

# Child Record Information System—ChRIS\*

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## ABSTRACT

The administration of Jabalpur Division in the state of Madhya Pradesh, has implemented a tech. savvy project to identify, register, count and monitor every marriage, pregnancy, child birth in Jabalpur Division, known as ChRIS (Child Record Information System). The system so developed endeavors to bring all marriages, pregnancies, deliveries, ante and post natal care, inoculations, proper growth and elementary education of the child in the ambit of public domain by posting the relevant information on its website and on the websites of each of the eight districts in Jabalpur division. These functions used to be performed manually by different agencies/government departments at different levels; there was lack of coordination and data was collected by different sources leading to inaccuracies. Very often the data was fudged and there was no mechanism in place to check it and ensure accountability and responsibility in the delivery of various government schemes/benefits. Individual beneficiaries could not be monitored because of lack of availability of real time data in public domain. There was no effort to integrate data collected by different agencies leading to faulty implementation of various schemes.

Under this innovative project, ChRIS, it is mandatory for the field level functionaries of the Health and Women and Child Development Department in each village to record every marriage, each pregnancy in their areas as soon as it is declared, data is fed in the custom made software and thereafter put on website. This information is used for ante-natal and post-natal care for all expectant mothers whereby system generates flags giving tentative dates for various activities ensuring proper care to all carrying ladies. Each birth is recorded in detail, here again system generates flags for all necessary activities and a child's calendar for next 5 years is automatically generated keeping in record details of the birth as well tracing child's growth from 0 to 5 years. These reports are given to field level functionaries of different departments at cutting edge level resulting into targeted delivery of various schemes to each mother and each child leading to better results and achievements. Integration of the schemes of various departments, viz., Social Welfare, Women and Child Development, Health and Family Welfare, and Elementary Education has taken place through ChRIS. ChRIS, not only monitor each and every expectant mother but also acts as a watchdog to other socio-economic parameters like child marriage, institutional delivery, expected complications at the time of delivery, female foeticide, supplementary nutrition to carrying mothers and infants, IMR, MMR, immunization, inoculation and elementary education.

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## 1. Introduction

### *Project conceptualization*

The project was conceptualized by the Commissioner of Jabalpur Division, which comprises of eight districts, viz., Jabalpur, Katni, Mandla, Dindori, Narsinghpur, Balaghat, Chhindwara and Seoni. (Area: 5836600 Hectares: 20% of the total area of MP, Population: 10,161,841: 17% of M.P, Villages: 10692, Blocks/Janpads: 64, Tahseels: 47). After several brainstorming sessions, various modalities were discussed and then “need-based” software on the lines of System Requirement Specifications (SRS) was developed by NIC. The administration of Jabalpur Division has implemented the ‘ChRIS’ (Child Record Information System) project to identify, register, count and monitor every marriage, pregnancy, child birth in Jabalpur Division. Lack of coordination and collection of data by different sources led to inaccuracies, data was fudged and there was no mechanism in place to check it and ensure accountability and responsibility in the delivery of various government schemes/benefits.

## 2. Project Vision, Stakeholders, Objectives and Services

India could be one of the fastest growing economies but it stands among the lower group of nations when we take a look at Human Development Index. The benefits of economic growth have to percolate down, when it comes to basic health, education and nutritional facilities to common person. The country is far from the standards prescribed by United Nations’ agencies. The grim socio-economic parameters call for a serious rethinking. Although there is huge manpower and a number of devoted agencies catering to the health and nutrition needs of the marginalized people, in the absence of proper database and information strict monitoring on developmental parameters becomes a complimented issue and the sufferer is the general populace. This system makes available the entire information about target populace and delivery of schemes on a real time basis in public domain. The project, pioneer in this area will facilitate:

1. Prevention of child marriages
2. Increasing institutional deliveries
3. Decreasing female feticide
4. Identification of beneficiaries for various government schemes
5. Reducing risks at the time of birth
6. Providing nutritional supplements to needy mothers and children
7. Timely delivery of health services
8. Monitoring the growth of every child from 0-5 years and finally
9. Child’s admission into his first school

It also provides factually correct information on critical parameters such as IMR, MMR, etc. Flags are automatically generated showing dates for the delivery for vaccination, immunization and routine check-ups for every mother and her child. The information is also collected on socio-economic parameters, like cast, community; land holding pattern, poverty/income level etc. which will result in focused attention to needy people.

