Data Informed Platform for Health

Feasibility Study Report

Uttar Pradesh, **India** 2012

IDEAS
Evidence to improve maternal & newborn health

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Multi-country feasibility study for the 'Data Informed Platform for Health' (DIPH): India, Ethiopia and Nigeria.

This report is one of three country-specific reports and is based on research findings from Uttar Pradesh, India.

The concept note describing the overall premise of the DIPH is on page 4.

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Table of Contents

Data-Informed Platform for Health

Concept note

Plans based on local data

In low-resource settings, the use of local health data for planning is usually limited. In the context of maternal and newborn health (MNH) it is difficult to ascertain the causes of changes in MNH outcomes. Sharing information across governmental and other service providers would reduce duplication of effort and ensure resources are not wasted. In India, Nigeria and Ethiopia, multiple sources of data exist at the level of the district, LGA or woreda. The Health Management Information System reflects health facility utilisation and performance; local programme staff report on human and physical resources; and non-governmental organisations report on community-based activities. Programme managers could work together to share this information, with technical support acting as a catalyst. The shared data could empower local decision making and reposition health service delivery in line with the available resources and community maternal and newborn health needs.

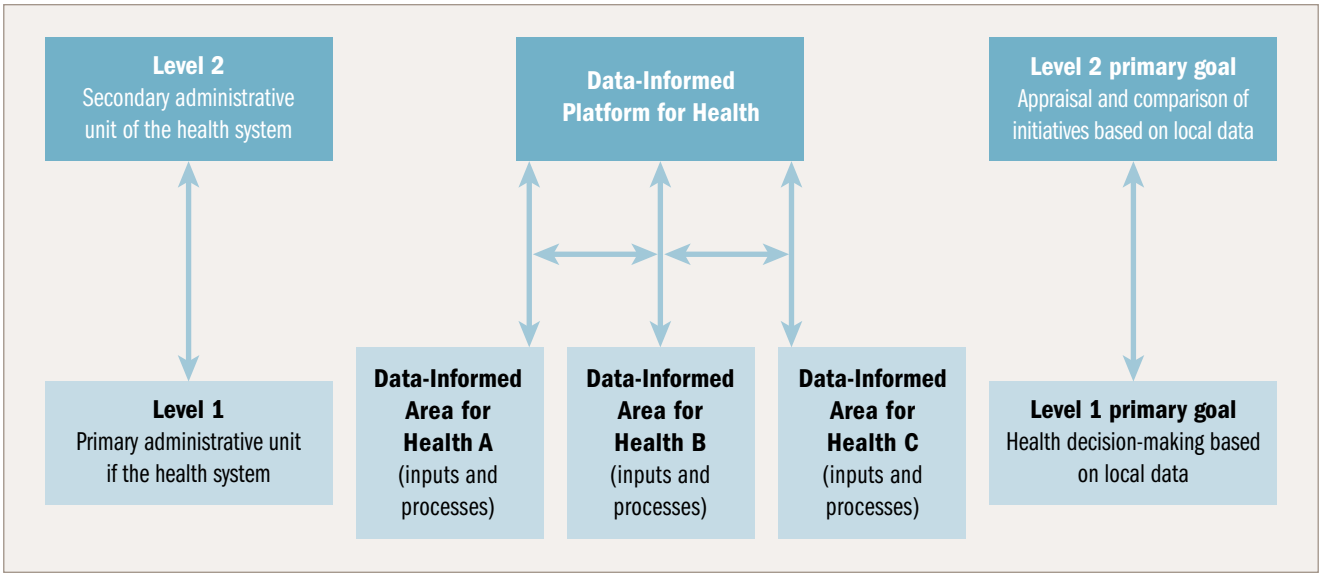
Data-Informed Platform for Health

We propose the "Data-Informed Platform for Health" (DIPH), a framework to guide coordination, bringing together key data from public and private health sectors on inputs and processes that could influence maternal and newborn health. The aims of the DIPH are:

1. to promote the use of local data for decision-making and priority-setting at local health administration level;

> The key data will be synthesised to create a measure of programme implementation strength for each local area, which in turn can be used in the evaluation of the effects of large-scale programmes on health outcomes."

Figure 1 – Data-Informed Platform for Health Framework



2. to promote the use of local data on inputs and processes for programme appraisal and comparison at the regional or zonal level.

The DIPH concept has its roots in the "District Evaluation Platform" approach (Victora, Lancet 2010)[1]. The framework should be embedded, owned and sustained by local health departments. The DIPH operates at local area and regional level, and includes both the "data-informed area for health" and the "data-informed region for health". Networks for coordination and feedback are shown in *Figure 1*. Area health administration will periodically assess the available resources and activities (inputs and processes) by all key health providers and will share this information for mutual decision making on health service provision and research.

A local health area is considered as the operating unit for the DIPH, assuming that this is the lowest effective level of decision making in a health system – in Ethiopia, this would be the woreda; in Nigeria, the Local Government Area; and in India, it would be the district.

Features of the DIPH

At the local area level, the DIPH approach provides a mechanism to bring governmental and non-governmental service providers to a common forum on a regular basis, to share data in a systematic manner, and to use the resulting information as a tool in priority setting for resource allocation and needs assessment for further acquisition of funds.

At regional, zonal or national level, the DIPH provides information for the appraisal of effectiveness of programmes or initiatives across local areas and regions. Data from local areas will reflect inputs and processes for initiatives and programmes affecting maternal and newborn health. These can be synthesised to create a measure of programme implementation strength for each local area, which in turn can be used in the evaluation of the effects of large-scale programmes on health outcomes.

Data sources: links to the Health Management Information System

The DIPH is complementary to the Health Management Information System. It differs as follows:

1. The DIPH focus is on inputs and processes in health service provision – as compared to service uptake and health outcome recorded through routine HMIS.
2. The DIPH will bring together key data from both governmental and non-governmental service providers. The focus is on effective use of existing data sources for local level planning and decision making.
3. The DIPH will focus on a few key indicators rather than the comprehensive range of data encompassed within the HMIS.

The DIPH will use some HMIS data, but also include data on commodities, training, monitoring, and supervision, from government and non-governmental sources. A limited amount of primary data collection may be carried out.

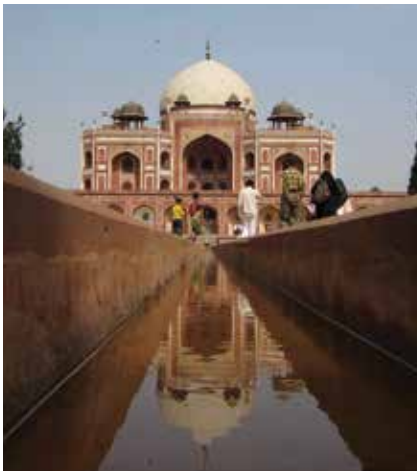


Photo above: © Dr Neil Spicer

Next steps

The IDEAS project team (ideas.lshtm.ac.uk) is interested to explore interest and potential of the DIPH to assess the scale up of maternal and newborn health initiatives in India, Ethiopia and Nigeria. The feasibility phase for DIPH has been successfully completed and, based on the findings, detailed pilot work will be carried out in 2013. ■

[1] Victora CG, Black RE, Boerma JT, Bryce J. Measuring impact in the Millennium Development Goal era and beyond: a new approach to large-scale effectiveness evaluations. Lancet. 2011 Jan 1;377(9759):85-95.

"The DIPH is an innovative approach could be equally meaningful for Governments, funding agencies and other health stakeholders in terms assessment of their implementation efforts and necessary course correction."

Executive summary

IDEAS seeks to establish a Data Informed Platform for Health (DIPH) at the district level in Uttar Pradesh (UP) by synthesising local health information from public and private sources and enhancing its use in local decision making. The DIPH would enable improved tracking and analysis of programme implementation against outcomes in maternal and child health.

Photo above: © Dr Bilal Avan

To assess the technical feasibility of establishing a DIPH at the district level in UP, a study team comprising members from the IDEAS project, and from the Public Health Foundation of India carried out a feasibility study in August – September 2012. The objective was to assess public and private structures, environment, interactions, information flows, data sources, categories and quality of data, determine the need and the potential of a DIPH, and outline key challenges. The team visited two districts: Unnao and Sitapur, one to the north and one to the south of Lucknow. They met key informants in the National Rural Health Mission (NRHM) and the health directorate at the state and district levels and visited public health facilities.. The team also met with representatives of the not-for-profit and for-profit private sectors and a few functionaries of the Integrated Child Development Services scheme in the Department of Women and Child Development.

In both districts the structure and functioning of the public sector was quite similar, following a three-tier system that is the national norm, and a hierarchical supervisory system headed by a Chief Medical Officer at the district level. Since the NRHM was launched in 2005-06, NRHM units have been established at the state and district level and function closely with the health directorate, but with a special focus on institutional deliveries and Accredited Social Health Activists (ASHAs), a new cadre of village link-workers created under the NRHM. The NRHM has also introduced a new online system for data capture right from the level of Block Primary Health Centres; the current focus of this system is on maternal and child tracking, deliveries under the Janani Suraksha Yojana (cash incentive scheme for institutional deliveries) and related financial reporting, and some general facility reporting. The data was used in a limited way for programme planning and reviews; the current preoccupation was with immuniations

Photo above: © Dr Bilal Avan

> The DIPH is technically feasible, all the more due to the presence of a district NRHM unit that is conversant with an online MIS."

and institutional deliveries. Secondary data show that there are more institutional deliveries at government facilities than private ones in UP, but the private sector is much more sought after for acute illnesses, including those among children. In fact the main difference between the two districts was in the number of private nursing homes: Unnao, a slightly better off district closer to two big towns had 42 private nursing homes, while Sitapur, more rural and further away from Lucknow had only 29. Due to time constraints we could not visit as many private clinics and hospitals as we would have liked to, nor include the informal private sector in our data collection exercise, and this was a major study limitation. However, we could build a deductive assessment of the bigger picture based on discussions with a broad range of stakeholders and also by reviewing secondary data. Our findings revealed that the private commercial sector in both places was quite disconnected from public sector programmes and district information systems, whereas the not-for profit sector worked closely with the system, but had limited presence.

In this scenario, the DIPH will be a useful tool to compare implementation strength of programmatic inputs and performance outputs across different districts and also pinpoint gaps and shortcomings in inputs for improving performance. The DIPH is technically feasible, all the more due to the presence of a district NRHM unit that is conversant with an online MIS. The main challenges include getting the private commercial sector to share data, to improve the quality of public sector data that is collected manually at the village level, and to increase use of data in local decision making. We can address these challenges by introducing strategies for critical inquiry, and by innovative use of available technologies. Together with the state government we can also explore creative incentives for the private sector to share information. Use of innovative and cutting edge initiatives will create greater enthusiasm for developing and sustaining a DIPH amongst district officials. ■

> The DIPH will be a useful tool to compare implementation strength of programmatic inputs and performance outputs across different districts and also pinpoint gaps and shortcomings in inputs for improving performance."

Context

Background: focus geographical area and its relationship with the DIPH

Uttar Pradesh and its political structure

Uttar Pradesh (UP), literally translated as the "Northern Province", is the fifth largest Indian state by area, and the most populous state in the country, with a population of 200 million (Census of India 2011). The state holds immense importance in Indian politics as it contributes the largest number of legislators to the Indian Parliament. 80 of 543 members in the Lok Sabha (House of Commons) and 31 of 244 members in the Rajya sabha (House of Lords) are from UP, and the state has provided eight of the country's 14 Prime Ministers. However, UP remains one of the poorest states in India in terms of per capita net domestic product[2], second only to Bihar.

In November 2000, UP was bifurcated into two states with the creation of a separate hill state called Uttarakhand consisting of the mountainous Himalayan regions of Uttar Pradesh. Presently UP consists of 75 districts that are administered under 18 divisions[3]. The state's legislative body is divided into the Vidhan Parishad (Legislative Council) and the Vidhan Sabha (Legislative Assembly). A Governor is the head of state and is appointed by the President of India. The leader of the party or coalition with a majority in the Legislative Assembly is appointed as the Chief Minister by the Governor. The most recent legislative assembly elections were held in UP in February – March 2012, when a new government was formed, headed by a different party than the one that was previously in power.

Health in Uttar Pradesh

UP's maternal and child health indicators continue to be among the poorest in the country. The Infant Mortality Rate (IMR) in UP is 71 (74 rural, 54 urban) as compared to the all India IMR of 47 (51 rural and 31 urban). Neonatal Mortality Rate is 50[3] (53 rural, 36 urban) compared with the all India rate of 33 (36 rural, 19 urban)[4], and Under 5 Mortality Rate is 94[3] (101 rural, 68 urban) compared with the all India rate of 59 (66 rural, 38 urban)[4]. The state's Maternal Mortality Ratio is 345[3] compared with

Photo above: © Dr Bilal Avan

the all India MMR of 212 (SRS, 2009). Institutional deliveries have gone up in the state since a cash incentive programme (Janani Swasthya Yojana) was introduced in all the states under the NRHM in 2006. Currently UP has 45.6% institutional deliveries, 27.7% in government institutions and 17.7% in private institutions[3]. However when it comes to care seeking for general illnesses, people overwhelmingly choose the private sector. Less than 5% of those suffering with an acute illness and less than 10% of those suffering from a diagnosed chronic illness have been found to seek care from government sources[3].

Two major donor assisted programmes have provided technical assistance to the UP health department since the early 1990s. The Innovations in Family Planing Services (IFPS) project, launched in September 1992, was a joint endeavour of the Govt. of India, USAID, and Govt. of UP and was designed to reorient family planning services in UP. It was implemented through the 'State Innovations in Family Planning Services Agency (SIFPSA), a registered body. The World Bank-assisted UP Health Systems Development Project (UPHSDP) from 2000 to 2005, covered 28 districts and

117 health facilities and focused on improvements in physical infrastructure information systems, NGO contracting in rural areas and strengthening of human resources for improved quality and management skills. A second phase of the project has been launched in 2011 and is called the UP Health Systems Strengthening Project (UPHSSP). A key objective of this project is to improve data utilisation in programme management; this may be of relevance to the DIPH.

The present senior officials in the Health Department including the NRHM unit are considered by most to be progressive and enthusiastic about improving health systems in the state. The presence of a strong NRHM unit at the state level provides an enabling mechanism to work with the health sector, especially in maternal and newborn health, as this is also a key focus area of the NRHM.

Rationale for selection of specific districts for the feasibility study

Introduction to the feasibility study

A key objective of the Data Informed Platform for Health (DIPH) is to promote use of local data for local decision making by the district administration, such as for planning, resource allocation and research activities. The DIPH seeks to synthesise data from public and private sources (not-for-profit and for-profit) to track and understand changes in maternal and child health outcomes.

> “A key objective of the DIPH is to promote use of local data for local decision making by the district administration, such as for planning, resource allocation and research activities.”

The aim of the feasibility study was to determine whether it was technically feasible to implement a DIPH at the district level in Uttar Pradesh. The objective was to assess organisational structures, environment, interactions, information flows, data sources, and categories and quality of data. IDEAS sought the collaboration of the Public Health Foundation of India, New Delhi, for conducting this feasibility study between August and September 2012.

The steps in the feasibility study are outlined below:

1. *Obtaining support of the state government:* The study team sought state goverment support to facilitate their visits to health facilities in the two selected districts and for meetings with key staff in the health facilities. The Mission Director, NRHM-UP was briefed about the DIPH and his permission was obtained to conduct the feasibility study in the state.

2. *Selection of the districts:* Selecting the districts in which to conduct the feasibility study was done in close consultaion with the state NRHM functionaries, particularly the Divisional Project Manager for Lucknow division who is responsible for the six districts surrounding Lucknow. Through a review and discussion with the Lucknow Division project manager, two districts, Unnao and Sitapur, were selected for the feasibility study. The Division project manager also helped in identifying facilities within the district based on their performance (see the sub-section ‘district selection for the feasibility study’ for more details).

3. *Scoping visit:* The study team conducted an initial scoping visit to meet with potential key informants in the public and private sectors in the district who were identified on the basis of their role, knowledge, and relevance to the DIPH activity. The team visited a mix of good and not so good facilities at every level of service delivery to explain about the DIPH and the feasibility study and to solicit the facilities’ cooperation in advance.

4. *Indepth field visit to assess feasibility:* An in-depth visit was conducted in two phases by teams comprising Dr. Bilal Avan, Scientific Coordinator IDEAS LSHTM, Dr. Meenakshi Gautham, IDEAS India Country Coordinator, Dr. Sanghita Bhattacharya, PHFI Senior Public Health Specialist and Dr. Aradhana Srivastava, PHFI Senior Research Associate. The teams completed the feasibilty study in two trips of 7-10 days each. In the first phase, the team focused on public health facilities at the primary and secondary levels, and the NRHM units at the state and district levels. In the second phase the team focused on the non-NRHM state health sector (including the Medical and Heath Directorate at the state level and the CMO’s office at the district level), and the private for proft and not for profit sectors. At each of these facilities the team met with relevant staff (mainly the administrative heads and research/data staff), and held discussions with them using different topic guides for different key informants. The team also reveiwed and collected facility

Table 1 – Different facilities/offices of keys stakeholders visited at different levels

Levels	Department	Person Met	Designation
State	NRHM State Programme Management Unit-NRHM NRHM Divisonal Programme Management Unit Office of the Director General, Medical & Health Joint Director of ICDS programme	Private sector division, SIFPSA Office of the Registrar of Societies, UP State offices of: UNICEF, WHO surveillance office, Micronutrient Initiative, Beti Foundation, Vatsalya	Private sector division, SIFPSA Office of the Registrar of the State Medical Council, UP State office of the Merrygold clinics network
District	NRHM District Programme Management Units Chief Medical Officers and their Deputy/Additional CMOs District Project Officer of ICDS	District offices/officials of WHO, Vatsalya, UNICEF	Offices of the District administration dealing with the private sector
Block	Community Health Centres (CHCs) Primary Health Centres (PHCs) – Block PHCs and New PHCs	Block coordination units/staff of UNICEF and Vatsalya	Small private hospitals
Village	Sub centres with: Auxiliary Nurse Midwives ASHAs (Accredited Social Health Activists)		

records/data entry templates. The team visited the following different facilities/offices of keys stakeholders at different levels:

District selection for the feasibility study

Two districts, Unnao and Sitapur, were selected for the feasibility study in consultation with the NRHM Divisional Project Manager for Lucknow division. In selecting the districts the team took into consideration the following criteria:

Accessibility: The districts should be accessible from Lucknow (the state capital) by road and within two – two and a half hours driving distance. Unnao was one and a half hours and Sitapur was two hours by road from Lucknow.

