Chapter 23

Pregnancy & Child Tracking System

B N Sharma & Indu Gupta

I) OVERVIEW

It is a unique e-governance project ever implemented in health sector. Monitoring of individual pregnant woman for health care as well as every child was not possible earlier. The Pregnancy, Child Tracking & Health Services Management System however made it possible that every single pregnant woman can be tracked for imparting health services tills the delivery and subsequently every child. The project is not merely based on numerical figures. Instead detailed data is captured for every beneficiary, who gets services from the Health department. Thus problem of digital and content gap is minimized to a large extent.

The Pregnancy, Child Tracking & Health Services Management System is targeted towards improving health services right upto the lowest level of health institutions in the state viz; Health Subcentre at village level. Presently Medical Health & Family Welfare Department operates in Rajasthan with 34 district hospitals, 32 hospitals attached to medical colleges, about 200 city dispensaries, more than 360 Community Health Centres, about 1525 Primary Health Centres and more than 11300 Health Sub centres. All these institutions are responsible to provide health care services to the common citizen across the state. The Pregnancy, Child Tracking & Health Services Management System makes it possible to monitor each of these institutions with online details of individual beneficiaries getting services from them.

Monitoring of individual case through the Pregnancy, Child Tracking & Health Services Management System, ensures that health services are provided to every woman who has registered for Ante Natal Check-up at any of the Sub centre, Primary Health Centre, Community Health Centre, or other government health institution across the state. Such a system would result in reduction of maternal mortality. Since every individual pregnant woman can be tracked through this system, it is also useful in ensuring that more and more women take to Institutional Delivery, which again will be helpful in minimizing maternal mortality rate.

As with ANC check up, the system also tracks every single new born baby and prepares an ANC schedule, Delivery schedule and immunization schedule for each health unit. This helps in planning activities at every health institution. Institution wise monthly requirement of vaccine dosages is automatically prepared by the system. This helps the ANM at subcentre to adequately plan for Vaccine stocks and immunization sessions. The ANM can also use the information to follow-up the cases. In this turn ensures better immunization coverage resulting in reduction of child mortality and improved child health.

Checking the population growth is an extremely important task. MIS for sub centre Management serves as a good tool in providing information of all such couples which can be potential cases for sterilization. The system provides information about all the pregnant women who already have one or more children and are registered for ANC check-up. Counseling sessions can be taken up with all such women/ couples.

A useful feature of the system is that it also filters all such cases which have registered for pregnancy but have not reported delivery even after the expected date of delivery has passed. This information can be used in tracing abortions/ feticides.

The system is also used by all health institutions to report their performance periodically. Thus it is also an effective tool for monitoring service delivery by every health institution. In addition, Hospital Activity Indicators provide information about IPD, OPD, investigations, etc. which are useful in assessing service delivery.

II) RESULT INDICATORS

1. Key Performance

a. Stakeholder services and benefits achieved through ICT interventions

- ANC check up chart for individual pregnant woman who has registered at the Health centre.
- Immunisation schedule for every child
- Expected schedule of deliveries for ANM
- Automatic calculation of vaccine requirement for every institute
- Specific report to identify cases which need counseling for sterilization
- Useful reports for audit of maternal death
- Stock report on availability of vaccines and medicines at institutions
- Automatic consolidation of reports as per hierarchy of the department for monitoring at different levels.

- Online availability of mobile nos. of institution in charge doctors, ANMs, ASHA etc.
- Graphical analysis on key indicators
- State level report for all parameters with drill down for District, Block, PHC and Subcentre.

b. % of services covered as ICT interventions

100% services of the department involving mother & child health and Family Welfare are fully covered with this ICT intervention.

c. Geographical Spread in the State achieved

All government health insitutions including 84 hospitals, about 230 city dispensaries, more than 370 community health centres, about 1530 primary health centres and more than 11500 health subcentres spread across the state.

2. Efficiency improvement

Before the System	**After the System**
• Total time for information communication 21-25 days	•Total time for information communication 3-5 days
• Redundant compilation at all levels	• No manual compilation at any level
• Time for trends and analysis 2-3 months after complete reporting	• Instant trends analysis
• Monitoring for individual health institution was not possible. It was very difficult to locate non performing units.	• Facilitates monitoring of individual health institution from state, district & block.
• Tracking of individual case was very difficult.	• Individual pregnant woman and child can be tracked.
• No planning tool available at institution level.	• Planning tools such as work schedule for vaccination, expected deliveries, etc. helps in providing better health services.

III) ENABLER INDICATORS

1. Processes

a. Major front end process changes and implemented

- Every pregnant woman and new born child is assigned a unique ID which helps in tracing the health records, immunization history etc.
- Multiple channels in data reporting have been done away. This has improved speed of communication between departmental units. Basic data reporting time has been reduced to 3-5 days as against 21-25 days earlier.
- Processes involving Manual Data Compilation at PHC, CHC, Block PHC, District and state levels have been completely abolished.

b. Major back end process changes and implemented

- Data Transportation Formats have been introduced which make it simper for the ANM at subcentre to submit timely information. Minimum effort is required in data capturing.
- System outputs like Immunisation charts, delivery schedules, and ANC schedules have been introduced, which help in better resource planning.

2. People and Resources

a. Project management & Monitoring – Full time team in place

System development and technical support team comprising of officers of NIC is located at Jaipur. Telephonic and e-Mail support is extended to all the field units. Implementation monitoring is through the demographer cell of Medical Health & Family Welfare department.

b. Achievements of training of internal & external members on the new system

ToT was conducted at state level for state and district level trainers, who in turn have imparted training to operational staff of the subordinate offices below district level including block PHCs, CHCs etc.

c. Change management strategy defined and implemented

In order to initiate change, user appreciation of the system was a mandatory requirement. As such user awareness and user training were given due importance. Number of special sessions were organised during the workshops of CMHOs, RCHOs and Data Managers, etc. Adequate written instructions were provided by NIC to all the user locations. Module based specific training were organised for the concerned staff from all field locations. Adequate hands on exposure was given during the trainings so that after returning at their respective locations users could start using the system immediately. Online operational help is integrated in the software.

d. Leadership support (Political, Bureaucratic) and its visibility

The system was launched by Union Health Minister Shri Ghulam Nabi Azad in the presence of the Chief Minister, Rajasthan Shri Ashok Gehlot and the Health Minister Shri Aimaduddin Ahmad Khan.

At the level of Principal Secretary and the Mission Director NRHM, the implementation of the project has been taken up as one of the top most priority. PCTS has been a standing agenda items of all the meetings in the department involving Chief Medical & Health Officers (CMHOs) of the district.

e. Financial Model (Funding pattern , Business model PPP etc) defined and implemented

Funded under National Rural Health Mission

3. Technology

a. Disaster Recovery & business continuity plan defined & implemented

Disaster Recovery centres have been planned at Hyderabad.

b. Technological solution cost effective and maintenance over time

Developed using web technologies and hosted on high end servers.

c. Security and confidentiality standards defined and implemented

The system has been deployed in the secure environment of data centre of NIC with adequate security provisions including firewall. Role based password protected access

has been given to the users. Salted MD5 hashing algorithm used for password encryption.

(B N Sharma, SIO & STD, NIC, National Informatics Centre Rajasthan & Indu Gupta, SIO, NIC, Rajasthan, email: sioraj@nic.in)