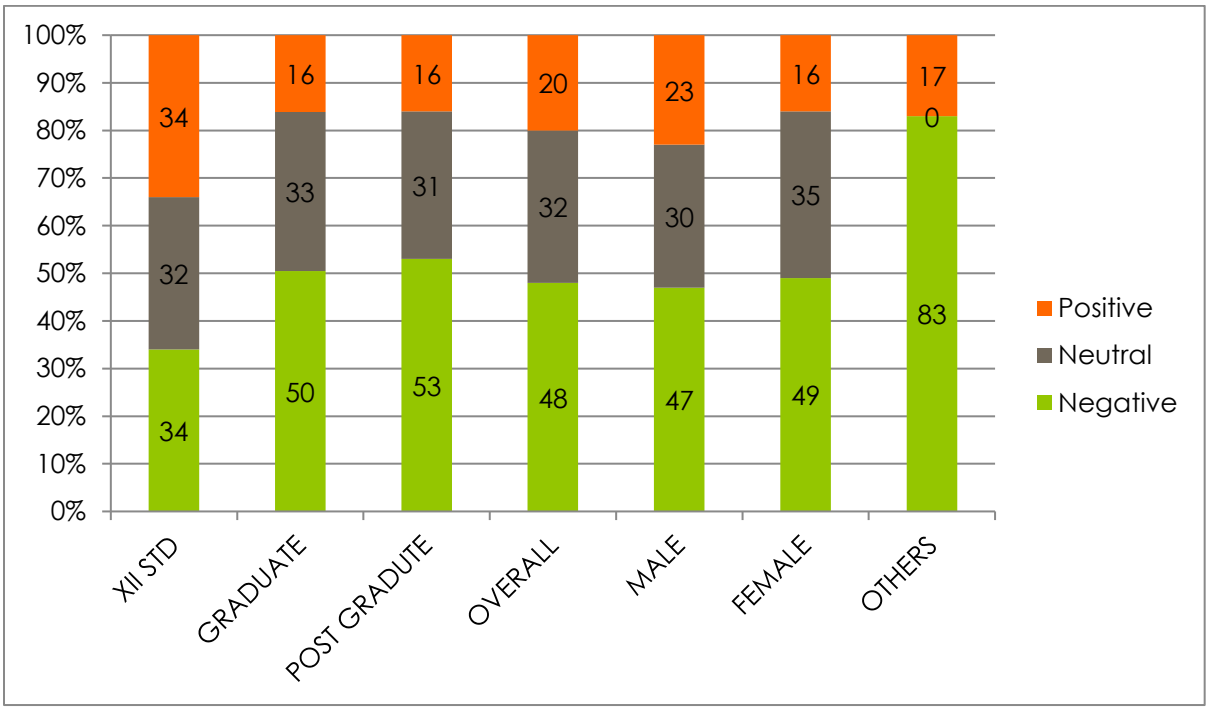

Chart 3.2- A plot of consolidated perception of each group.

ATTITUDE ABOUT PUBLIC HEALTH SYSTEM

A scattered opinion is observed regarding the statement 'The government health facilities are for providing care to only the socioeconomically weaker sections of the society', where 37% people said that they disagree with the thought and believe that public health facilities are built for utilization of everybody irrespective of their economic status. Whereas on the other hand 30% people agreed on the statement and rest remained neutral. Even after this 64% and 58.6% respondents said that they would not like to visit public health facilities to seek medical care and, not even in the case of a medical emergency, respectively. Given the majority, low knowledge and negative perception these figures are explainable.

For the statement, 'Public health facilities are improbable to improve due to corruption' 57% people said that they agree with it while only about 15% believed that the public health facilities in India are probable to improve. This data exemplifies the negative attitude of youth of Delhi, towards the government medical facilities in India.

The overall attitude observed among respondents was found to be negative by a proportion of 52%. Interestingly, again the attitude among the groups, 'Graduate' and 'Post Graduate' was found to be more negative as compared to 'XII STD' group.