Locations: The districts should be in different directions of the state capital Lucknow. Unaao was to the southwest of Lucknow and Sitapur was to the north (see map of UP districts).

Variability in governance: Districts should provide variability in functioning of health facilities and district health administrations. Unnao was one of the districts where the NRHM was piloting a new online management information system (MIS). Unnao was also close to two big cities – Lucknow and Kanpur – each with its own big medical colleges and hospitals, and this could be another factor for variability in the two districts. Sitapur has a larger population but almost the same number of Community and Primary Health Centres as Unnao (see *Table 2*).

Variability in health and development indicators: Districts should have different health and development indicators. Sitapur was behind Unnao in terms of female literacy, infant mortality, under five mortality, fertility and institutional deliveries (see *Table 2*).

Table 2 provides a brief overview of health facilities, health seeking, and health indicators in the two districts that we visited. Sitapur was lagging behind Unnao in terms of female literacy, infant mortality, under five mortality, fertility and institutional deliveries. Both districts had a greater number of institutional deliveries in government facilities than in private. However, care seeking for acute illnesses from government sources was only 5% in both districts.

In conclusion, Uttar Pradesh presents a complex and difficult health scenario. The state is of enormous national political significance and yet household wealth and health indicators are among the poorest in the country, and have been slow to change despite

Figure 1 – District map of Uttar Pradesh (darker shaded areas show the location of the two feasibility study districts)

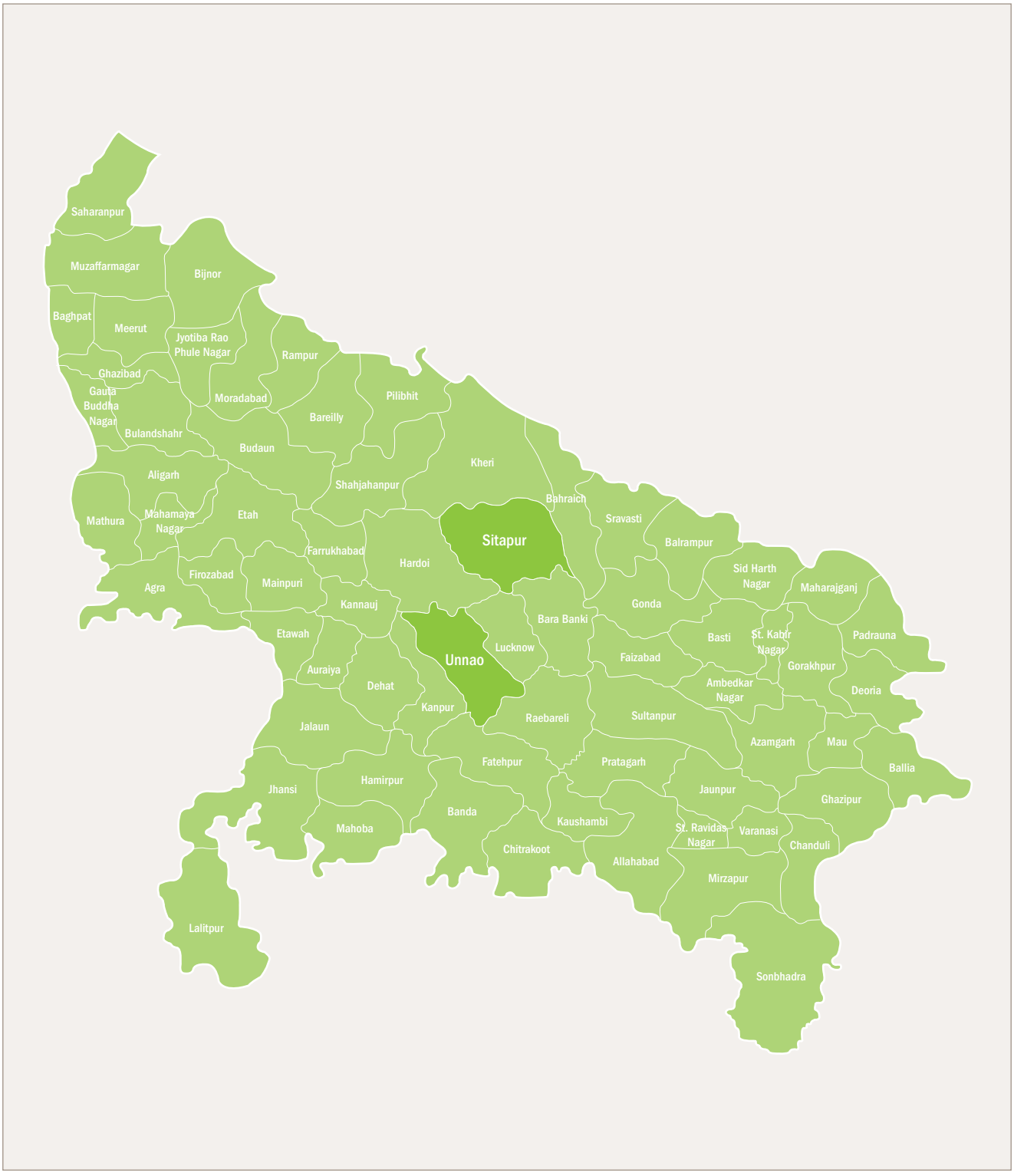


Table 2 – Selected indicators, districts Unnao and Sitapur

Key district indicators	Unnao	Sitapur
Number of blocks	16	19
Number of Primary Health Centres	10	10
Number of Community Health Centres (CHCs)	10	9
Number of CHCs upgraded to FRUs (First referral units)	2	2
Total population	3,110,595	4,474, 446
Female literacy rate	63.0	53.4
Infant mortality	59	82
Neonatal mortality	39	57
Under five mortality rate	84	120
Maternal Mortality Rate (MMR)	330 (Lucknow division)	330 (Lucknow division)
Total Fertility Rate (TFR)	3.3	4.4
Persons suffering from acute illness and taking treatment from any source (%)	97.9	96.9
Persons suffering from acute illness and taking treatment from government source (%)	5.1	5.1
Institutional delivery (%)	52.8	42.4
Delivery at government institution (%)	43.1	32.4
Delivery at private institution (%)	9.8	10.0

Source: Annual Health Survey, UP Factsheet, 2010-11, Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India

Photo above: © Dr Bilal Avan

several interventions introduced by two major programmes of technical assistance in the state since the early 1990s. The present context however also presents big opportunities created by the recent change of political leadership led by a young and dynamic Chief Minister, and the innovations and reforms brought in through the centrally sponsored National Rural Health Mission in 2005-06 with its state units at diffferent levels. The following sections provide detailed descriptions of the health systems and structures at different levels in the two districts we visited during this feasibility study. ■

[2] Reserve Bank of India, Handbook of Statistics on the Indian Economy, 2011-12, Government of India.

[3] Saharanpur, Moradabad, Bareilly, Lucknow, Devipatan, Basti, Gorakhpur, Meerut, Aligarh, Agra, Kanpur, Faizabad, Azamgarh, Jhansi, Chitrakoot, Allahabad, Varanasi, Mirzapur

[4] Annual Health Survey, Uttar Pradesh, Office of the Registrar General and Census Commissioner, GOI, 2010-11

[5] Sample Registration System Statistical Report, Office of the Registrar General and Census Commissioner, GOI, 2010

[6] Sample Registration System: Maternal and Child Mortality and Total Fertility Rates, 2007-09, Office of the Registrar General, India, 7 July 2011

Structures and governance

Public health system

Photo above: © Dr Bilal Avan

Brief structure of the health ministry and department and how districts are related to the states

a) National/federal

The Union Ministry of Health and Family Welfare (MoHFW) designs and implements health policies and programmes on a national scale, particularly those related to health and family welfare, prevention and control of major communicable diseases and promotion of traditional and indigenous systems of medicines. There are various Departments with the Ministry to deal with administration, programmes, data and information systems, and with focus areas such as child health. A Health Secretary heads the Ministry and reports to the Union Minister for Health. The Ministry is supported by the Directorate General of Health Services (Dte. GHS), with a Director General of Health Services (DGHS) as its head. This body is primarily responsible for implementation of public health services.

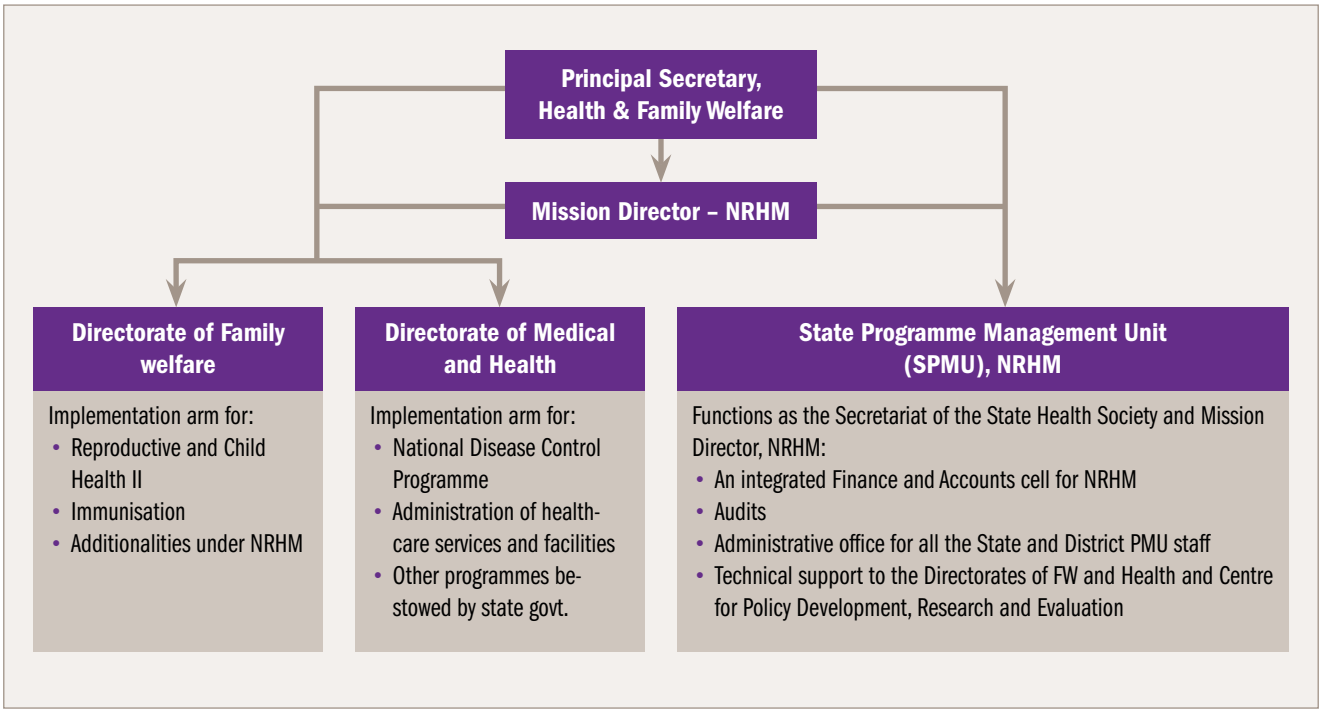
As per the Constitution of India, health is a 'state' subject, implying that it is the responsibility of the state governments. Though a state subject, healthcare delivery involves a large number of centrally-funded vertical programmes, (such as the NRHM), where states take up the primary implementation responsibility while the Centre controls the funding and also provides the technical guidelines for implementation. In 2005, the Ministry launched its flagship programme, the National Rural Health Mission, with the objective of improving access to quality health care for people, especially those residing in rural areas, the poor, women and children. The operational strategy includes increased public expenditure on health, decentralised planning and implementation with greater flexibility for states. The NRHM has introduced two major programmes in all states: a cash incentive scheme called Janani Swasthya Yojana (JSY) to encourage women to go for institutional deliveries, and development of a new cadre of village based link workers known as the Accredited Social Health Activists (ASHAs) who facilitate women's maternal health care including institutional deliveries through the public health system.

b) State/province

The Department of Medical, Health and Family Welfare

The state level public sector body dealing with health is the State Department of Medical, Health, and Family Welfare, UP; this is headed by a Principal Secretary, Health and Family Welfare. The department has three wings: a Directorate of Family Welfare, a Directorate of Medical and Health and the State Programme Management Unit of the National Rural Heath Mission (NRHM SPMU). The Health Department's overarching goal is to provide preventive, promotive and curative health care to the people of the state. The Directorate of Medical and Health is responsible for administration of health services (e.g. dealing with human resources, infrastructure etc) and for implementation of national disease control programmes like blindness and TB and malaria, while the family welfare directorate is responsible for implementation of reproductive and child health (RCH) programmes including immunisations and maternal health (see *Figure 2*). Both are headed by a Director General who is assisted by Additional Directors in charge of various departments. The Mission Director NRHM does not directly supervise these directorates but, being a senior official of the civil services cadre, he is higher in the hierarchy than the heads of the directorates.

Figure 2 – An overview of the State Department of Medical, Health, and Family Welfare, UP



State Health Society and the State Programme Management Unit, NRHM. To facilitate implementation of NRHM, State and District level entities called Health Societies have been registered which work under the administrative control of the Department of Medical Health & Family Welfare. The State Health Society (SHS) consists of a Governing Body, an Executive Committee, and a State Programme Management Unit. The state Chief Secretary is the Chairperson of the SHS, the Principal Secretary (Health and Family Welfare) is the Vice Chair, and the Mission Director is the Convener of the Governing Body. The Governing Body approves the State's annual plan for the NRHM. The Executive Committee is under the Chairmanship of the Principal Secretary and one of its main tasks is to approve the district level annual plans for NRHM activities. The State Programme Management Unit (SPMU) functions as the Secretariat of the State Health Society.

The NRHM SPMU is located in Lucknow, the state capital, and is headed by a Mission Director who is assisted by a number of programme managers, designated as General Managers, in various technical areas (e.g. MCH, Routine Immunisation, Urban Health, Child Health, community processes). The SPMU also has other specialised cells, each dealing with a special function – administration, finance, monitoring and evaluation, IEC, public private partnerships, MIS and national programmes. Under the new Project Implementation Plan for 2011-12, these are proposed to be expanded to 18 administrative cells.

Regional level

Below the state and above the district level, is the divisional or regional level.

> "As per the Constitution of India, health is a 'state' subject, implying that it is the resposibility of the state governments. Though a state subject, healthcare delivery involves a large number of centrally-funded vertical programmes such as the NRHM."

To make it easier to manage, the state is divided into 18 divisions and the health directorate and the NRHM both have corresponding divisional units. The broad function of the divisional level in the directorate is to oversee the District Hospitals and the Chief Medical Officers of the Districts in the respective division. There is one Additional Director per division who looks after three to seven districts in each division.

The NRHM has a Divisional PMU headed by a Programme Manager who is assisted by a Divisional Data Assistant. Health services data from all the district level facilities is received here and consolidated. Additional Directors in their Divisional Headquarters work closely with the Programme Managers of the Divisional PMUs to supervise the districts in their division. Both Unnao and Sitapur districts fall under the same division, which is Lucknow division. *Figure 3* provides a diagrammatic representation of the broad structure of the public health system from state level to village level.

c. District

Health Service delivery system

The district health service delivery system is headed by a Chief Medical Officer (CMO). The CMO is assisted by several Additional CMOs who are in charge of various programmes (e.g. Immunisation, RCH, vector borne diseases, stores, Post Natal Diagnostic Test & informal providers – to ensure regulation, RSBY, leprosy, City health officer etc). Below the Additional CMOs are Deputy CMOs that are responsible for different zones and look after all the health facilities in those zones. In both districts we found this basic structure to be the same.

Secondary level: There is a District Male and Female Hospital in the district headquarter town to provide secondary level health services. These hospitals are generally 150-bed Hospitals, where a wide range of medical facilities are provided. District Hospitals are each headed by an independent Chief Medical Superintendent; they report directly to the Additional Director at the Divisional level, but there is still some collaborative work between the CMS and the CMO at the district level (like sharing data on JSY deliveries).

Community Health Centres (CHCs) are intended to deliver secondary level care. As per national norms, CHCs should be at the sub-divisional or 'tehsil' level (a cluster of blocks), and the national population norm is one CHC for every 120,000 population. Each CHC should have 30 beds and four essential specialists – a physician, surgeon, gynaecologist, and paediatrician. In the districts we visited, we found CHCs not only at the Tehsil, but also at the block level. But only two CHCs in each district were truly providing secondary level care as they had been upgraded as First Referral Units (FRUs). In being an FRU, they had: 1.) 24 X 7 services, 2.) blood storage, 3.) a stabilisation unit for newborns and 4.) a caesarean facility. However, even in these FRUs we did not find the entire team of essential specialists in every facility. Some had a surgeon but no gynaecologist (or a basic MBBS female doctor in that position), or paediatrician. The non-FRUs had surgeons but no anaesthetists. In spite of these challenges, the FRUs in each district seemed to be functioning and were quite well utilised.

