Assessment and Analysis of Cold Chain Points (CCPs) regarding Temperature Monitoring and Maintenance, and Adverse Events Following Immunization (AEFI) Records

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BRIEF HISTORY AND DESCRIPTION ABOUT ORGANIZATION

The two Sub-Missions that make up the National Health Mission (NHM) are National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM). It includes strengthening of healthcare with respect to reproductive, maternal, neonatal, child, and adolescent health (RMNCH+A), as well as communicable and non-communicable diseases. **The NRHM was** launched on **12 April 2005** and **NUHM** was launched **on 1 May 2013.**

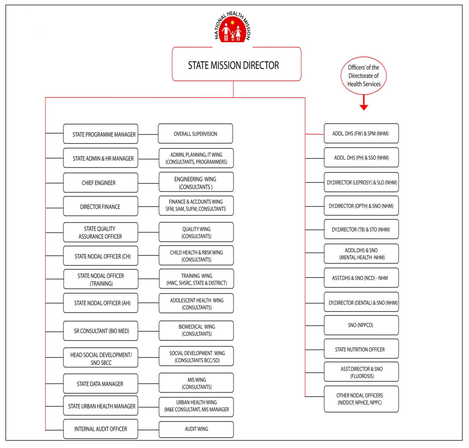
ORGANIZATION VISION

The NHM envisages achievement of universal access to equitable, affordable & quality health care services that are accountable and responsive to people's needs.

ORGANIZATION MISSION

With a focus on marginalized communities, a reduction in newborn and maternal mortality rate, the promotion of illness prevention and management, the building of healthcare systems, and the prioritization of vulnerable groups, NHM's mission is to provide everyone with inexpensive, high-quality healthcare services.

ORGANISATION STRUCTURE



ROUTINE IMMUNISATION

- In 1978, the Expanded Program on Immunization was started. Universal Immunization Program has been a key component of the National Rural Health Mission since its inception in 2005.
- Universal Immunization Programme (UIP) is one of the largest public health programmes targeting close of 2.67 crore newborns and 2.9 crore pregnant women annually.
- Nationally against 9 diseases - Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia caused by Hemophilus Influenza type B
- Sub-nationally against 3 diseases - Rotavirus diarrhea, Pneumococcal Pneumonia and Japanese Encephalitis.

RESEARCH QUESTIONS

- What are the various managerial aspects related to temperature monitoring, maintenance and record keeping of the vaccine supply chain?
- What is the status of AEFI (Adverse Effects Following Immunization) data maintenance in the CCPs.
- What are the gaps at the CCPs related to the record keeping and maintenance of cold supply chain and AEFI?

OBJECTIVES

Primary - To learn and understand the details regarding managerial aspects of physical logistics part as well as temperature monitoring, maintenance and record keeping of the vaccine supply chain.

Secondary -

- To assess the AEFI data record maintenance at the CCPs.
- To identify certain gaps at the CCPs related to the record keeping and maintenance of cold supply chain and AEFI; and if possible, then suggesting few measures to enhance the workings at the CCPs.

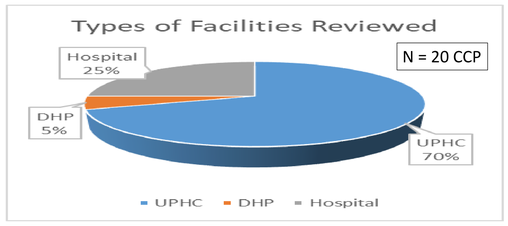
METHODOLOGY

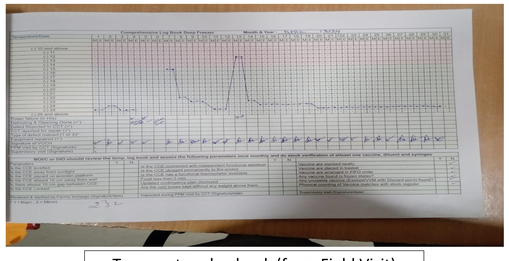
Study Design - It was a cross-sectional observational study and also included un-structured interviews of the Cold Chain Handlers (CCHs) to understand the qualitative gaps in the overall functioning at the CCPs. The study design involved obtaining primary data through a self-prepared questionnaire.