Child Record Information System provides facility for storing, updating and manipulating information from various sources at village level. This information may be required for planning and decision making at different levels.

The main objectives of the project can be listed as:

1. Effective monitoring of the schemes of Health, Women and Child Development, School Education Departments.
2. Delivery of various Government schemes at right time to needy beneficiaries.
3. Transparency in implementation of Government schemes.
4. Helping masses to know about their vaccination and other details.
5. Statistical Information on births, deaths etc. to be used for planning and implementing new schemes.

### **3. Stakeholders**

1. Commissioner Jabalpur Division
2. Collector and District Magistrate of Districts Jabalpur, Katni, Mandla, Dindori, Seoni, Chhindwara, Balaghat, Narsinghpur
3. Chief Medical and Health Officers of all the eight districts
4. District Women and Child Officers of all the eight districts of the division
5. Functionaries at different levels of Health, WCD, Planning, Social Welfare, School Education Depts.
6. National Informatics Centre, Madhya Pradesh
7. All carrying and feeding mothers of the division
8. All children up to the age of six years in the division
9. All married couples in the division

### **4. Public Private Partnership**

Project does not need a business model because it is a transfer from the existing manual system to a web based system in public domain on a real-time basis. ChRIS, implemented without any additional cost to anybody is an effort to provide cutting edge to delivery mechanisms of the Government, it has transformed and institutionalized the earlier manual system to a technology based on-line automatic system. Since the infrastructure

required (computer and other accessories) to develop this was already in place at Block level, there were no additional expenses required on installing new infrastructure. The software and portal is developed and maintained by National Informatics Centre.

*The Participating Department(s) in the project are*  
 Health and Family Welfare  
 Women and Child Development  
 Planning and Statistics  
 Social Welfare and Social Justice  
 School Education

## 5. Necessity/Needs

The following situation necessitated such a project:

1. There was not any monitoring system for higher officials to quickly monitor the delivery of health services in a village.
2. It was impossible to obtain accurate information about non recipients of specific services like immunizations, inoculations and vaccinations.
3. The manual activities were prone to lot of errors and top officials never got actual details about the realities at field/village level.
4. Attendance of beneficiaries in Anganwadi Centers used to be very poor because of poor delivery of services.
5. It was not possible to monitor each child's entry into elementary/primary schools.
6. It was not possible to monitor health deficiency parameters of each and every child and mother individually.
7. It was not possible to ensure and monitor delivery of various beneficiary oriented schemes to individual cases.
8. There was no mechanism for the common person/beneficiary to have complete knowledge of services due to him/her.

## 6. Project Plan

*Requirements of process re-engineering and legal framework Technology Architecture*

Long years of working experience in any government system and environment provides extremely practical insights into the system, procedures and lacunae (if any). It also provides an opportunity to understand real life situations in a better manner. To introduce some changes in the existing system an understanding of the system in its entirety is a necessary pre requisite. Child Record Information System (ChRIS) is one such attempt in this regard; because introduction of such a system was always a long

felt need, especially if one looks into the poor human development record of Madhya Pradesh in general and Jabalpur division in particular. Poor quality of human resource, high Maternal Mortality Rates (MMR), high Infant Mortality Rates (IMR), low immunization and vaccination, highly skewed sex ratio in 0–5 age group in rural areas, extremely low literacy rates, large number of non school going children suggest the dismal state of affairs in social, health, education and women and child sectors.

Numerous reasons can be attributed to this scenario and one of the most important among them is the lack of effective monitoring and incorrect data being presented for decision making. Data collection practices often results in its fudging. In this context the concept of ChRIS was visualized with an objective to provide a lease of fresh energy and bring about systematic changes in the archaic system of record keeping and database management.

## 7. Milestones

1. ChRIS project was implemented in all the eight districts of Jabalpur division, viz., Jabalpur, Katni, Mandla, Dindori, Narsinghpur, Balaghat, Chhindwara and Seoni.
2. Details of over 1.5 lakh couples, 1.2 lakh Pregnancies and 41 thousand children are collected and maintained since its launch.

In due course of time entire reproductive populace of Jabalpur Division would come under project's ambit. Besides regular updation, more than 10,000 new records are added every month.