Primary level: According to national norms, there should be one Primary Health Centre per 30,000 population, with at least one basic doctor. The PHC is the first point of contact for the rural population with a qualified doctor. In the districts we visited there were two types of PHCs – the main Block level PHCs at the block headquarter New or Additional PHCs in the more remote villages. Thus is every block there were two to three PHCs. However, while the main PHC had a bio-medically qualified doctor (usually more than one), the

Photo right: © Dr Bilal Avan

new PHCs had one biomedical and one AYUSH doctor, or only an AYUSH doctor. The Block PHCs also had a few beds, although in-patients are rare, but delivery patients did sometimes occupy the beds. Since the initiation of the Janani Swasthya Suraksha Scheme, PHCs and some new PHCs have started receiving an increasing number of delivery patients. However, much depends on the location of the PHC. In Unnao district, one new PHC which was in a very remote village did not have any facility for deliveries, but another new PHC in Sitapur that was located on the main highway from Lucknow to Sitapur performed more deliveries than its supervising Block PHC which was in the district interior.

Each Block PHC is headed by a Medical Officer in-charge (MOIC) who supervises the Medical Officers in the new PHCs. There are also 20-25 Sub Centres attached to a Block PHC (or CHCs where these are available), each managed by an ANM assisted by an ASHA. The ANMs are supervised by Lady Health Visitors (HVs) who are based at the PHC/CHC. Besides the deliveries conducted under the NRHM funded JSY scheme, another significant programme run through PHCs and the Sub Centre ANMs and ASHAs is Routine Immunisation.

The three-tier service delivery structure is guided by national level staffing norms. *Table 3* contains details of staffing norms against what we found in the districts.

As seen in *Table 2,* the big shortages vis-s-vis norms were of male health workers, medical doctors in the remote new/additional PHCs, and essential specialists in the CHCs. On the other hand, staff availability was better than norms with respect to AYUSH practitioners in PHCs, Anaesthetists in FRUs, and Assistant Research Officers and data assistants/operators in every CHC and PHC.

Figure 3 – Broad structure of the public health system (arrows show flow of supervision)

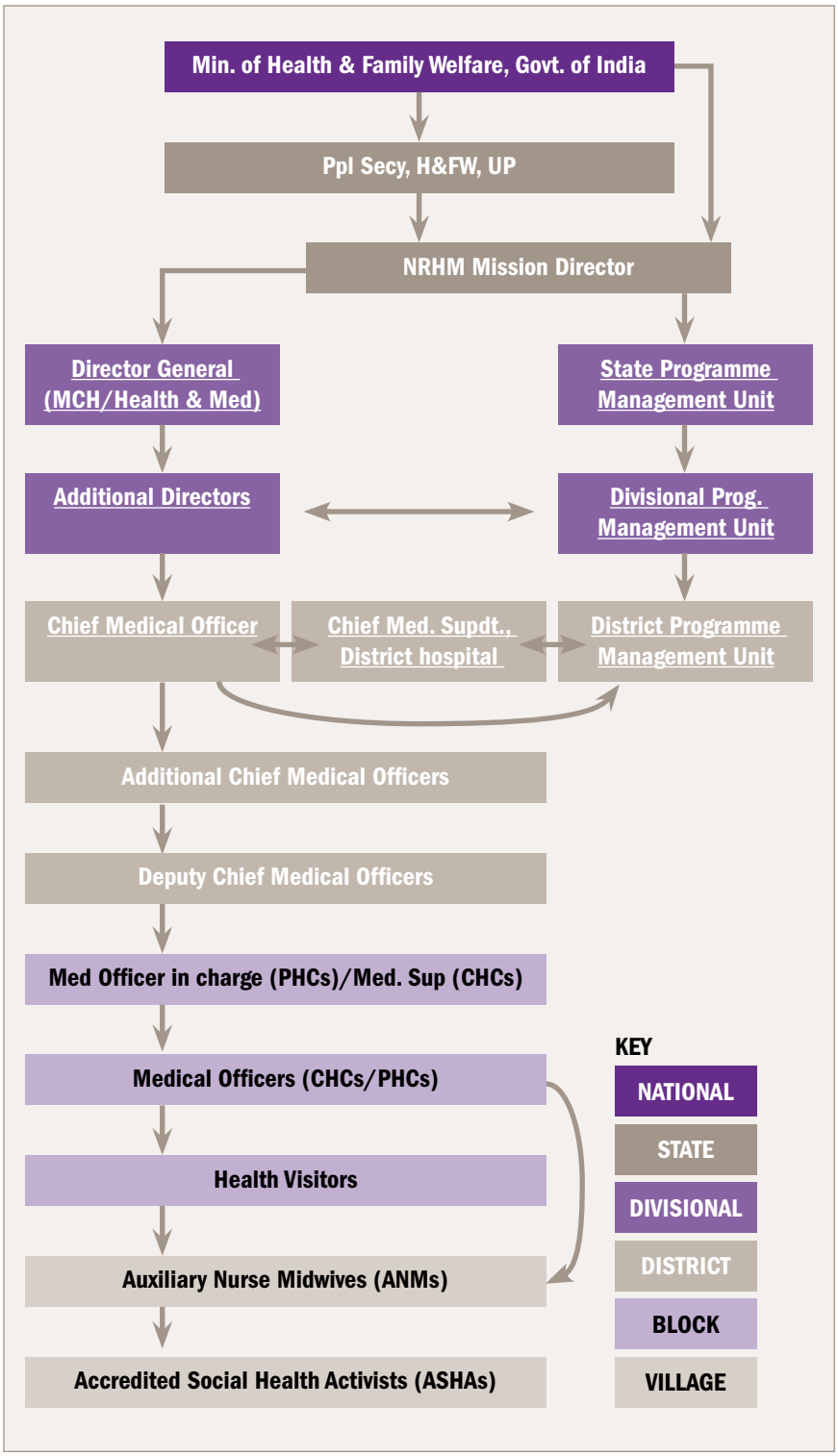


Table 3 – Staffing at district health facilities – norms versus observed staffing

Type of facility and staff listing	Staffing as per existing national norms*	What we found
SUB CENTRE		
Health Worker (female)/ANM	1	1
Health Worker (male)	1	None. Have been promoted as supervisors and no new recruitments
Voluntary worker to keep Sub Centre clean and assist ANM. Paid Rs 100 by the ANM's contingency fund	1 (optional)	Not everywhere. In one SC we found a TBA who helps the ANM, but she had not been paid for 6 months.
PRIMARY HEALTH CENTRE		
Medical Officer	1	Available in all Block PHCs but not in all New PHCs, specially remote ones
AYUSH practitioner	Nil	Available mostly in New PHCs, or where an MBBS doctor is not available
Account Manager	Nil	1 combined data cum account assistant
Pharmacist	1	1
Nurse-midwife/staff nurse	1	1
Health worker (female)	1	1 (but about 25 ANMs are under the supervision of one B-PHC)
Health educator	1	1 at block PHC
Health Assistant, male and female	2	–
Clerks	2	1
Laboratory technician	1	Usually 1 at Block PHC
Driver	1	not at PHC level
COMMUNITY HEALTH CENTRE		
General Surgeon	1	Usually in FRUs (2 each in Unnao and Sitapur)
Physician	1	In one CHC, a critical medicine specialist was in this position
Obstetrician/Gynaecologist	1	May be available in FRUs, or else Lady MBBS doctors substitute as Obstetricians/gynaecologists
Paediatrician	1	Found only in 2 CHCs; one had a diploma in Child Health and not an MD degree
Anesthetist	–	Available in FRUs.
Public Health Manager	–	Not available
Eye Surgeon	–	In one CHC/FRU
Dental Surgeon	–	In one CHC
General Duty Medical Officer	4 (inclusive of the specialists)	5-10 (inclusive of specialists)
AYUSH Specialist	–	Not available
General Duty Medical Officer of AYUSH	–	Not available in CHC, but new PHCs have an AYUSH and an MBBS doctor.
Staff Nurse	7	3-4
Public Health Nurse	–	NA

Type of facility and staff listing	Staffing as per existing national norms*	What we found
ANM	–	About 25-30 attached with the CHC's sub centres.
Pharmacist/compounder	1	1-3
Pharmacist – AYUSH	–	NA
Lab technician	1	1
Radiographer	1	Available in some
Opthalmic assistant	–	Available in one
Statistical assistant/data entry operator	–	2 – available in all CHCs and Block PHcs– one is an Assistant Research Officer who handles all records, and another is block data assistant who enters the online data (an NRHM position)
Accountant/admin assistant	–	1

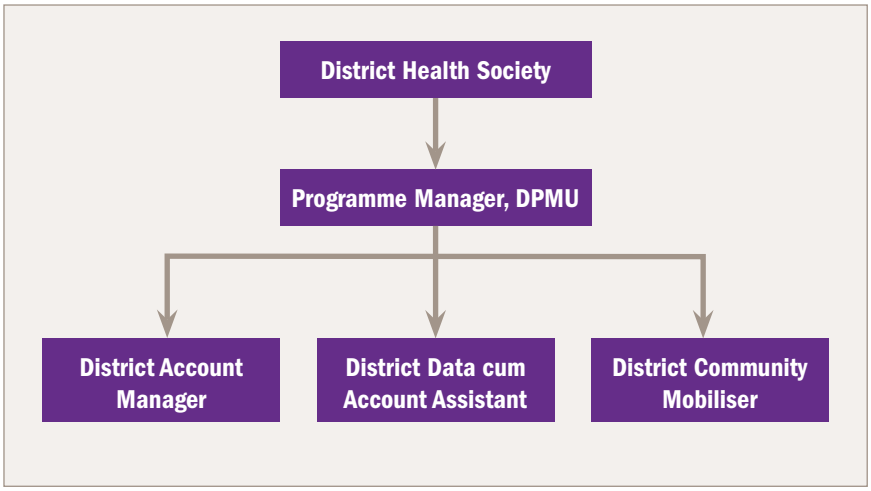
*Source: GOI, Rural Health System in India, Rural Health Statistics, March 2011

Structure of NRHM at the District Level: District Health Society and District Programme Management Unit (DPMU)

Similar to the State Health Society, another legally registered entity called the District Health Society (DHS) facilitates the joint planning and implementation of programmes by the district health administration and NRHM related sectors. It is part of the district health administration and provides support for planning, budgeting and budget analysis, development of district proposals, and financial management. The District Magistrate is the Chairperson of the DHS, and the Chief Medical Officer is its Chief Executive Officer. DHS members include representatives from various health and development sectors such as water, sanitation, and ICDS, representatives of locally active NGOs, and the Programme Manager of the NRHM's District Programme Management Unit or DPMU.

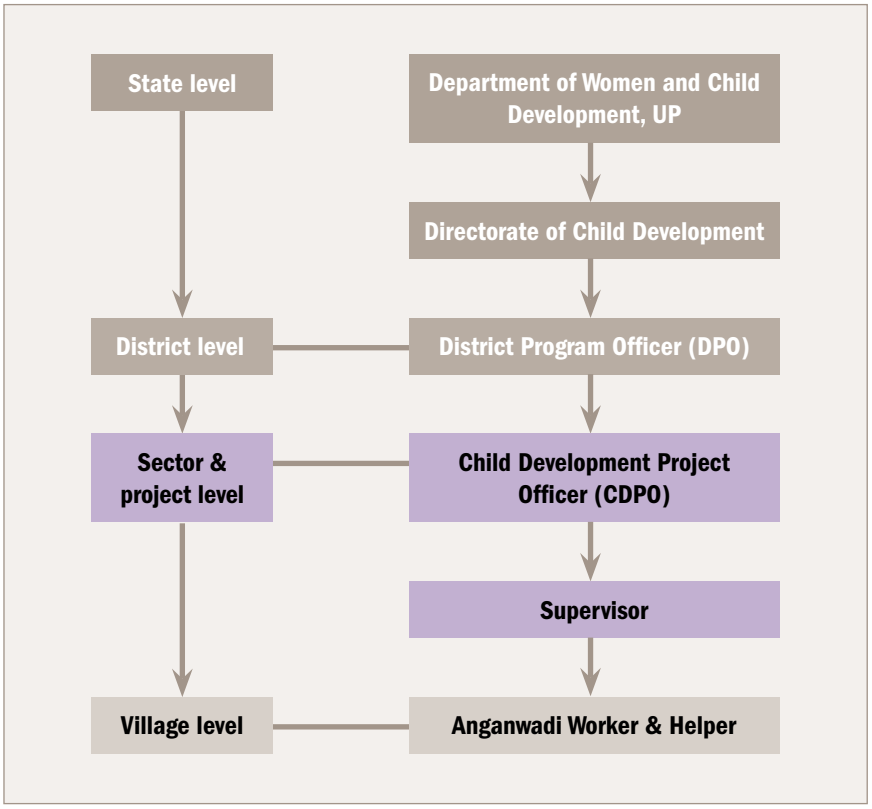
The DPMU is the Secretariat of the District Health Society. DPMU has four staff: District Programme Manager (DPM), District Community Mobiliser (DCM), District Accounts Manager and District Data cum Accounts Assistant (See *Figure 4* Structure of the DPMU). A primary role of the DPMU is to monitor and support the implementation of NRHM programmes at the district level. The Project Manager oversees field programmes, focusing on those related to the NRHM, and reports to the CMO who is a member of the District Health Society. The Project Manager's position is a contractual one and is renewed under recommendation of the District Magistrate (DM), so in practice the DPM also reports to DM. During our visit we found that in Sitapur the DPMU Programme Manager's position was vacant and the District Community Mobiliser was the Acting Programme Manager.

Figure 4 – Structure of DPMU under the District Health Society



Block PMUs exist in theory but not in practice. We were also informed that initially the Block Health Education Officer (BHEO) was given responsibility for the BPMU but this did not work. Now only a Data Operator is there at the block level. We found evidence everywhere of the presence of a Block Data Assistant (BDA) at every Block-PHC and -CHC in both the districts. The role of these BDAs is to enter the online health records that have been initiated since April 2012.

Figure 5 – Organisational Structure of ICDS programme at the state, district, sub-district, and village level



A health related programme: The Integrated Child Development Service (ICDS) programme, Department of Women and Child Development

The **Integrated Child Development Services (ICDS)** scheme is implemented by the Ministry of Women and Child Development at the national level and the Department of Women and Child Development at the state level. ICDS is relevant for the DIPH as its implementation involves several maternal and child health parameters, and the health department also works in coordination with the ICDS, using its staff and services in implementing immunisation and maternal care services. ICDS focuses on early childhood development in an integrated manner, combining supplementary nutrition, healthcare, immunisation and pre-school education. It has set up Anganwadi Centres (AWCs) at the community level, which provide a package of services comprising 1.) supplementary nutrition, immunisation and pre-school non-formal education to children below six years of age, 2.) supplementary nutrition, immunisation, health check up and referral services to pregnant and lactating women, 3.) nutrition and health education to women aged 15-45 years. The Anganwadi Worker (AWW), ASHA and ANM work together in many instances to provide health interventions such as immunisations and distribution of iron/folic acid tablets. *Figure 5* depicts the ICDS state and district level structure up to the village level.

Existing contact opportunities between state/district

What kind of discussions and meeting forums exist?
State level
Meetings – Additional Directors of every Division have a joint meeting with Chief Medical Officers of the districts in that division every four to six weeks to review health and administration related issues including human resources, performance of facilities, quality assurance, staff availability, medicines availability, generators, ambulances etc.

Training programmes – The Directorate has a separate training department which looks after induction training as well as ongoing on-the job training. The latter provide opportunities for further contact between the state, divisions and districts. Most of these occur at the state level and are organised by the State Institute of Health and Family

Welfare, along with its divisional branches. Topics range from management and administration skills to immunisations and any new programmes. The SPMU has also been conducting special trainings to orient CMOs to the new online data entry system. They have had five trainings of CMOs in the last year in monitoring and supervision, and data systems.

District level

Monitoring visits

By divisional staff to districts – The divisional project managers and additional directors make monitoring and inspection visits to the districts in their division. They usually go together but also visit separately, although the Additional Director said he then takes someone along with him (like a Unicef staff deputed to the directorate). Each district should be monitored twice a month, but that may not be practically possible. In both districts we heard of their visits, but not that they were as frequent as twice a month. They meet ACMOs and Deputy CMOs when they go on inspections. The SPMU staff do not have enough resources to make field visits so they rely mostly on the Divisional Project Manager's reports. The Programme Manager of the DPMU conducts monitoring visits to health facilities, mostly to verify JSY clients and payments.

By senior district staff to district and block level facilities – The Medical Superintendents of CHCs and MOICs of PHCs make monitoring field visits to their respective facilities including new PHCs and sub centres, to check if staff are in position and to cross check JSY beneficiaries. The CMOs also make regular field visits not only to monitor but also to assess the extent of any natural disasters like floods, or an epidemic situation.

Meetings

District Health Society's monthly review and planning meetings to review financial and programmatic progress, and to plan for the next month. This meeting is chaired by the District Magistrate, and attended by the CMO, all MOICs, all district programme officers (non-health personnel such as the ICDS Project officer also attend), and district NGOs.

CMO's monthly review meeting with his own district staff (MOICs and Medical Superintendents) – to review the financial and physical aspects of all programmes during the month.

The Programme Manager of the DPMU meets the CMO quite regularly, almost on a daily basis as their offices are nearby and the DPM reports to the CMO.