Sample Size - The list of the Cold Chain Points was obtained from NHM. From the list 20 CCPs were randomly selected across 2 districts (Jaipur 1 and Jaipur 2), keeping in consideration the ease to travel and obtain the required primary data. They include – 14 UPHCs (Urban Primary Heath Centre), 1 DHP and 5 government hospitals.

Source of data - The data used for analysis and reviewing of the facilities was collected from physical visits to the CCPs and interacting with the vaccinators, who were the Cold Chain Handlers (CCHs). The vaccinators were either ANMs or GNMs or Nursing Officers.

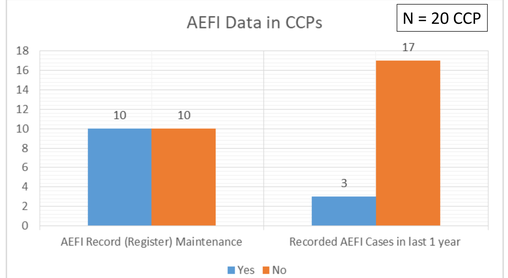
Duration - Primary data was collected from CCPs between 29.05.2024 to 19.06.2024, follow up was done in case certain relevant data was to be reiterated.

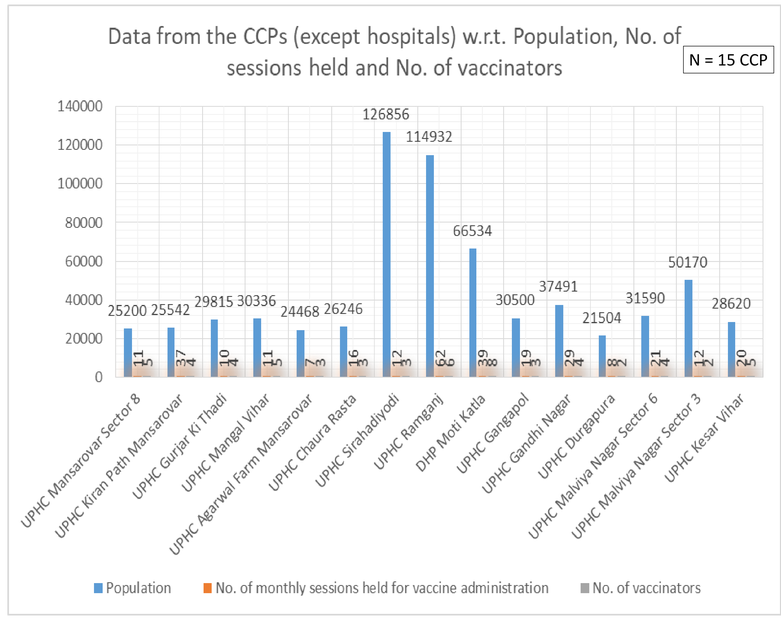


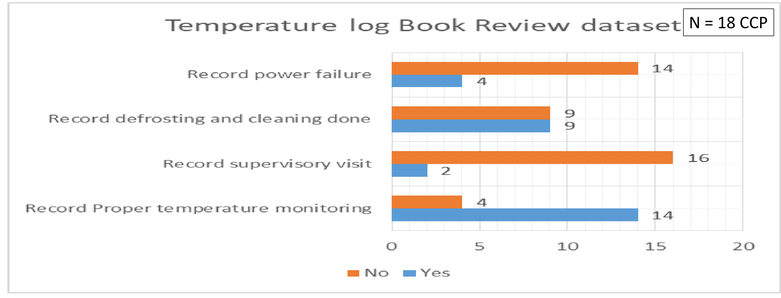


Temperature log book (from Field Visit)

RESULTS







FIELD VISIT

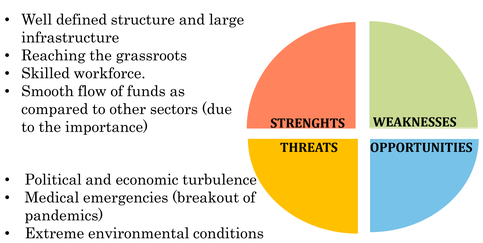
ANALYSIS OF RESULTS (GAP IDENTIFICATION)

- Existence of substantial irregularities between the various CCPs regarding the population falling within their purview, the number of vaccinators and the number of sessions held on a monthly basis.
- The unequal distribution of services to some extent; the lack of supervisory visits in CCPs and its adverse effects on quality of maintenance of the CCPs.
- Confusion among the CCHs regarding AEFI data and its record maintenance.