## 8. Project Management Structure

Project Management Structure comprises of the following:

1. Divisional level officers of Health, Women and Child Development, School Education, Social Welfare under the leadership of Divisional Commissioner
2. District level officers of these departments under the leadership of District Collector
3. Block/Janapad level functionaries for data management, taking corrective actions and implementing the project
4. Village level functionaries for data collection and field level implementation of the project

Around 5000 Government functionaries at various levels are associated with implementing the project. Village level functionary of the Women and Child Department (Anganwadi Worker—AWW) locates, identifies and registers all the marriages, in her administrative area (normally a village or part of it) and sends it to the Block (Janapad Panchayat) where it is fed into

the software installed at the block level every month. Couples are tracked from here onwards and they are provided information on birth control, spacing methods, etc. Besides new marriages, all pregnancies are identified and registered by the workers of Health and Women and Child Development Departments as soon as pregnancies are announced. This in any case was done earlier also by AWW and health staff even before this computerized system. Once this information on pregnancies is stored and made available in public domain, further monitoring becomes easy.

Each couple gets a unique system generated identity and thus each pregnant lady and the newborn child. Health worker enters the expected date of delivery for each woman in the system and from here onwards system generates all action points.

## 9. Implementation

### *Strategy for Pilot to roll out*

The project was implemented in one go and it was not taken from pilot to the final implementation stage. Application software was designed, developed and implemented for collecting information from block levels. The software is extremely user friendly and needs only minimum data to be entered by data entry operators. All details, viz., due dates for various kind of vaccinations, check-ups, the grade under which a child comes based on its weight, eligibility under various schemes are automatically generated. System was developed in stages, entries for various inputs and reports to be generated were gradually added to the system depending on the requirements. The system now generates more than 200 reports for monitoring and decision making. Critical information is separately highlighted, so that immediate necessary action may be taken. Development of software, its trial run, training and feedback collected in the pilot phase were of critical importance for making further improvements in the system. Inhibitions, fears and doubts of those working at the ground level were addressed by senior officers themselves during training and exercise sessions.

The road map followed for the implementation of the project is as following:

1. Data from villages reach block medical office on or before 23rd of each month. It consists of information regarding health services provided to the beneficiaries of villages up to the 20th of that month.
2. The data thus collected is computerized through ChRIS application software up to 30th of the month and it reaches the NIC of that District.
3. Data received from all districts is uploaded to the ChRIS site on or before 5th of next month.

## 10. Capacity Building

1. Governance Structure: Commissioner, Jabalpur Division, Jabalpur, MP is responsible for implementing and managing the project.
2. Collectors of all districts, Chief Executive Officers of Zila and Janapad Panchayat are involved at policy level. Divisional, District and Block level heads of Health, Women and Child Development, Panchayat and Social Welfare, School Education and Planning and Statistics departments are working at project policy level.
3. Project Management: Around 5000 functionaries of the concerning departments at village, block and district level are actively working for the project as a part of their job. Project is primarily a transition to web based computerized system from the earlier manual system.
4. Software Training is given by NIC district centers and the training for field level functionaries is given by concerned departments.

## 11. Evaluation and Measurement

The village wise data showing details of marriages, carrying women, new borne and infants generates services (assistance for marriage, guidance on family planning methods, health checkup, vaccination, immunization, transportation for institutional delivery, financial assistance for medicines/nutrition, supplementary nutrition etc.) to be delivered to them and actions to be taken. The concerned functionaries of villages deliver these services on pre-determined dates based on auto generated reports provided to them. After service delivery, compliance report is fed into the database by these functionaries of Health and Women and Child Development Department at village and Janapad Panchayat levels. This data is uploaded to web site, and thus this information, available in public domain through internet can be accessed by senior officers and can be verified while on tour in rural areas. It has not only led to absolute transparency but has also increased accountability of functionaries at ground level. Responsiveness in the public service has improved and delivery of services has also improved tremendously. ChRIS has ensured cent-percent monitoring of regular services in rural areas in its areas of operation for the first time.

## 12. Issues and their Solutions

The underlying theme behind ChRIS was to integrate low cost technology with an easy to use software bearing in mind the quality of manpower that would finally be using it. Its design and implementation has ensured that personality traits of those who actually conceptualized and conceived it do not come in the way of its successful implementation. ChRIS is also

sustainable because, there is hardly any change in the procedures and formats used earlier in manual system.

The Application software developed and implemented for collecting information from block levels is extremely user friendly and needs only minimum data to be entered by data entry operators. All other details, viz., due dates for various kind of vaccinations, check-ups, the grade under which a child comes based on its weight, eligibility schemes are automatically generated. The system generates more than 200 reports for monitoring and decision making purpose of departments. Critical information is separately highlighted, so that immediate necessary action may be taken.