Review meetings with the private sector (NGOs and commercial bodies): The CMO has monthly meetings with all the NGOs that are involved in the Routine Immunisation Programme, including UNICEF and WHO. In fact, in both the districts we visited, WHO and UNICEF district staff meet the CMO almost every week for immunisation updates during the period when Routine Immunisation activity is stepped up. The CMO also holds monthly meetings with private nursing homes that are empanelled with the government flagship insurance programme – the Rashtriya Swasthya Bima Ypjana (to discuss payment issues mainly).

Planning meetings between health and other departments: At the district level, the health department may call project officers from other departments, such as ICDS or water and sanitation programmes, to participate in planning for a specific programme that requires inputs from other departments.

A district task force is formed for every programme in which functionaries from other relevant departments come together to plan and discuss the programme. A similar exercise may happen at the Block level also – ICDS Project Officers and Supervisors may get together with PHC MOICs to discuss specific programmes which require joint action.

Rogi kalyan samiti (patients' welfare society) meetings: RKS is a registered society that acts as group of trustees for better management of the health facility. It is set up in District Hospitals and CHCs and consists of members of local village bodies (panchayats), NGOs, and senior facility staff. The RKS meets regularly almost every month to review some management related issues and small expenses (e.g. for oxygen cylinders, hospital laundry, diesel for generators etc).

Training

If the district CMO's staff want a targeted training in their own headquarters, such as for the CCSP (Comprehensive Child Survival Programme), it is arranged at the district level. Staff in Unnao have asked for a training in medico legal requirements, for example.

> "The public health system has a complex administrative hierarchy to manage the network of district health facilities at the primary and secondary levels."

Block and village level
Meetings
ANMs' meetings cum orientations: Weekly meetings of all ANMs at the PHC or CHC that they are attached to – mainly to review progress, and to discuss any new programmes with them. These are conducted by the MOICs of the CHC/PHC.

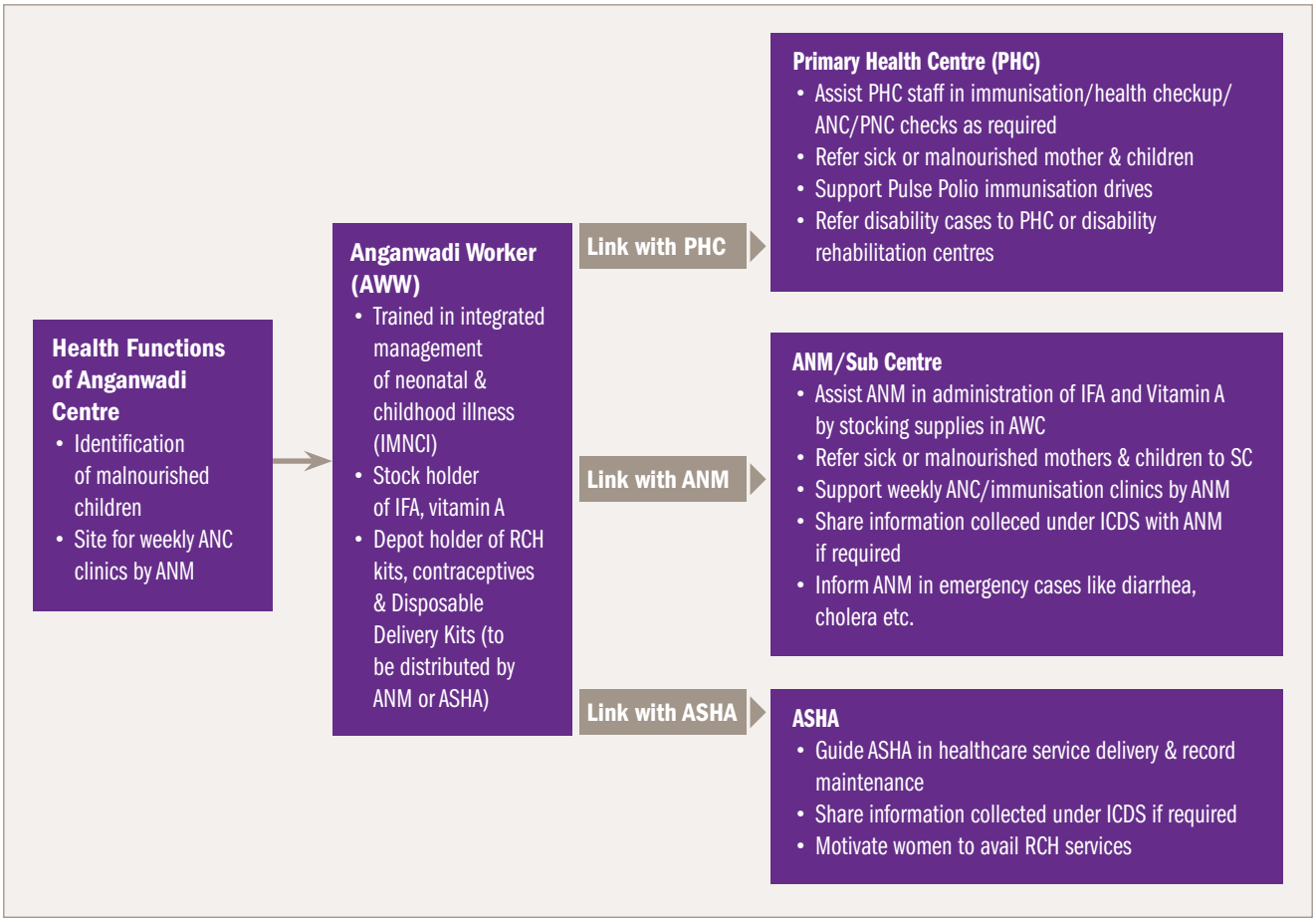
ASHAs meetings cum trainings: Monthly or bi-monthly meetings of ASHAs at the PHC/CHC that they are attached to – partly for review of their activities, partly for training and orienting them to new programmes *("kuch poochte hain, kuch batate hain"* [they ask us some things and tell us some things"])

Village health and sanitation committee meetings: The VHSC is a concept that evolved in the NRHM, where it was conceived as the basic building block of decentralised village level health plans. This committee comprises of village representatives including Panchayat representatives, ANMs, Anganwadi workers, teachers, and ASHAs. However we did not find much evidence of active VHSCs in either district and were also informed by some key informants that the concept of village based planning has not taken off as it was envisaged.

Links between the health system and the ICDS at the village level

Supervisory structures and activities
General observations: A very elaborate structure exists with several layers, but in terms of constructive and systematic supervision there is little going on. Supervisory systems are more about 'lines of command' (who is who's boss) rather than providing constructive and supportive supervision. Whatever processes do exist are quite ad hoc – consisting of 'inspection visits', checking to see if staff are in the field, and client verification. Trip reports are factual

Figure 6 – Health related functions of AWC and AWW and linkages with health system



rather than insightful. Data verification is also quite ad hoc – visiting clients or even trying to call them from the state capital. The NRHM staff do a slightly better job of monitoring but their focus is on data and accounts, maternity related infrastructure (mainly labour rooms), and record verification. There is not much feedback from the CMO or the DPMU to the CHCs/PHCs about the records and data that is compiled and submitted. For example, feedback may be in the form of enquiries about why sputum slides are less in some months. Quality is still not raised as an issue – and is probably the biggest gap in the system at present.

District level

Supervision and monitoring of NRHM activities

For this, the project manager DPMU is the nodal person and the SPMU and Divisional PMU rely heavily on him for day to day field based monitoring. He is responsible for ensuring data quality through field verification of JSY clients and payments made. The Programme Manager and the data assistant in the DPMU discuss data related discrepancies with the Block staff.

Supervision in the health service delivery system

In the CHCs and Block PHCs, supervisory relationships are worked out clearly from top to bottom. The Medical Superintendents (MS) or the MOICs are the facility heads and they supervise the next level MOs who in turn supervise the MOs of new PHCs, the AROs and Health visitors (HV) and Health Education Officers. Each HV in turn supervises five to six ANMs and each ANM is responsible for five to six ASHAs in her villages. In one CHC we found that each MO was assigned a certain region and he looked after all the facilities and staff of that region.

Monitoring activities in CHCs and Block PHCs consist of weekly meetings with all internal staff up to the level of ANMs. Senior staff (MS/MOICs/MOs) said they make periodic visits to check that staff at lower facilities are coming to work, and that medicines are available and being distributed. They report their findings to the CMO. (However, we found that absenteeism was quite prevalent at the remote facilities and medicines were always in short supply everywhere.)

ANMs come weekly to the CHC/B-PHC for meetings – to discuss any problems or to discuss new events and updates. Senior officers said they cross verify data from the ANMs and sub centres which is entered into the ANMs' registers and there is also field monitoring of their clients. They review immunisation and registration of pregnant women and give feedback based on the visit report.

A new ANM register (with 42 columns) has been introduced and some ANMs are submitting their data on that register. In both districts we found that some ANMs had this register and some did not but it was slowly becoming the accepted version as the data from this register would be entered into the online system.

A Health Visitor (HV) supervises the work of ANMs – there are five to six ANMs per HV. On the day of the bi-weekly RI sessions, HVs have to go and check some sub centres where immunisation sessions are going on, and submit their report to the MOs by evening. There is a standard observation format now for observing RI sessions, and this has probably been developed and introduced by international NGOs like UNICEF and WHO. An HV is however, not linked to ASHAs. ASHAs send their reports through ANMs. The ANMs support ASHAs in their activities – such as in their surveys for new programmes. An example of such a survey is for the promotion of menstrual hygiene wherein the ASHAs have to survey how many pads are needed per woman and per village. Another example could be data required for filaria eradication. The system gets this type of field data from the ANM through the ASHA. The ASHA gets payment for those immunisation sessions that are well conducted and attended.

ASHAs come to the CHC/B-PHC monthly (or sometimes bi-monthly). If a new programme is starting, the MO will explain to them about that programme. Otherwise they will just orient them to general diseases, and about basic management of conditions like diarrhoea etc. The MOIC educates the ASHAs and ANMs. In some facilities, the HEO also deals with ANMs: meets them weekly in the PHC, gives them new information, and collects their reports. The HEO or the MOICs explain to the ANMs about the new Project Implementation Plan which comes into implementation in August every year.

State level

At the state level the relationship between the NRHM and the Directorate is not a straightforward one in terms of lines of command. Both are housed in different offices, and the NRHM offices in the state and the district appear to be better resourced, and the quality of staff is also better, although they are contractual staff and those in the directorate are permanent staff. These complex relationships have been explained diagrammatically earlier in this report in *Figure 3*. The Mission Director reports to the Principal Secretary Health, but the SPMU owes a lot of allegiance to the GOI (which funds it). All the NRHM state planning is done through the SPMU, and

approval is sought from GOI. The online data entry system has been introduced by the GOI and for a long time the DG and the CMOs did not even know about it. In terms of lines of command, the DPMU Programme Managers have to identify and report gaps in the district health system, i.e. problems with the CMO and his operations, but at the same time the Programme Managers also report to the CMO which makes their task rather daunting. Furthermore, the Mission Director being a senior civil servant is above the DGs and the CMOs, and has power and authority over them, although the DGs and the CMOs do not report to him and are not an immediate part of that structure. One example is that a letter to the CMOs to facilitate our DIPH visits was sent from the Mission Director's office and not from the Principal Secretary's office.

HMIS

General observations: The team observed a large volume of records and reports with numerous forms and repetitive items, but also learned that this system is currently being rationalised with the initiation of a new online system under the NRHM. This is being guided by the GOI, via the NRHM SPMU. It seems to be a kind of universal system that is being developed across all Indian states. Under this system, every facility is required to enter its own data on beneficiaries, services, diseases, and finances. There are a lot of challenges in this process, especially lack of nonstop power supply and connectivity, but the system is still being pushed and seems to be moving ahead, though at a slow pace. Contractual data assistants have been recruited at every facility from the B-PHC upwards. However the current focus of this online system is mainly on NRHM activities and funds – so it includes entry of JSY beneficiaries, MCTS (maternal and child tracking system) and some HMIS (monthly reports of sub centres and PHCs/ CHCs). These reports are no longer being compiled at the CMO's office centrally as they used to. Officials in the SPMU expressed their hope that corruption and poor quality data would be reduced through this process. Other records – for other diseases, for vaccines, and for medicines and other equipment, are still being maintained in paper form at the CMO's office and are sent to the state health directorate. We were also told that the system is being piloted in 18 districts, including Unnao, but we found it equally active in Sitapur as well, with all the data assistants in position at the B-PHCs and CHCs trying hard to meet their monthly data entry targets.

Description of different types of data and data flows *(Table 4)*

As shown in *Table 4,* data from the sub centre level goes to the B-PHC or the CHC. An Assistant Research Officer (ARO) compiles it here and a Block Data Assistant (NRHM contractual employee) enters parts of this data into various templates: an MCTS (Maternal and Child Tracking System), a JSY report (cash incentive scheme for institutional deliveries), a Financial Monthly Report (FMR) and a progress report of the facility along with all of its subordinate facilities (called an HMIS report). The data then goes to the CMO's office (a Research Officer sits here) and the DPMU. Data on immunisations, acute flaccid polio report, epidemics and a FMR (financial management report) goes to the CMO's office only. Data on JSY, FP, RI, finance (FMR) goes to the DPMU.

The DPMU consolidates and verifies the NRHM-related data and then it is sent to the Divisional PMU that analyses the data and asks questions – mainly about expenditure. The Divisional PMU Programme Managers look at the data and accounts, review the number of beneficiaries and cross check in the field whenever possible. With the introduction of the online data entry system, the CMO cannot interfere with facility level data. He/ she can just add the District hospital data to the data from other facilities. Gradually the paper based data system is expected to fade away. To decentralise data entry even further, the NRHM SPMU is planning to give a tablet computer to the ANM for immediate data entry, so that data can be easily uploaded to a central server.

There are two types of reporting systems currently operating in the system – a paper-based system known as the 'Directorate General or DG reporting' (that has been used for the last 20 years) and the new computer-based HMIS portal. We were told by the SPMU staff that most officials, especially at the centre and under the NRHM, want to use the HMIS portal and not the DG's pathway as it is rife with data mismatches, validation errors and outliers.

District Hospital (has not been included in the Table because it is an independent service delivery organisation and does not have supervisory functions over the lower levels):

The district hospital is primarily a service delivery organisation and although it is a referral source for PHCs and CHCs in the district, it does not perform any supervisory functions over the PHCs and CHCs and does not receive any records from the secondary and primary levels. It is an independent hospital under the charge of a Chief Medical Superintendent. Its only

relationship with the CMO's office is with respect to FP, immunisation and JSY. Reports connected with these services go to the CMOs' office and the DPMU in the district. All other hospital reports go to the directorate. Thus the district hospital is not included in *Table 3* but is mentioned separately here. NRHM funds are used in the district hospital for deliveries, transport support for new mothers, contract staff (data officer but she has not been renewed), and some equipment – stretchers, blood bank refrigerator etc.

Photo above: © Dr Bilal Avan

Records:

Service delivery-related

1. OPD register: number of male and female, pathologies, etc
2. Indoor patients – how many admissions in a month. How many male and female? Reports of specific doctors – how many surgeries etc. How many laparoscopies and MTPs etc.
3. Patients referred in and referred out.

Other

1. One compiled report about OPD, IPDS, deliveries, caesareans goes to the Director Women's, Medical and Health Services Directorate, Lucknow.
2. Staff records
3. Financial report.

Records maintained by the AWWs in the ICDS programme

At the village level, Anganwadi workers of the ICDS programme also collect data on child immunisations, growth monitoring and nutrition, and on pregnant women. AWW records are compiled into a district MPR which is sent by the ICDS District Project Officer to the state ICDS Directorate. However there is no link between children's growth monitoring data and health data (e.g. if a child is malnourished and is referred to a PHC, there is no further tracking of the child beyond making the referral).