CONCLUSION

The study assessing the facilities was conducted by collecting primary data from CCPs and then analyzing the same and trying to give suggestions for the overall improvement of the facilities. Both qualitative and quantitative data was recorded. It can be concluded that although Rajasthan has a commendable healthcare system, there is still the scope for improvement.

SWOT ANALYSIS OF THE RI DEPARTMENT



- Well defined structure and large infrastructure
- Reaching the grassroots
- Skilled workforce.
- Smooth flow of funds as compared to other sectors (due to the importance)

- Infrastructure challenges and rigid mind-set
- Non-uniformity among the departmental functioning
- Reluctance and stagnancy in the workforce
- Misinterpretation of directions among the workers in the grassroots

- Political and economic turbulence
- Medical emergencies (breakout of pandemics)
- Extreme environmental conditions
- Legal hurdles related to organization

- Digitization and related technological advancements
- Public private partnership (PPP) model
- Promotion of personalized care model
- Education and empowerment

DIFFERENCE BETWEEN PRACTICAL EXPOSURE AT ORGANIZATION AND THEORETICAL UNDERSTANDING

- Meeting and interviewing various professionals provides an elaborate understanding of various contemporary issues, which is difficult to contemplate in theoretical lectures.
- Theoretical learning of National Health Policies provided a basic understanding, while the practicality of the implementation of schemes and their functioning was quite distinct.
- Digital health may be a great augmentation and can make people's life easier but its application in public health sector in totality still requires a great amount of time.
- Organizational structure, hierarchy and efficient functioning are much easier in theory as compared to the practical essence of it.

CHALLENGES FACED DURING INTERNSHIP

- Complex organizational framework and hierarchy along with enormous volume of data.
- Shortage of time to comprehend extensively the working of the entire department and observe the functioning.
- Language barrier as official circular and notices were only in regional language.
- Public transport usage during visits along with certain financial constraints w.r.t. travel.
- Absence and non-cooperation of certain vaccinators.
- Lack of formal training and certain level of proper guidance relating to primary data collection and observation of facilities.

LEARNINGS DURING INTERNSHIP

- Management of the cold supply chain with respect to the vaccine logistics, starting from GMSD (Government Medical Store Depot) to SVS (State Vaccine Store) to RVS (Regional Vaccine Store) to DVS (District Vaccine Store) to CCPs (CHCs (Community Health Centres))/PHCs (Primary Health Centres)), and finally to the session sites for administration.
- Qualitative issues w.r.t. to qualitative interviews of the vaccinators (ANMs/Nursing Officer (NO)) or other staffs (working as part of healthcare workforce).
- Various equipment related to RI and their maintenance along with certain insights on vaccine storage and transportation (temperature monitoring and maintenance).
- Different registers (RI (Routine Immunization), Stock, Distribution, AEFI, Temperature log books, Due list) maintained by the CCHs at the CCPs for proper monitoring and record keeping.

USEFULNESS OF INTERNSHIP

- Helped to get acquainted with real life work environment in health sector.
- Facilitated in the practical understanding of the healthcare system from the basic level.
- Witnessed the holistic functioning of the different departments, coordinating inter-departmentally along with intra-departmental work efficiency.
- Helped to analyse certain gaps in the system associated with immunization program.
- Enabled to get insights into the operations and management of the immunization department of NHM.

SUGGESTIONS

- The monitoring and maintenance along with record keeping could be enhanced in case of more number of supervisory visits at the CCPs.
- Also there could be additional training of the staffs for effective management of the CCP with whatever resource they had.
- The record maintenance regarding the AEFI should be conveyed clearly to the vaccinators, as there was a certain degree of confusion regarding the registration of the mild cases.
- There could be established a channel for relatively quick grievance redressal for the vaccinators of the CCPs regarding managerial and related issues.