### *Replication in other states*

Child Record Information System (ChRIS) is an effective tool to create a comprehensive database of all its future citizens, which in the absence of any social security scheme in India is bound to be extensively used for all government schemes.

The ChRIS project can be easily replicated all over India, since the infrastructure required (computer and other accessories) to implement the project is already in place at Block level in other states also. There were no additional expenses required on installing new infrastructure. Formats in which data is collected for ChRIS are uniformly used throughout the country. In fact some other states have already sent enquiries for its replication there.

The project idea was put on board and suggestions were invited from various quarters in order to introduce a system which is easy to use and most importantly to develop it in such a manner that the same can be implemented in the entire state of MP including rural and urban areas. Continuous monitoring, evaluation and recording of feedback in initial stages resulted in things shaping up in a better manner. Several government functionaries were taken into confidence and their suggestions, inhibitions, doubts were all well received.

The software and website is developed and maintained by National Informatics Centre, which has its Headquarters at New Delhi, State Units in all the 28 State capitals and 7 Union Territory Headquarters and District centers in all the Districts of India. The Organization employs a large pool of efficient technical manpower. NIC has implemented a large number of Nation wide projects successfully. So ChRIS is easily transferable and can be implemented all over India through NIC. There are no additional expenses and its easy to use software makes it adaptable in any working environment.

## **13. Road Ahead**

ChRIS Database provides complete record of an individual from his/her birth. Hence it can be used for various other purposes also. First and



foremost, it can be used for generating unique identity for all our citizens. List of beneficiaries under various schemes can be prepared with this. It can be linked with voter identification cards and electoral roll.

More and more monitoring schemes and facilities are being added to the project so that it can be used as one point reference for covering all health and citizen centric activities/ schemes of the state.

## 14. Status and Results

### *Present status*

1. Real-time data in public domain of all future citizens of Jabalpur division.
2. Project to provide information, identify, register, count and monitor marriages, pregnancies, delivery of health services (like ante and post natal care, inoculations) availability of nutritional supplements, safe child birth, proper growth and elementary education of the child in the ambit of public domain in Jabalpur division.
3. Implemented in eight districts of Jabalpur division.
4. Implemented without any additional cost
5. Coverage Area: Jabalpur division: 5836600 Hectare: 20% of the total area of MP
6. Percentage of population covered: 1,01,61,841: 17% of M.P
7. Number of Villages Covered: 10692
8. Number of Blocks/Janpads covered: 64
9. Number of Tahseels covered: 47
10. Integrating schemes of various Government departments
11. Replication of Software: More than 150 locations.
12. It reduced the Check-up/Vaccination defaulters in the region
13. Proper follow-up of each beneficiary
14. Proper check on child marriages
15. Exact data on IMR, MMR and Sex Ratio
16. Generates health calendar for each pregnant women and child's calendar for 5 years keeping in record details of the birth as well tracing child's growth from 0 to 5 years.
17. Around 25 thousand transactions are taking place each month
18. Every month more than 10,000 New couples are added
19. Details of over 1.5 lakh couples, 1.2 lakh Pregnancies and 41 thousand children are collected and maintained since it launch.
20. The project is designed and implemented in Hindi and facilitated quick and easy reach to masses.
21. The application software for collecting data from blocks is developed using Visual Basic 6.0 as front end and MS Access as back end
22. Website of CRIS ([www.cris.nic.in](http://www.cris.nic.in)) is developed using ASP.net as front end and SQL Server 2005 as back end

23. Data is displayed in Unicode format so that Hindi data can be visible across the net without any problems
24. Technical support and implementation is done by NIC

## 15. Specific Achievements during the Year 2006–07

The project has won the Best Project award in the category 'IT for Masses' for the year 2007 from Department of Information Technology, Government of Madhya Pradesh. The award comprised of a cash prize of Rs. 1 lakh and a citation. The Chief Minister of MP, Shri Shivraj Singh Chauhan, presented the Best Project Award to Shri Anil Srivastava, Commissioner, Jabalpur Division, on 6 June 2007.

*Future plans for readers seeking more information on project*  
The site is functional and menu driven, details about project can be obtained from its site <http://cris.nic.in>. The site is functional on real time basis.

Further details can be obtained from [commissionerjbp@yahoo.com](mailto:commissionerjbp@yahoo.com) or [anilshri@gmail.com](mailto:anilshri@gmail.com).