In conclusion, the public health system has a complex administrative hierarchy at the state and district level to manage the network of health facilities at the primary and secondary levels of the district. The NRHM has corresponding units at the state and district level that are smaller and leaner and work closely with the state health directorate. The NRHM has introduced a new online system of data entry and management, beginning from the primary healthcare facilities; the former paper-based system still continues alongside, but is expected to slowly disappear as the online system takes over. However, much of the data is still collected manually at the field level by frontline health workers and may be subject to errors of collection and reporting. The online data system has a comprehensive maternal and child tracking format, a financial reporting format, and a comprehensive monthly report of PHCs/CHCs and sub centres. This data is used mainly for reviews and verification of institutional deliveries versus cash incentives given to mothers and payments made to ASHAs for referring women for deliveries. Child immunisations is another area where there is significant data utilisation, and this extends to setting targets, making monthly microplans of immunisation sessions and, with the help of various NGO partners, reviewing individual immunisation sessions. However, in the absence of systematic field survey procedures, this data can only have limited use in setting targets and reviewing accomplishments vis a vis targets. Supervisory systems are generally weak consisting mainly of 'inspection'-type of visits to ascertain that staff are in position; quality is a neglected parameter throughout the system. The ICDS has a different structure, and there are some linkages between the grass roots workers of the two departments at the village level, but there is no systematic integration of data collected by the two departments in a way that would help to track mothers and newborns in a comprehensive and meaningful way. For example, if a child is identified as malnourished, he/she is simply referred to a PHC and there is no follow-up data on what happens thereafter to this child. ■

Table 4 – Flow of information from village to the state level in the public sector

Level of service delivery	Records maintained/compiled at this level (frequency of compilation & submission)	Mode of Data entry – paper based/online
STATE LEVEL		
Health Directorate	**Non-NRHM paper based records:** *Disease related:* Epidemics, TB DOTs logistics (monthly) *Financial:* Expenditure on salaries, constructions, ambulance service (monthly) *Commodities:* Stores, medicines and vaccine registers (monthly) *Others:* Birth and death records, red cross society records (monthly) **NRHM online records:** HMIS (monthly progress reports of PHCs/CHCs), MCTS, FMR (financial monthly report)	Primarily paper-based
Divisional PMU/State PMU	FMR, HMIS, MCTS, JSY (ongoing with daily additions)	Primarily online
DISTRICT LEVEL		
CMO's office	All NRHM as well as non-NRHM records from PHCs/CHCs and from the DPMU (as listed below)	Paper and online
District Programme Management Unit	Compile and review: JSY deliveries and payments, child and maternal Immunisations, Financial monthly report, MCTS (includes immunisations and delivery related information) (monthly) Quarterly reporting to state health society (quarterly)	Mainly concerned with online records including NRHM financials.
BLOCK LEVEL		
Primary Health Centre/ Community Health Centre	*Service delivery related:* • JSY register, OPD register, Inpatient register (daily) Family Planning, Routine Immunisations (weekly) • Vit A – two times a year (bi-annual) • Universal Immunisation programme – consolidated monthly district performance report (monthly)	Online: JSY payments, MCTS, HMIS, FMR
	Disease related: • Acute flaccid polio report, polio vaccine report (monthly) • IDSP – weekly reporting (on any reported epidemics, and also incidence and deaths due to communicable and non-communicable diseases) – obtained from OPD register (weekly) • Revised national TB control programme – monthly report on programme management, logistics and microscopy, peripheral health institution level (monthly) • ICTC (HIV Integrated counselling and training centre) monthly report format (monthly) • National Leprosy Monthly Reporting Form (PHC/Block PHC report) (monthly) • National Programme for Control of Blindness -monthly and progressive reporting form for optometrist (monthly)	

Table 4 – Flow of information from village to the state level in the public sector (continued)

Level of service delivery	Records maintained/compiled at this level (frequency of compilation & submission)	Mode of Data entry – paper based/online
BLOCK LEVEL (continued)		
	Commodities: • Vaccine register, Stock register (medicines) (2-3 times a month) (Anti malarial monthly drug statement (monthly)	
	Financial: • Financial reports (RCH camps, RKS, user charges) (daily/weekly) • Financial monthly report (monthly)	
	Others: • On-site evaluation checklist for STLS (senior treatment laboratory supervisor) • Labour room records (daily) • Chief Minister's monthly report (monthly) • ANMs' MCH register (42 columns) – entered online – all columns. Started from last year (entered daily) • Monthly progress reports (entered into HMIS database) (monthly)	
	Sent to DPMU: JSY, Nasbandi (Sterilisations), Routine Immunisation (RI), FMR, Child Immunisation register (entered in the MCTS) (sent monthly but can be accessed anytime)	
VILLAGE LEVEL		
Sub-centre with ANM	• ANM record/register – details of pregnant women, Details of children immunised and target number of children (immunisation reports are sent every Wednesday and Saturday) Childbirths every month: (delivery records for JSY payments) All deaths of women, and also all other births and deaths (monthly) • Monthly report of Village Health and Nutrition Days (VHND) – (how many pregnant women, who got first, who got second, immunisations received by children, were children weighed, given Nutrition etc?) (monthly) Mother and child card (in 3 parts) (updated every client visit) • Maternal death review form – ANM brings this information (started about 5-6 months ago) (but it is in English) ANM will verify cause of death – was introduced by the ARO in the CMO's office (monthly) • Monthly report of the Sub-centre's activities (contains many of the above items) (monthly) • ANM's eligible couple register (for FP) (as per new client)	Entered online at the PHC/ CHC as 'MCTS', 'HMIS'. However ANM register is paper based and hand filled.
ASHAs	"Due" list in their personal register. Includes target women and children for deliveries and immunisations (as per new clients) Paper based record feeds into ANM's records. ASHA registers were supplied by the central government earlier by the NRHM, GOI, but have not been replenished. So ASHAs use their own hand drawn registers.	Paper based, hand written

Note: Arrows mark flow of information/transmission of data

A more exhaustive list of all the formats (by their titles) is provided in Appendix 1.

Public health organisations (non-governmental service delivery organisations)

Brief structure of public health organisations and their programmes in the areas (in the context of the DIPH)

A significant role in supporting public health programmes and initiatives is played by Non-Government Organisations (NGOs), which are non-profit entities implementing community-level development and public welfare activities. NGOs range from international organisations to Indian organisations registered at the national or state level. Their activities include supporting implementation of Government programmes, or those funded by external donors. They could operate independently or in a consortium of several implementing partners.

Methodology: This section has been developed using two in-depth case studies of NGOs implementing public health projects in UP. From our district visits we identified four NGOs with field presence – UNICEF, WHO, Vatsalya and Beti Foundation. Except for WHO, the others were working only in Sitapur and not in Unnao. For our case studies we selected UNICEF and Vatsalya since they had a field structure and were willing to let us meet their field staff. We met their state and district level functionaries to understand the structure, systems and linkages from the community level upwards to the state level.

Registration of NGOs: NGOs in UP are registered with the Office of Registrar of Societies (under the Department of Finance, Government of UP) and governed by the Societies Registration Act of 1860 (a national Act with state-specific amendments). Until 31 March 2012, a total of 535,229 NGOs were registered in UP. In order to decentralise the process, regional Registration Offices have also been set up with Registrars and Deputy Registrars, where NGOs from nearby districts can register.

The Registrar's Office maintains a list of NGOs registered along with their Mission statements and areas of work. Any change has to be notified in the Registrar's Office.

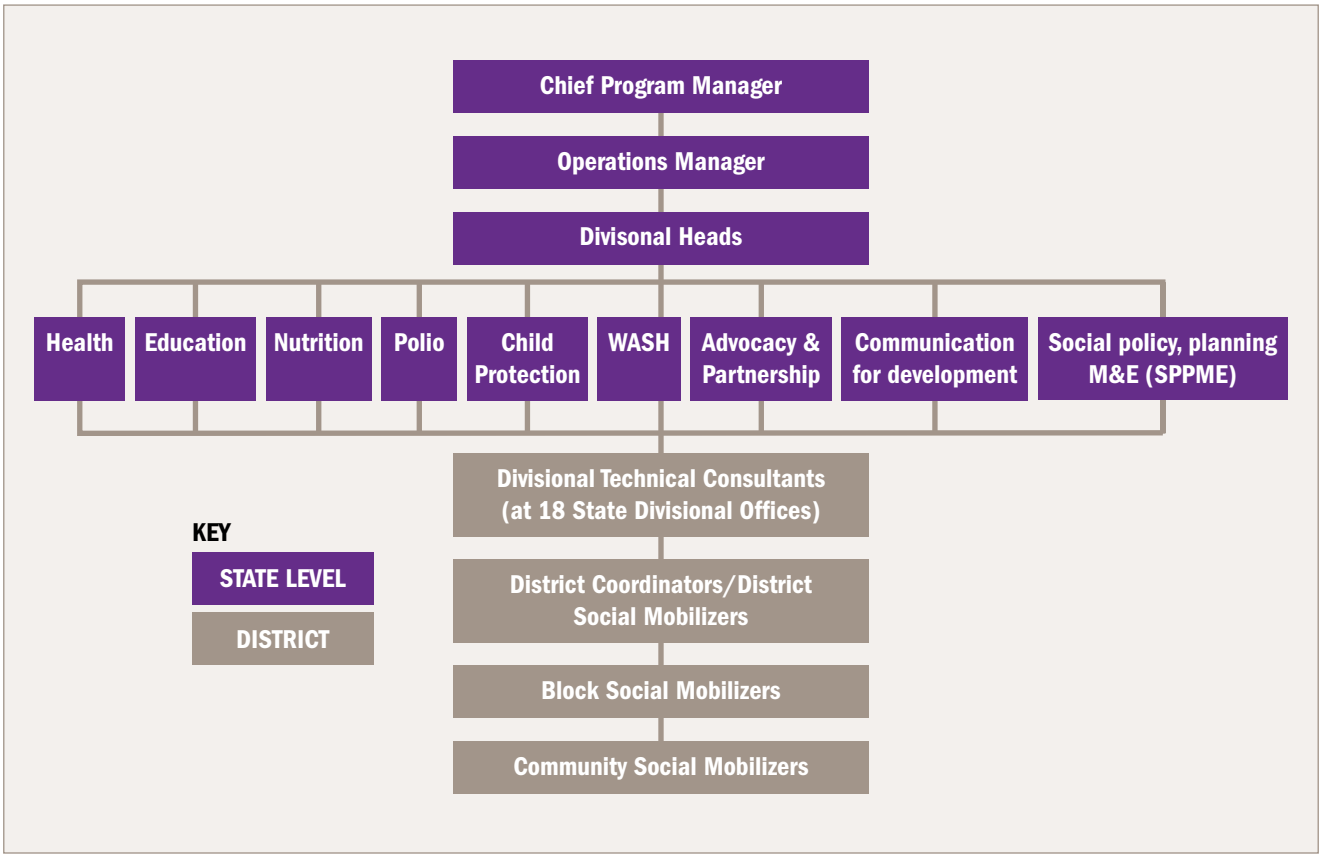
Photo below: © Dr Bilal Avan

UNICEF

UNICEF is the largest UN organisation in India and has 13 state offices including a significant presence in UP. It operates on the basis of five-year country programmes aligned with the Government of India's development priorities. As per the current country programme (2008-12), UNICEF's programme emphasis in UP is on focusing resources in terms of programming, policy and advocacy.

Structure: UNICEF has a large state office with about 40 staff, with Consultants at the Divisional level and technical staff at the district, block and community levels. *Figure 7* gives an outline of the structure of UNICEF in UP.

Figure 7 – Outline of the HR structure of UNICEF in UP



Programmes: Specific to maternal and child health, UNICEF currently implements the following programmes in UP:

1. *Polio plus:* This is a layered programme with the Routine Immunisation (RI) and the Diahhrea management programme of Zinc and ORS supply. There are about 5,000 workers who are active as community mobiliers under this programme. Overall, the Polio Division has the largest team, followed by health. The numbers of mobilisers under the Polio programme are higher in high-risk districts as compared to others.
2. *Supportive supervision for routine immunisation:* The Health division provides supportive supervision for routine immunisation in 32 districts.
3. *Support to the Comprehensive Child Survival Programme* (CCSP) in 36 districts with demonstration of supportive supervision ongoing in five focus districts.
4. *Diarrhea Management Programme:* UNICEF is part of a consortium of NGOs implementing the Diarrhea Alleviation through Zinc and ORS Therapy (DAZT) programme, funded by the Gates Foundation, and is responsible for the knowledge management component of the programme.
5. *Improving FRUs:* UNICEF is supporting the improvement of FRUs in five high focus districts of DFID – improving FRUs.
6. *Support to Newborn care units:* UNICEF has supported establishment of newborn intensive care units (NICUs) in 11 districts.
7. *Technical Support to State Divisional Offices:* UNICEF has placed one health, nutrition and sanitation consultant in each of the 18 divisional offices of the State, to offer day-to-day technical support. Equipment support is provided by the UNICEF while the Divisional Office provides the seating space.

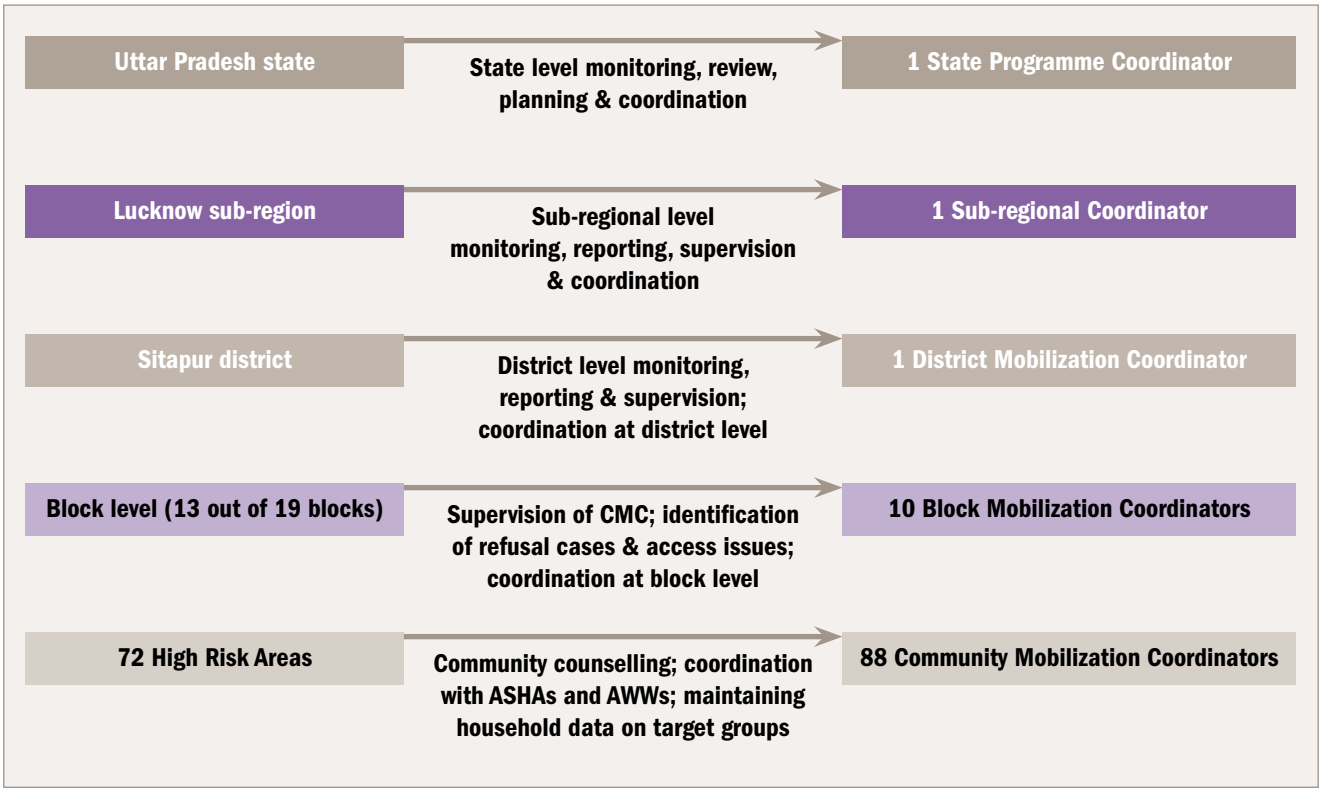
Programme implementation: All UNICEF programmes are focused towards strengthening the government service delivery system, mainly by supporting Medical Officers, ANMs and ASHAs through capacity building and mentoring to help them achieve system-set targets. The types of facilitation provided include (a) training and supporting supervision through UNICEF tools and modules; (b) mentoring to ASHAs, such as through home visits with ASHAs for home-based newborn care; (c) concurrent monitoring of programme implementation. UNICEF does not directly implement on the field but works through implementing partners including Government, medical colleges and NGOs. UNICEF monitors the NGO activities through monthly and quarterly reviews, quarterly programme reports and periodic trainings.

District level: The UNICEF SMNet programme: The social mobilisation network (SMNet) is an initiative focusing on polio eradication and full immunisation coverage. UNICEF provides the technical programme inputs and guidelines, while the implementing partner is IPE Global, a consultancy. Under this initiative, WHO and UNICEF work together to select High-Risk Areas (HRAs) for polio eradication, comprising roughly 300-500 households. Activities of target group listing, counselling and follow-up are undertaken to maximise immunisation coverage through Community Mobilisation Coordinators (CMCs). They work closely with ASHAs and AWWs to support the immunisation programme and maximise coverage. The programme functions through close monitoring and supervision [Annex: Structure of SMNet programme]

VATSALYA:

Vatsalya is a rights-based NGO established in Lucknow in 1995 by a socially-committed gynaecologist, primarily to work against female foeticide. Gradually the organisation widened its portfolio to cover other health services, particularly nutrition. Presently Vatsalya is working with UNICEF, CRS, Path and Actionaid.

Figure 8 – Structure of the SMNet programme



Structure: There are about 20 staff members in the Vatsalya state headquarters. There are programme managers and coordinators for different programmes, and also some documentation staff, besides the administration and accounts staff. At the field level there are district coordinators and block level facilitators and coordinators *(Figure 9).*

Programmes: Currently Vatsalya works in the following fields:

1. Adolescent anaemia: Vatsalya conducted research to investigate the benefits of one weekly iron tablet of 100mg in raising Hb levels in 6 months. Based on the study, a district level model was successfully demonstrated. This was later adopted and scaled up as the Saloni programme under NRHM. Currently the programme is called the Child Protection Programme or 'Bal Suraksha Karyakram'. The Saloni intervention is currently focused in Sitapur, Lakhimpur and Kaushambi districts.
2. Nutrition and health: Vatsalya is implementing the Integrated Nutrition and Health Project (INHP) supported by CARE India since 2007 in both rural and urban areas of Lucknow district. Activities include capacity building of public functionaries on nutrition and health issues, with special focus on gender and exclusion.
3. Birth registration: This initiative promotes birth registration through awareness generation and facilitation at health facilities in filling up of registration forms.

Programme implementation: Programme implementation generally consists of advocacy and implementation, information generation and research.