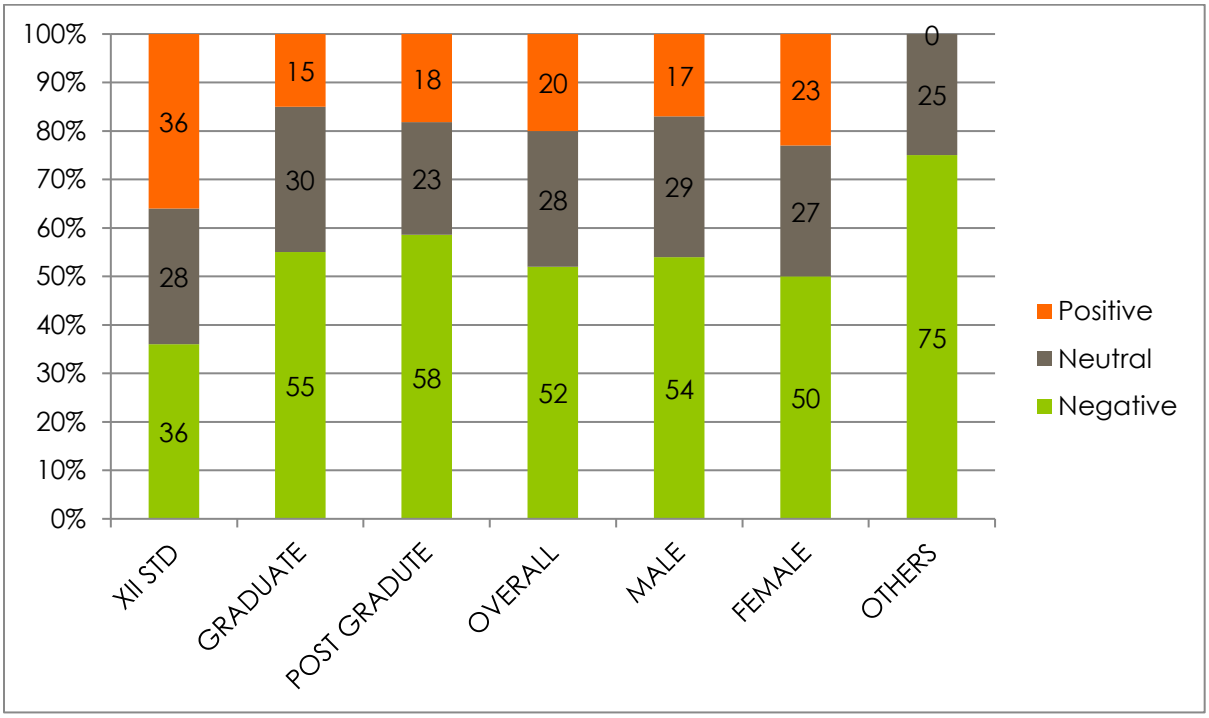

Chart 3.3- A plot of consolidated attitude of each group.

LIMITATIONS OF THE STUDY

The questionnaire was made using Google forms, and disbursed through social media, an informal method for data collection and may lead to non-sampling errors. Along with that, honesty in responses could not be ensured; and it was difficult to know whether the response filled is based on actual awareness and is not affected by any other medium (may lead to a bias in the data collected for knowledge section of the questionnaire particularly). The error of margin was kept to a rather high value of 10%. Due to lack of time and resources a larger

sample size could not be taken. The convenience sampling method may have led to a sample that is not representative of the population i.e. sampling error. The reasons behind the observed outcomes could not be explained by the study. The study design was cross sectional, because of which we cannot analyze the outcomes over a period of time.

REFERENCES

(n.d.). Retrieved from NITI Aayog: https://niti.gov.in/sites/default/files/2018-12/presentation-for-regional-meetings-NITI-AAYOG.pdf

(n.d.). Retrieved from World Health Organization: https://international.commonwealthfund.org/countries/india/

(n.d.). Retrieved from World Health Organization: https://www.who.int/data/gho/data/themes/topics/health-financing

(n.d.). Retrieved from Vikaspedia: https://vikaspedia.in/health/health-directory/rural-health-care-system-in-india

(n.d.). Retrieved from World health Organization: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/out-of-pocket-expenditure-(oop)-per-capita-in-us

(n.d.). Retrieved from Ministry of Health and family Welfare: https://www.mohfw.gov.in/

Park, M. K. (n.d.). *Park's Textbook of Preventive and Social Medicine,*.