Figure 9 – HR Structure of Vatsalya

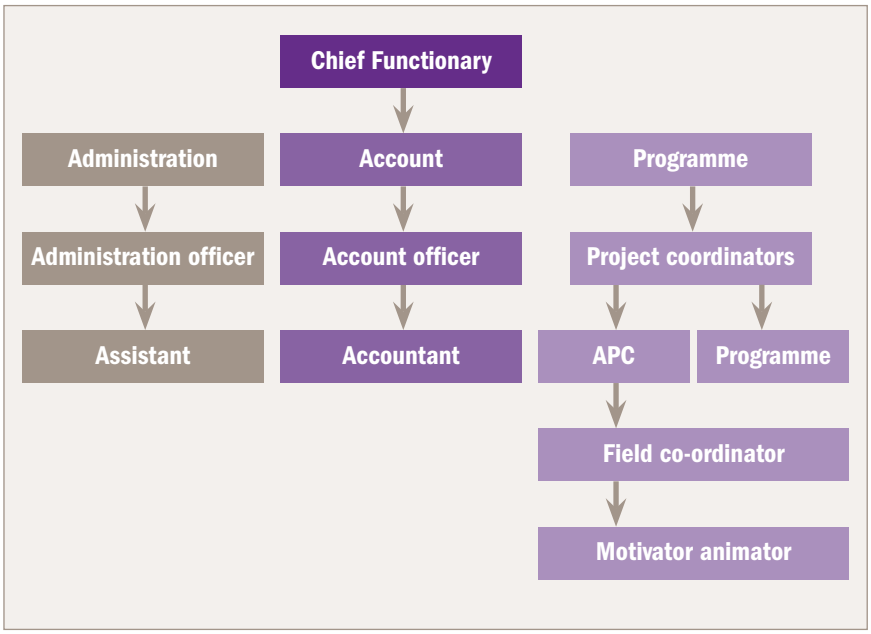
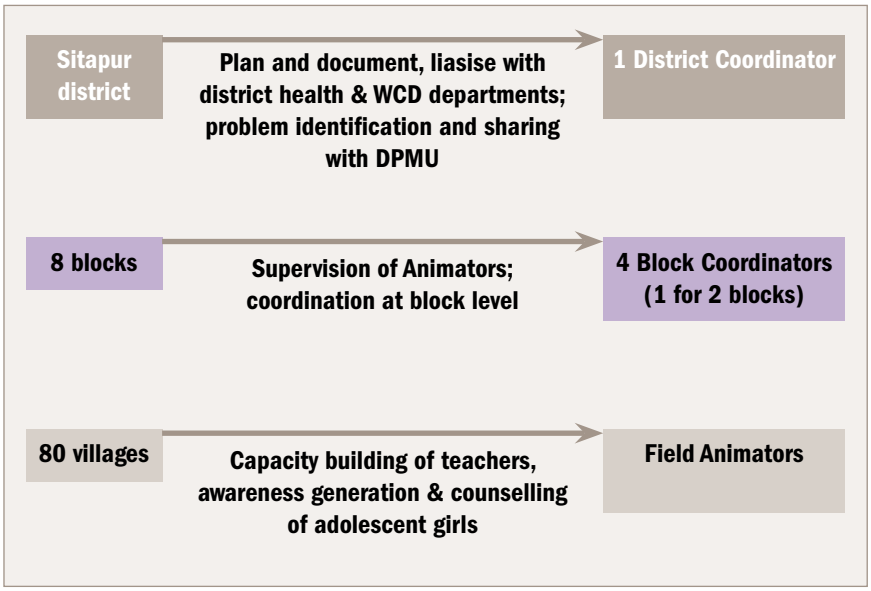


Figure 10 – District level structure of Vatsalya



District level: Saloni programme: Vatsalya implements the NRHM's Saloni programme in 80 villages (80 schools) in eight blocks in Sitapur district [Annex: District level structure of Vatsalya in Sitapur district]. The programme focuses on adolescent health and nutrition. It is active in villages where there is one AWC for 1000 population. This component of the programme is funded by UNICEF.

Photo left: © Dr Bilal Avan

The following opportunities for contact exist between organisations and the health system:

Level of interaction	Contact opportunities between organisations and health system	
	UNICEF	VATSALYA
State Level	• Member of the 'Health Partners Forum' that is a platform for NGOs to meet periodically at the state level. The forum is convened by the MD, NRHM • A nodal person from UNICEF is placed along with the Director General (DG) and others from health department. • UNICEF works closely with the DG and with Principal Secretary (Health) and Mission Director for planning; a planning review is conducted on a quarterly basis. • UNICEF is a member of the NRHM Governing Board in UP. It participated in the meetings held three-four times a year, primarily discussing all policy issues, reviewing implementation and finances. The Board is chaired by Chief Secretary; Principal Secretary is the Secretary of the Board and MD is the convener. • Day to day support is provided to the Mission Director and SPMU, in preparation of PIP, common reviews, drafting guidelines and other such tasks. • Under SMNet programme, the last week of four months – June, July, August and September – is Intensified RI week for stepped up efforts in left out and high risk areas. Daily observation and feedback is sent from the field to the Directorate and Principal Secretary's office at the state level. • UNICEF supports monthly meeting of district immunisation officers at the state level.	• Attend health partners forum meetings. • Vatsalya holds regular informal and one-to-one meetings with senior officials at the state level. • Vatsalya is also a member of various state-level committees on health, nutrition and child rights. These committee meetings also offer platforms of interaction with senior Government officials and other development partners. • Vatsalya follows a networking strategy, under which it has links with 25-30 other voluntary organisations across the state, besides academic institutions, professional bodies, corporate and media groups.
Sub-regional level	• Field visits by UNICEF Sub-regional coordinator under SMNet programme to each district in the sub-region for three to four days every month.	

Under the Saloni programme adolescent girls are given iron tablets on a weekly basis for improving their Hb levels. The field staff builds capacity of teachers in giving information to girls about sanitation, nutrition etc., develops their recording and reporting skills and helps them follow a roster of meetings. Among girls the staff conducts awareness-generation activities and also builds their leadership capacity. They do community education among girls who do not go to school to tackle myths relating to iron tablet consumption.

Existing contact opportunities between organisations and the district health system

Contact opportunities with the State system through the Registrar's Office: Annual reporting requirements from NGOs include submission of a management register, balance sheet, and list of general body members. However, this has not been enforced by the state. At the time of renewal though, submission of these documents is mandatory. Some NGOs also submit periodic activity reports.

> "A significant role in supporting public health programmes and initiatives is played by NGOs, which are non-profit entities implementing community-level development and public welfare activities."

Level of interaction	Contact opportunities between organisations and health system	
	UNICEF	VATSALYA
District level	• Participation in meetings to support the health department in planning for the NRHM district level PIP or for innovative projects. • Participation in District Health Society (DHS) meetings every month. • Field visits by District Mobilizers/coordinators to the villages under SMNet programme. • Informal meetings by district programme coordinators with CMO, DPM or DPO as and when required.	• Informal meetings by district programme coordinators with CMO, DPM or DPO as and when required. • Participation in District Health Society (DHS) meetings every month.
Sub-district level	• Block mobilizers coordinate with MOICs, CDPO & Block education officer in monthly meetings organised by UNICEF or WHO. • Participation of programme staff in block level task force meetings of different programs & other block level meetings. • Meetings between the DMC and block/community level field staff are held twice every month under SMNet programme • Weekly meeting at village level with CMCs, ASHA and AWW for planning and review of immunisation sessions under SMNet programme. • Field visits by Block mobilizers to the villages under SMNet programme	• Participation of programme staff in block level task force meetings of different programs & other block level meetings. • Block level advisory committee (BLAC) has been formulated under Saloni programme by Vatsalya which meets periodically to review programme implementation at the block level. • Vatsalya also participates in monthly ANM meetings, though not regularly. • Vatsalya helps in planning weekly ASHA meetings and in deciding their schedules and issues for discussion.

Supervisory structures and activities

Supervisory activities at different levels in the two selected NGOs are described below.

Level of interaction	UNICEF	VATSALYA
State Level	• State staff from UNICEF conduct field visits once or twice in a year, as per need, to observe field implementation. • Quarterly review meetings are held at state level to review programme activities and travel plans. • Divisional and district staff can also request for technical assistance as and when required. • Under SMNet programme, the last week of four months – June, July, August and September – is Intensified RI week for stepped up effort in left out and high risk areas. Daily observation and feedback is sent from the field to the Directorate and Principal Secretary's office at the state level.	• State office submits a quarterly programme report (QPR) to the UNICEF office. Quarterly meetings are held with UNICEF for discussing progress, gaps in reporting and future planning. Besides the quarterly meetings, they may be asked to participate is any other meetings as required.
Sub-regional level	• Field visits by UNICEF Sub-regional coordinator under SMNet programme to each district in the sub-region for 3-4 days every month.	
District level	• BMCs report on block level progress to DMCs on structured reporting formats [Annex]. These are then collated for the district by the DMC and reported to state level. • Meetings between the DMC and block/community level field staff are held twice every month under SMNet programme. • Field visits by District Mobilizers/coordinators to the villages under SMNet programme for monitoring purposes. • District UNICEF staff Interact monthly with other NGOs implementing UNICEF supported programmes, like BETI Foundation and Vatsalya, mainly informally, to support them as partners.	• District coordinator oversees activities at all the programme blocks in the district through frequent field visits and day-to-day contact with staff in the district. S/he also compiles the district level reporting data and sends to the state office.
Sub-district level	• CMCs supervised by the BMCs through daily visits. They check house listing, field book maintenance, verify counselling and check the 'due list'. CMC reports field level data to BMC, who collates and sends to DMC *(Figure 8)*. • Field visits by Block mobilizers to the villages under SMNet programme	• Block coordinators oversee field activities at the village level within their blocks on a regular basis, and provide day-to-day support as required. They also receive data from the Field Animators, which they compile and send to the district level.

Training: Training is an important part of capacity building for programme implementation. In the UNICEF's SMNet programme, the CMCs are given a three-day residential induction training after recruitment. Monthly refresher trainings are held for four to five hours on each payment day. Occasional trainings are also conducted for programme partners.

Below is an outline and description of the records maintained by the two NGO case studies:

	UNICEF	VATSALYA
Financial flows and records	Funds transferred to implementing partners at state level, who further transfer funds to functionaries at district and sub-district levels. UNICEF monitors fund utilisation by the implementing partners.	Receive funds from UNICEF for the Saloni programme – required to maintain proper records for donor reporting.
Supplies of commodities	Government supplies the vaccines or zinc and ORS for the ANM and the details are recorded in HMIS on monthly basis.	Iron tablets used under the programme are procured by the Government and supplied to ASHAs and ANMs and recorded in HMIS – no direct procurement by Vatsalya. Field Animators maintain an iron dispensation register which includes names of all girls enrolled, their class, weekly distribution day, how many have received or not.
Process documentation	Under SMNet programme, the CMC maintains good records of households, target groups and immunisation status. Besides this, WHO maintains the data on observation of RI sessions – they are supported by the UNICEF in this.	Meeting registers are maintained by field animators for monthly 'Saloni Sabhas' or meetings between teachers and adolescent girls. Coordinated by block facilitators, these meetings discuss various issues including Saloni rules, eating iron pills and awareness generation. Meeting observations are recorded as per a structured checklist.
Programme reports	Data is reported on a monthly basis from district to sub-regional office, which further reports to state office.	Formats are compiled at district level and shared with state office. These are further reported in monthly reports and quarterly programme reports to UNICEF.
Other reports	Occasional study/research reports are also prepared and shared with Government and other partners.	Occasional study/research reports are also prepared and shared with Government and other partners.

Supply system and record keeping of commodities (from central to facility/community level)

NGOs are required to maintain and report data on a number of parameters relating to programme outputs and processes by the funding agencies. They are also required to maintain transparency in financial processes, procurement and supplies.

To sum up, both the selected NGOs in the study districts are significant implementors of public health programmes, working in partnership or close collaboration with the State Government. They have well defined supervisory structures, and close interaction with the State Government for data sharing, utilisation, advocacy and overall relationship building. A lot of NGO data is already integrated with public health department data. Accountability to donor as well as Government regulations requires them to maintain detailed records of data as well as financial flows, supply systems and processes. This makes NGOs an important source of data for integration with HMIS, and it will be possible to enlist their cooperation and participation at the national, state, and district level. ■

Private for profit sector

“The private sector in UP (as in the rest of India) is an autonomous and self financed sector.”

Structure of formal private health facilities and their programmes (in the context of the DIPH)

The private sector in UP (as in the rest of India) is an autonomous and self financed sector. Broadly it consists of solo doctor clinics providing outpatient care, and single-specialty and multi-speciality hospitals providing both outpatient and inpatient care.

The study team first identified state level programmes and key informants that would provide an overview of the private commercial sector and also state level programmes of public–private engagement. The team shortlisted and visited the following in order to develop an overview of the private commercial sector in the two districts:

- The Registrar of the State Medical Council, the body that has data on all medical graduates in the state
- General Manager for Private Sector Programmes in SIFPSA (has a decade long experience of working with the private sector)
- Team Leader of one of SIFPSA’s major initiatives with the private sector – the Merrygold network of private hospitals coordinated by the Hindustance Latex Family Planning and Promotion Trust (HLFPPT)
- Additional CMOs dealing with private hospital issues (registration, RSBY empanelment) in both districts
- Two private nursing homes in Unnao and Sitapur districts.

All medical graduates from recognised medical institutions have to register themselves in the State Medical Council. The State Medical Council, along with the Dental and Nursing Councils, comes under the purview of the State Medical Faculty, established in 1926. In 2005, the GOUP transferred the State Medical Faculty from the Department of Medical, Health and Family Welfare to the Department of Medical Education.

The State Medical Faculty (SMF) is an autonomous and self-funded body that has various functions with respect to

Figure 11 – Organogram of the State Medical Faculty and its allied Councils

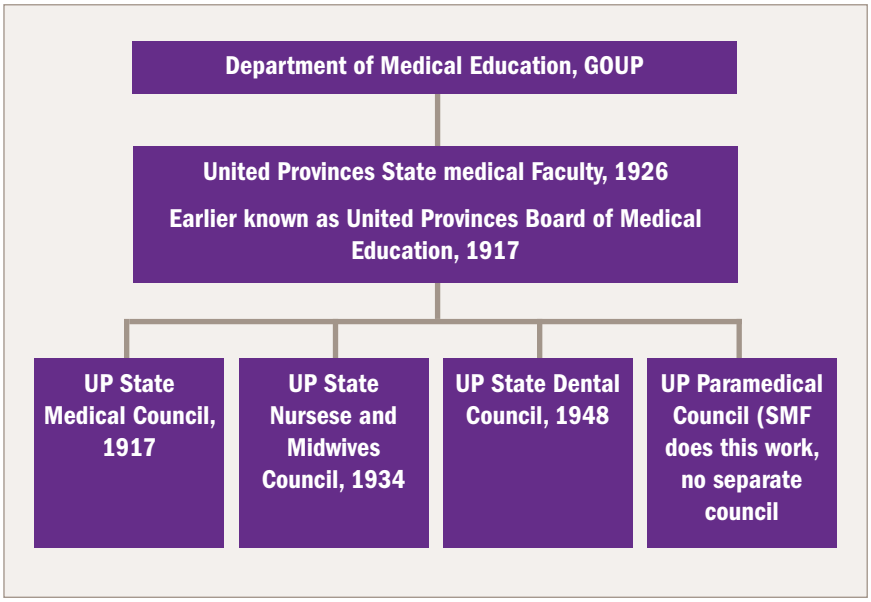


Table 5 – The cumulative total of registered doctors and nurses, and estimated number of doctors and nurses in current practice, according to their respective Councils

Health provider type	Total registered (since 1917)	Estimated actively practicing in UP
Doctors	62,300	48,000
Nurses	31,000	18,000

Table 6 – Hospital beds available in the government sector in UP

Type of sector	No. of beds
In the State Medical and Health services	53,430
State government medical college hospitals	6,600
Central government medical colleges in the state (Aligarh & BHU, Varanasi)	1,200
Total beds in government sector	63,950
Private medical college hospitals	8,000
Other private hospitals in all the districts	200,000
Total beds in private sector	208,000

education and training of health specialists. It recommends various training/educational institutions (private as well as government bodies) to the government for granting recognition. At the end of the course, the SMF examines the trainees, grants them certificates and diplomas and provides registration. All medical graduates of allopathic medicine from recognised medical colleges are registered with the State Medical Council and have a registration number. This is a one time registration – it is not renewed periodically. Thus the Council has a cumulative record of doctors registered since 1918, and this record does not include any dropouts due to death, migration, retirement etc. They do however make their own estmates of practicing

Photo below: © Dr Neil Spicer

graduates (see *Table 5*). The same is the case for nurses.

There are 27 medical colleges in UP, distributed in the government and private sectors as follows:

- Number of government medical colleges in UP: 10 recognised and 2 permitted (total 12)
- Number of private medical colleges in UP: 6 recognised and 9 permitted (total 15)

Registration of private clinics and hospitals

All nursing homes/hospitals in the district have to be registered in the CMO's office. Norms for registration only include a minimum number of beds and more than one doctor for a multispecialty hospital. There used to be a periodic renewal of registration (every year), but this been stopped as the High Court gave a stay on yearly renewals (in 2008), so some districts are doing it and others are not. The CMO usually has to register whoever applies for a registration, and they are usually only visited once to see if their facilities match with their reports, i.e. that the reports are authentic. There are no inspection visits for assessing the quality and functioning of facilities.

In Unnao district, 42 private nursing homes are registered with the CMO's office and 475 solo clinics including 255 solo Ayurvedic and Unani clinics, 174 solo homeopathic clinics, and 46 solo allopathic clinics.

In Sitapur district, 29 private nursing homes, 150 solo allopathic clinics, 556 solo Ayurvedic clinics and 118 solo homeopathic clinics are registered with the CMO's office. Allopathic nursing homes should have a minimum of 10 beds and an unlimited maximum number. The registration proforma only asks for the names and credentials of the doctors and paramedics employed by the hospital. No other regulatory systems exist.

The State Medical Council also has data on the number of hospital beds in the entire state. These are provided in *Table 6*.

Structure of programmes with public – private engagement in the state

The state has initiated two major programmes of engaging with the private commercial sector under the SIFPSA project which are still continuing. These are the voucher scheme and the Merrygold network. A third engagement strategy has been initiated by the state under the new national insurance scheme called the Rashtriya Swasthya Bima Yojana (RSBY).

SIFPSA initiated programmes

i. The voucher scheme – covers five big towns (no villages are included). Under this scheme, below poverty line households get free antenatal, delivery and postnatal care, care for reproductive tract and sexually transmitted infections, family planning services, and a general check-up for any other serious conditions through 65 accredited hospitals in the five big towns of UP. In order to accredit hospitals for this scheme, SIFPSA staff visit and assess private hospitals using a checklist. They are empanelled if they agree to SIFPSA's pricing terms. The voucher scheme is running very well, according to the General Manager Private Sector, SIFPSA. A Voucher Management Unit (VMU) has been set up at SIFPSA for supervision of the voucher scheme. The voucher scheme runs as follows:

- VMU prints and distributes various vouchers to trained ASHAs with a list of below poverty line families through NGOs
- VMU verifies 10% of vouchers distributed on random basis and does quality checks of service providers
- Accredited hospitals and nursing homes submit the vouchers to VMU for redemption as soon as

Figure 12 – Structure of the Merrygold operational network

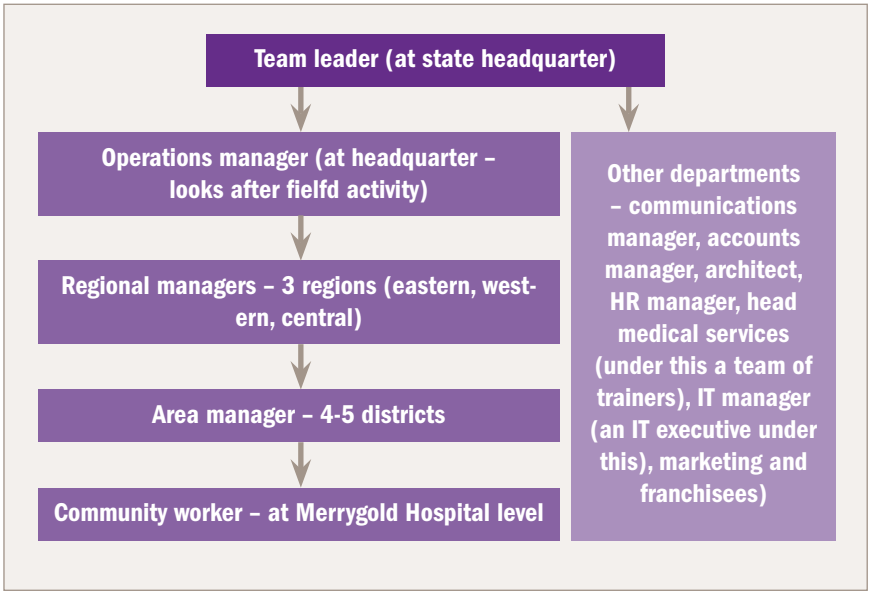


Table 7 – Number of RSBY empanelled hospitals in Unnao and Sitapur

District	Empanelled Government Facilities	Empanelled Private Facilities	Total empanelled
Unnao	10 CHCs	5	15
Sitapur	9 CHCs and 1 district hospital (both male and female)	6 nursing homes	16
Existing contact opportunities between public health system and private sector			
	Merrygold hospitals	RSBY empanelled hospitals	Other hospitals
DISTRICT LEVEL	HLFPPT staff meet and appraise the CMO and DM monthly, on a one-to-one basis. There are also informal opportunities; such as if they are doing a health camp they will invite CMO.	Monthly meetings with CMO, mainly to discuss payment issues. They may also attend the monthly DHS meeting if invited.	There is one contact at the time of registration and nothing much after that. There may be informal contact between some hospitals and the CMO's office or DPMU, related to data on deliveries. All public and private sector doctors in the district come together in meetings of the Indian Medical Association (IMA).
STATE LEVEL	Monthly meetings with SIFPSA to review activities against plans, and to plan for the next month.	Only if a grievance is not redressed at the district level, the hospital can approach the state insurance committee.	IMA meetings where private and public sector doctors who are IMA members come together and interact.

the utilisation amount reaches Rs.10,000/- from the initial imprest sum of Rs. 15,000/-
- VMU finally certifies the vouchers for redemption
- Recommendation made to CMO for further fund release.

ii.Merrygold network – This is run through the Hindustan Latex Family Planning Promotion Trust (HLFPPT), funded by SIFPSA. The network is currently in 35 districts but the plan is to expand this to all 75 districts of UP. It is present in Unnao but not in Sitapur. A description of the Merrygold franchise follows:

The programme began with a social franchising mandate to take care of MMR and IMR. In the early years of the SIFPSA programme in UP (early 1990s), 80% of deliveries were home deliveries. HLFPPT, through discussions with SIIFPSA and USAID, evolved this private sector initiative, in order to allow rural and underprivileged communities to avail quality services from private sector facilities at affordable rates.

HLFPPT invites hospitals at different tiers to join their Merrygold franchise. In return for a franchising fee of INR 300,000 for three years, hospitals receive Merrygold branding and a substantial promotion through advertising (signs, posters, outreach activities).

The following services are offered at fixed rates through Merrygold clinics: Normal delivery – Rs. 2499; ANC/ PNC– Rs. 50/visit; Hysterectomy – Rs. 8000; FP (sterilisation) – Rs. 99; Caesarean sections – Rs. 7999. There are different rates for semi private and private wards.

Photo above: © Dr Neil Spicer

The network
At first HLFPPT established their own hospitals in Agra and Kanpur and named them Merrygold hospitals. Then they started the franchise by adding other hospitals.

At the first tier are Merrygold hospitals. To be a part of the franchise, a Merrygold hospital should have 15-20 beds, proper operation theatre, a labour room, a gynaecologist, and appropriate paramedical staff on the roster. There are 70 Merrygold hospitals in the franchise at present.

At the second tier, at the block and tehsil level, there are Merrysilver clinics. These are five to six bedded small hospitals with facilities for normal delivery and FP services. They may be owned by an MBBS doctor or an AYUSH doctor who can handle normal deliveries. In each district there are around 10-12 Merrysilver clinics.

And finally, at the community level, there are Merrytarang members. These include individuals like ASHAs, AWWs, chemist shop owners etc; all are given training on counselling for FP and delivery services. Their role is to educate men and women in the community and they get an incentive of Rs 600 for every delivery sent to a MG hospital. HLFPPT also does social marketing of condoms, pills, and sanitary napkins though Merrytarang members.

At present there are 70 Merrygold hospitals, 371 Merrysilver clinics, and 10,814 Merrytarang members.

HLFPPT has its own team of doctors based at their regional offices in Lucknow, Varanasi, and Agra to provide onsite training to doctors and paramedical staff in the Merrygold network. After an induction training, HLFPPT promotes the hospital through extensive branding, external and internal. They also conduct outreach activities such as health camps in villages to promote the network hospitals. Pregnant women and selected FP clients are identified in these camps and sent to Merrygold or Merrysilver hospitals.

The Rashtriya Swasthya Bima Yojana
This is a national scheme in which accredited public and private sector hospitals are reimbursed up to Rs 30,000 for providing in-patient hospitalisation services to up to five members of below poverty line households. Hospitals can apply at the district CMO's office, and they are referred to the insurance company (ICICI Lombard). The insurance company's doctors visit and assess the hospital and if it is selected, they inform the district CMO. A district insurance committee, under the DM's chairmanship, approves the selection. Then a smart card reader is installed in the hospital that recognises patients' cards. Only the insurance company is responsible for empanelling and disempanelling hospitals. However, there is a grievance redressal committee – chaired by the CMO – where hospitals can represent once if the insurance company disempanels them. If the situation is not resolved at this level it can be referred to a state grievance committee.

> "The private sector is quite disconnected from the public sector and is not involved in any state level planning for development or distribution of human resources."

Supervisory structures and activities

In general the private sector is quite autonomous and does not subscribe to any state regulations (except for the Merrygold franchise). There are no self regulatory mechanisms either. The only examples of supervision that we found were as follows:

Merrygold clinics: As per NABH norms, franchised hospitals receive a quality check after 60 days. A team of HLFPPT's doctors visit and observe the hospital's patient handling, hospital infrastructure, clinical protocols etc – using a checklist. Based on this the team provides feedback to the hospital.

RSBY Hospitals: Sometimes the insurance company or RSBY staff come on surprise audit visits to check the authenticity of patients.

General private hospitals: There is a single inspection visit at the time of registration. Subsequently the CMO's team may visit only if there is a case against the hospital under the Post Natal Diagnostic Act, i.e. if the hospital is alleged to be conducting sex determination tests.

To conclude, the private for profit sector at the district level consists of a number of solo clinics and small hospitals (unlike the bigger corporate hospitals one finds in big towns and cities in India). The extent of the private sector is substantial, with many more outpatient clinics as compared to public sector primary healthcare facilities, and with double the number of in-patient beds. However, private facilities are located in the more urban parts of districts and some blocks; villages are conspicuous by the absence of the formal private for profit sector. Aside from a one-time registration with the

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State Medical Council (for all medical graduates) and with the CMOs' office (for clinics and hospitals), private facilities are not governed by any regulatory frameworks. The private sector is quite disconnected from the public sector and is not involved in any state level planning for development or distribution of human resources. Even the RSBY hospitals are accountable to insurance companies and not to the health system as such. Contact opportunities are very limited with more opportunities for informal rather than formal networking (e.g. through the IMA meetings). The state has three programmes of engagement with a limited number of private hospitals- the voucher scheme in five towns, the RSBY insurance programme state wide, and the Merrygold franchise hospitals in 35 districts. The Merrygold network has its own supervisory structures, but it shares limited hospital data with SIFPSA only and not with the district level health system. ■

HMIS

	Merrygold hospitals	RSBY hospitals	General Private hospitals
DISTRICT LEVEL	The Merrygold network has standard formats that hospitals are required to maintain. A case sheet is mandatory. Merrysilver clinics are required to maintain patient's name, age, husband's name, address, monthly HH income, first or second baby, family size, and any FP methods being used.	RSBY empanelled hospitals are required to maintain essential patient details about treatment that are shared with the insurance company. These include patient case history, details of treatment, tests conducted and medicines provided. This is submitted to the insurance company.	Other hospitals may maintain varying levels and quality of patient data. Some maintain very basic information like just name, sex, condition and treatment provided. Some will have more detailed case histories and diagnostics.
STATE LEVEL	HLFPPT shares data on number of deliveries, number of ANCs/PNCs and FP services with SIFPSA every month on a monthly progress report.		

Data Review

Potential sources

Public sector

The records and reports that are the main data sources in the public sector have been described in detail in the public sector HMIS section, and listed in *Table 4*. An exhaustive list of all public sector records is provided in Annexure 1.

To summarise, the main sources of information on maternal and child health services start at village level with the ANMs' records and registers. These provide exhaustive information on target groups of pregnant women, children and eligible couples for various family planning services. They also provide information on immunisations conducted weekly and monthly, and activities conducted with women and children on Village Health and Nutrition Days (VHNDs).

At the level of PHCs and CHCs, JSY registers provide information on deliveries conducted at the hospital, and also on payments made to pregnant women and to ASHAs. The monthly 'HMIS' report of PHCs/CHCs and sub centres, provides information on other services and health conditions such as malaria, TB etc. Expenditure information is available in the monthly financial reports and Rogi Kalyan Samiti reports. Vaccine registers and stock registers are the main source of information on vaccine and drug supplies respectively.

Private not-for profit sector (NGOs)

NGOs record data relating to their project implementation on a regular basis. Largely, this is carried out to meet donor reporting requirements. Data generated largely relates to process, output and outcome indicators. Some data is also maintained on financial and HR management. NGOs as implementing partners in Government programmes also record data on recognised public health parameters, which are also often shared with the Government. For example, the immunisation data collected by SMNet programme is shared with the Government and used formally in the district NRHM HMIS.

With respect to the two NGO case studies, the following is a list of formats with a description of the key data collected:

Field monitoring formats:

UNICEF SMNet formats

1. *Monthly summary report (from CMC registers)*
- Sub report 1: Number of houses, houses with 'X' mark (left out of Polio immunisation), number of children below one year of age and five years of age
- Sub report 2: 'X' marked houses visited for interpersonal communication (IPC)
- Sub report 3: Community meetings in the CMC's area
- Sub report 4: Motivational activities (polio class, rally, mosque announcements, sermons)

2. *Register for children below five years of age (from CMC registers)*
- Household-wise record of polio vaccine administration to children of 'X' marked houses

3. *Register for routine immunisation of pregnant women and children below one year of age (from CMC registers)*
- Household-wise record of immunisation of pregnant women and eligible children
- List of households left-out or resisting immunisation (with reasons).

Photo above: © Dr Bilal Avan

4. *Comprehensive social mobilisation monthly reporting form – district level (compiled from BMC reports)*
- Sub report 1: BMCs, number of CMCs under each BMC and duration of work
- Sub report 2: 'X' marked houses, population and reasons for exclusion from immunisation
- Sub report 3: door to door counselling in CMC areas
- Sub report 4: community meetings in CMC areas
- Sub report 5: local mobilisation activities in CMC areas including immunisation of children in social congregations/fairs
- Sub report 6: CMC support to ANM in routine immunisation (planned versus actual sessions held; children and pregnant women targeted and vaccinated; vaccine availability, birth registration
- Sub report 7: Monitoring quality and effectiveness of CMC activities (CMC evaluation in terms of quality of work, effectiveness is covering target groups for immunisation and level of knowledge)
- Sub report 8: Training of CMC and block level partners (details of trainings held, topics covered, training evaluation and partners trained)
- High risk groups related data (block-wise no. of sites and eligible target groups)
- Quality of informers' work
- Sub report 9: Individual meetings/ contact with district level partners (no. of contacts with Government departments & other partners including NGOs, religious leaders, clubs etc.)

- Sub report 10: Comments on activities (narrative if required).

5. *BMC payment request (list of BMCs sent by DMC to head office for salary approval)*

Vatsalya – formats under Saloni scheme

1. *Village-wise (school-wise) Saloni compilation* – for every village and every school
2. *Block-wise compilation* – for all villages/schools covered in the block

Key data recorded:

- Training status of teachers, trainers' details
- Availability of iron tablets, deworming tablets and IEC materials
- Enrolment of girls, iron tablet distribution, side-effects, team formation and other project activities
- Information on record keeping, funding and monitoring visits,

Vatsalya – formats for recording observation of Village Health and Nutrition Day (VHND)

1. Village level VHND compilation
2. Block level VHND compilation

Key data recorded:

- Participation of key functionaries
- Availability of beneficiary lists of health and immunisation programmes
- Availability of vaccine, drugs, weighing machines, growth charts etc.
- Tasks accomplished and services provided to beneficiaries (checkups, immunisation, growth monitoring, counselling, community mobilisation).

Vatsalya – formats for recording observation of Weekly Health and Nutrition Day (WHND)

1. Village level WHND compilation
2. Block level WHND compilation

Key data recorded:

- Availability of equipment and supplies
- Demonstrated skills of AWWs in providing services
- Tasks accomplished and services provided to beneficiaries (supplementary nutrition, growth monitoring, counselling).

Programme reports:

Vatsalya – Quarterly programme report (QPR) to UNICEF

- narrative summary of key activities
- aggregated programme data on key indicators for the quarter from all programme areas
- analysis of successes, gaps, challenges and opportunities.

Private for profit sector

The Merrygold network of hospitals has case sheets that include the patient's name, age, address, monthly household income, first or second baby, family size, and any FP methods being used. Some hospitals, but not all, maintain online records. Consolidated monthly information on services delivered by the Merrygold network is available through monthly progress reports that HLFPPT shares with SIFPSA every month.

RSBY empanelled hospitals maintain data on patients' treatment including patients' case history, details of treatment, tests conducted and medicines provided. This is submitted to the insurance company.

Other private hospitals maintain basic patient data depending on their own requirements and using their systems. Some maintain very basic information like just name, sex, condition and treatment provided. Some will have more detailed case histories and diagnostics.

Quality of data

Public sector

There is a large volume of information being collected at every level, but there is likelihood of data incompleteness and inaccuracies. This has been pointed out by government sources themselves, and is one of the major reasons for shifting to an online system. The introduction of the online system, and the regularity with which it is being monitored and verified may result in improved data quality. We expected to see the online system operational only in Unnao district, but it has been introduced in Sitapur also, and in both districts we found data entry assistants at the block PHCs and CHCs using the online system.

Private not for profit sector (NGOs)

The quality of data maintained by NGOs is more closely monitored on account of close supervision and results based management. Data quality is therefore expected to be superior to routinely maintained public health system data.

Private for profit sector

In general, private hospitals have very different types of data varying from very sketchy information to highly detailed records about patient histories and treatment. The quality of the

Merrygold network and RSBY hospitals' data is likely to be of good quality as it is monitored closely and is an integral part of each network. However the data that is shared with RSBY may also contain inaccuracies mainly attributable to over-reporting in case of fraudulent reporting.

Willingness to share

Public sector
We found the public sector facilities in the district very willing and open to sharing their data and receiving external support to enhance their HMIS scope and utilisation through a DIPH. At the state level, however, it was the NRHM unit that was much more receptive and helpful compared to the state directorate. Our overall perception is that the district level facilities will be quite willing to share their data once permissions have been obtained from their senior officials – either in the NRHM or the state health directorate. The most streamlined databases are in the NRHM system at the moment. However, this online data is password protected, so to access that we would need special support and permission.

Private not-for profit sector (NGOs)
The NGOs contacted expressed willingness to share data on a common platform if required. There were already pre-existing mechanisms of data sharing between the NGOs and the Government or other development partners. UNICEF is already sharing data on RI and CCSP with the state government. Moreover, programmes were being implemented in synergy with government health programmes and often in partnership with them. However, willingness is restricted on account of concerns regarding confidentiality and accountability to donor agencies, due to which NGOs maybe reluctant to share data.

Private for profit sector
With the exception of RSBY hospitals that have an incentive for sharing full and complete patient records with the insurance company, the other hospitals are unwilling to share their records due to tax problems. Even the Merrygold hospitals and clinics never disclose the exact number of cases, according to HLFPPT sources. As they do not want to risk any disclosure, with some exceptions, most clinics maintain manual records and are not willing to keep online records. HLFPPT has their own way of getting to know from ASHAs how many deliveries have taken place. Other private hospitals may be willing to share data on deliveries but may not provide completely accurate data on numbers. GM private sector SIFPSA suggested that we first need to have an engagement strategy with the private sector – provide them with some funding, improve their services, then look for data sharing.

Existing use of information by districts/HMIS

Within the public sector
Village level
Information that ASHAs maintain on pregnant women and young children is used by them and the ANMs to identify women and children and call them for RI sessions. ASHAs also keep a record of women they accompany for deliveries and children immunised. This information is verified and countersigned by the ANM and is used for performance based payments to ASHAs. Some of this data may also be used to select the best performing ASHAs for awards. Weekly and monthly information on immunisations maintained by ANMs is used to review immunisation achievements versus targets for the sub centre and also the PHC or CHC under which the sub centre falls. An important use of data is to identify immunisation drop outs.

RI observation checklists are used by all partners to review the quality of every RI session, identify shortcomings and to take them up with the CMO or at the state level with the Principal Secretary. With respect to the RI data, the WHO surveillance officer at the state level has a meeting with Principal Secretary every second and fourth Tuesday of the month. They discuss many issues, particularly related to drop outs and left outs. Every Monday is a district review meeting with CMO – WHO field staff take feedback from Wednesday and Saturday's immunisation sessions and share this information with the CMO, such as shortage of vaccines, and the CMO takes immediate action. These weekly discussions started from 9 April 2012. Before that, the observation report was sent every month which was too much of a delay: Now they have a format to review every week. By next year we should see a big change in immunisation accomplishments.

Block level – PHC/CHC
At this level there is a micro-planning process for immunisation sessions in which data from the field on women and children is used to make a detailed annual micro-plan for immunisation sessions. ASHAs and ANMs undertake a household survey during April-May to identify pregnant women and children. (However, we were also told that the number of pregnant women may just be calculated based on an estimate obtained from a government calculation). Based on this information, a weekly and

Table 8 – Planning cycle for the major plans at the district level

Plans	Time	Data used
District Implementation plan (DIP)	Planning starts in December and completed by February; planning year is April to March	All of the facilities' data on JSY, immunisations, FP, ASHAs and their achievements
Micro Plan (weekly and monthly) for immunisations at Block level for PHCs and CHCs	HH survey during April/May, plan developed over June/July. Implementation August onwards.	HH survey by ASHAs and ANMs to identify pregnant women and children

monthly immunisation plan is prepared for the whole year, and shared with the district immunisation officer and with the WHO local surveillance officer. It takes about a month to make this plan and then the plan is used for monitoring and reviewing the immunisations done every week.

PHCs/CHCs are asked to contribute to an annual Project Implementation Plan (PIP) for the district. They present their demands for human resources, medicines and vaccines etc on a format for the PIP.

District level

Development of the District Implementation Plan (DIP)/Project Implementation Plan (PIP): There is an NRHM guide for doing the DIP planning. The process starts in December and is completed by February. The planning year is April – March. All of the facilities' data on JSY, immunisations, FP, ASHAs and their achievements, are used in the annual planning process.

Monthly Meeting of the District Health Society: In this monthly meeting chaired by the District Magistrate and attended by the CMO and all the MOICs, (and also some private organisations and other government departments like the ICDS), the group reviews the district's performance with respect to immunisations, family planning, deliveries and other services provided under the NRHM. A detailed summary report of the district's performance is prepared before the meeting (not clear by whom).

Divisional and state level

The Divisional PMU receives JSY data etc and compiles it, mainly to review and cross check deliveries against expenditure. The GOI has given the SPMU a statistical tool and also trained them in using it for data analysis. It can be used to generate many different types of analyses (but they don't seem to have started using it yet).

Between public and private sectors

Data transferred to district level HMIS from UNICEF includes data on RI observations, CCSP and number of functionaries trained by UNICEF. The data is used for reviewing the quality of RI sessions and also for reviewing numbers immunised and drop outs etc. The CMC records of High Risk Areas (households, target population and immunisation status) are shared with the DM as required; they are also informally shared with community health workers. Reports are also shared with all partners roughly once a month. Vatsalya requests sharing of micro plans from ICDS workers to integrate their own implementation plans with the ICDS micro-plans.

Private hospitals provide data on number on the number of JSY deliveries conducted every month to the CMO's office and this is integrated with data on JSY deliveries or just data on institutional deliveries. Data from the Merrygold network is not shared with the district level HMIS; a monthly progress report on services delivered through the Merrygold network is shared with SIFPSA every month. The RSBY data too, is shared only with the insurance companies and not with the district HMIS.

Supervisory and monitoring information

Public sector

Data on JSY is used to verify JSY deliveries. The Assistant Research Officer is required to take about five-10 cases every month, and go and track them in the field for spot verification. Many other staff across different levels – the MOICs, the DPMU Programme Manager, and the Divisional PMU Programme Manager also use JSY data to review the programme, facilities, and verify payments against clients. Although there are a lot of supervisory visits made by staff at different levels to subordinate facilities and staff, we did not find evidence of data being used in those activities. Data is mainly used to review district and block level programmes and to some extent in planning.

Private sector
State level RI coordinators from UNICEF assist state Immunisation Officers in analysing immunisation data and presenting analysis at the monthly state-level meeting of the District Immunisation Officers (DIOs). This analysis is then shared by the DIOs with their Block level officers. It is utilised in identifying gaps and planning implementation. Monthly reports from districts are reviewed and analysed at the state office and the data is used for future planning.

There is no supervision of private hospitals by any regulatory bodies, in general. However the Merrygold network supervises its franchisee hospitals and uses the service data to keep a track of services provided. The RSBY data is used by the insurance companies to cross check patients and treatment rather than for any other general supervision or monitoring.

Commodities supply and management

Public sector
Expenditure reports are used for placing a financial demand as soon as the last tranche of money gets disbursed. Demands for medicines are also placed based on drug inventories, but the supply is always short of the demand (we heard this in all the facilities). For example, in one facility they had placed a demand for 15 drugs, but received only one set of injections in a given month. Vaccine inventories are maintained in vaccine registers. PHCs/CHCs place their demands for vaccines and drugs with the CMOs' office. The vaccine supply is centrally controlled and monitored (through the central and state governments), while drugs are procured at the district level through the CMO's office.

Private sector
Since supplies to NGOs are essentially only Government supplies, they are already being recorded in the HMIS. On the basis of its own field observation, UNICEF marks the availability of vaccine supplies and reports to the Government in case of any shortages. The Government accordingly takes measures to fill the supply gaps. Wastage of vaccine supplies is also reported to the Government. Private hospitals have their own inventories and systems for purchasing their supplies and commodities and these are not linked with any public systems.

To summarise, the main sources of information on maternal and child health services in the public sector start from the village level with the ANMs' records and registers. There are also facility level progress reports, financial reports and inventories of drugs and vaccines. NGOs record data relating to their project implementation on a regular basis, largely to meet donor reporting requirements. NGOs as implementing partners in government programmes also record data on recognised public health parameters, which is shared with the district health departments. Private hospitals have their own individual data systems with variations in detail, parameters recorded, and online versus paper based mechanisms. Only the Merrygold network calls for a standardised system from its franchisee hospitals.

Quality of data maintained by the NGOs is more closely monitored and likely to be of better quality. The quality of data in private hospitals can vary enormously from very sketchy information to highly detailed records of patient histories and treatment.

We found the public sector facilities in the district very willing and open to sharing their data and receiving external support to enhance their HMIS scope and utilisation through a DIPH. NGOs will also be willing partners once their head offices decide to cooperate. Other private hospitals however will be quite reluctant to share their records due to tax problems. Even the Merrygold hospitals and clinics never disclose the exact number of cases, according to HLFPPT sources.

The public sector uses data in a limited way for reviews and annual and monthly programme planning. Data on JSY is used to verify JSY deliveries by state and district level NRHM staff and by senior officials in public health facilities. The Assistant Research Officer is required to take about five to 10 cases every month, and go and track them in the field for spot verification. Expenditure reports are used for placing a financial demand as soon as the last tranche of money gets disbursed. Demands for medicines are also placed based on drug inventories, but the supply is always short of the demand. We also heard that much of macro level district level decision making (such as for resources and staff allocations) is done at the state and not the district level. NGO data transferred to district level HMIS is used for reviewing the quality of RI sessions and also for reviewing numbers immunised and drop outs etc. Private hospitals provide sketchy data on the number of JSY deliveries conducted every month to the CMO's office and this is integrated with data on JSY deliveries or just data on institutional deliveries. Data from the Merrygold network is not shared with the district level HMIS. Thus the overall available data is of medium quality and is used in a limited way by the different sectors but there is a huge disconnect between the public and the private for profit sectors. ■

Forward Planning

General receptiveness of local stakeholders to DIPH approach

The senior officials in the NRHM – the Mission Director, the Project Manager of the Divisional PMU, and the General Manager MIS in the SPMU displayed high acceptance and also enthusiasm for the DIPH. They perceive a strong need for integrating private and public data and also for improving data analysis and utilisation. A few of the Medical Officers heading district level facilities were also quite enthusiastic about developing a DIPH; they liked the idea of improved data utilisation at their level. One senior official of the ICDS also endorsed the need to better integrate the health department data with data in the ICDS department.

Some staff at the district level responded with passive acceptance. They were not quite interested but were still willing to talk to us as we had come through the NRHM. No one protested except for one official in the Medical and Health Directorate in Lucknow. One General Manager, (Private Sector) in SIFPSA told us that getting private sector data would be quite difficult and we need to first focus on greater engagement and funding for the private sector before asking them for data.

NGO stakeholders were generally receptive to the DIPH approach on account of their existing collaborative mode of functioning, both with the Government and other development partners. Vatsalya director was also giving suggestions about additional information that can go into the DIPH.

The private commercial sector is currently quite disconnected with public health systems and programmes. There is further disgruntlement that the JSY cash incentives have shifted deliveries away from the private sector to the public sector and the Merrygold network too has lost a lot of its earlier business. Private hospitals keep their patient related data and information well guarded and the type and extent of data they would be willing to share with the public system is a big question.

Engagement strategy (national, state and district)

Our major conclusion at the end of the feasibility study is that it is technically feasible to create and implement a DIPH at the district level. The current shifts in the public health system towards an online information management system, supported by data management staff and equipment even at block level facilities, and the presence of a strong NRHM coordination unit at the district level – the DPMU – with its own data cell, all provide an extremely conducive environment for setting up a district level Data Informed Platform for Health.

Due to time constraints we could only visit a few private sector hospitals and solo clinics, but we pieced together our understanding of the private sector using first hand information from a variety of stakeholders (e.g. the district ACMOs handling registration of private hospitals, and the State Medical Council Registrar), and from reliable secondary data sources. It is common knowledge that the private sector is currently the largest provider of ambulatory outpatient and inpatient care in UP. Data from the Annual Health Survey show that in both Unnao and Sitapur districts 95% of households that seek treatment for acute illnesses do so in the private sector (with the exception of institutional deliveries that are on the increase in the public sector), and the largest number of hospital beds is in the private sector. However, it is also clear that the private sector is fully autonomous and self financed and not

governed by any regulations. Therefore the only way we can get the private sector's involvement in the DIPH is on a voluntary basis – by buying in their participation and involvement. This will be one of our greatest challenges with respect to the private sector.

Another study limitation was that in the short time we had, we could only include the private formal sector in this feasibility study. As one goes into rural areas however, there is less and less of the formal sector and more and more of the informal sector, primarily in the form of informal village practitioners who are the first point of contact for a variety of illnesses among adults and children. There is a lot of literature around the informal sector, its role in management of childhood diarrhoea and pneumonia, and SIFPSA has conducted training programmes (in FP services) with informal practitioners in several districts. Like their formal sector counterparts, these practitioners are also unregulated and function independently. Nonetheless, given their role as first contact providers in rural areas, it would be important to consider ways to include them in a comprehensive DIPH.

However as private sector data is to form an important component of the DIPH along with public sector data, we will need to develop focused strategies for both. First and foremost there is a need to determine exactly how much information is required from the private sector that is relevant for the DIPH. With the DIPH focus on MCH, not all of private sector data will be required. We heard from various sources during our visits that deliveries in private hospitals have gone down since JSY was launched, but neonatal and obstetric referrals may have increased. The current scenario of MCH services in the private sector will need to be better understood before we can identify the data points for our requirements.

We will also need to develop a more precise understanding of departments related to health such as ICDS, Water and Sanitation, and Office of the Drugs Controller. Our present feasibility study was limited in its focus on the health department and we could manage limited insights into the functioning of only the ICDS as a non-health department. Each of these departments would require targeted additional visits to understand their structures, functioning and interfaces with the health department fully.

Nonetheless, beginning our first efforts with the public and private health sectors, we outline below a broad engagement strategy for different stakeholders at different levels. To implement this strategy we will need to create a local in-country DIPH team led by the present country coordinator.

National level

Public sector

- The country team led by the IDEAS country coordinator will seek the necessary permissions and buy -in from the relevant MIS staff that is guiding the development of the online system at the state level (may be at the National Health Systems Resource Centre).
- The country coordinator, with help from the IDEAS core team, will hold consultations with relevant national MIS staff to come up with creative analytical and reporting frameworks for the raw data that is presently being gathered at the field level.
- The country coordinator and the local DIPH team will hold periodic consultations with key national level staff to keep them in the loop.

Private sector

- Our local DIPH team will bring together NGOs on a common platform to orient them to the purpose of DIPH and its benefits; alternately we may also contact them individually. This would be an essential first step to obtain written approval and permissions from national offices of various NGOs before they can be enlisted for cooperation in the DIPH.
- The team will also orient and enlist the support of relevant funding agencies through their national offices, as data reporting by NGOs is largely governed by donor requirements, and the NGOs may be reluctant to share data in the absence of donor consent.

State level

Public sector

- The local DIPH team led by the country coordinator will orient the NRHM SPMU and the Health Directorate and hold a technical consultation with them to obtain their inputs as well as enthusiastic participation.

> "The public sector has a large volume of information being collected at every level, but there is likelihood of data incompleteness and inaccuracies, one of the reasons for shifting to an online system through NRHM."

Photo above: © Dr Bilal Avan

"The DIPH is technically feasible in India, provided we recognise and appreciate local needs and challenges."

- The country coordinator will identify a key contact person in the SPMU who could be trained and mentored to support the DIPH at the district level
- The SPMU will appreciate training in data analysis and interpretation – both in general and in relation to the DIPH.
- As with the national level, our local DIPH team will work with relevant state level staff to envision creative analytical and reporting frameworks for the raw data that is presently being gathered at the field level, along with other strategies for data utilisation.

Private sector

- The local DIPH team will orient NGOs at the state level to buy in their enthusiastic participation in the DIPH process
- The team will carry out a preliminary mapping of all private sector activities in the state/DIPH pilot districts– NGOs as well as the for profit sector
- The country coordinator supported by the IDEAS team (both in-country and the LSHTM based team) will carry out consultations with private sector groups such as the IMA and the State Medical Council to discuss incentives for private establishments to work with the DIPH.

District level

Public sector

- Our local DIPH team led by the country coordinator will carry out extensive orientations and consultations with the DPMU, CMOs' staff and the District Magistrate
- We will introduce effective analytical tools that district health staff can use for understanding and using data in their regular reviews, planning processes as well in supervisory activities.
- We would also like to introduce innovative tools/software to support the district health departments' current data collection activities – tools such as handheld tablets or mobile phones (containing a range of other informative packages too) that ASHAs and ANMs can use to simplify their data collection in the field, and softwares such as information and education packages. The SPMU has already expressed a desire to initiate use of tablets by ASHAs and we can support them in the process. This data can also be directly transferred to the central DPMU server without having to be entered manually in the online MIS.
- We can also bring in other innovative technologies to improve the current online system, such as devices to improve last mile internet connectivity, or use of mobile phones to connect to the internet. Other support might include use of solar powered batteries for computers.

Private sector

- The local DIPH team will conduct a preliminary mapping of the not for profit and for profit sectors and their role in MCH programmes and services in the pilot districts, followed by orientations and consultations with the key players in the district.
- The country coordinator will brainstorm innovative approaches with local district officials to encourage data sharing from the private sector. We could work on two broad approaches: (1) either through financial/non-financial incentives. An example of an indirect financial incentive could be a special scheme for cashless referrals to selected private hospitals for managing maternal and newborn

complications. This is also much needed at the moment as the public sector does not have sufficient capacity to manage complications and the RSBY does not have such complications covered under the scheme. (2) use technologies imaginatively to integrate private sector and public sector data. For example, most below poverty line households now have 'smart cards' that they use at RSBY empanelled hospitals. We could promote use of these smart cards for more conditions under MCH (e.g. including outpatient care as well as inpatient) and the cards could be 'read' (through some way of accessing this data) weekly or monthly by village level ASHAs to obtain information on all the care seeking by that houshold.

- Care seeking with informal providers could also be included in these smart cards. If the state and district are interested, we could also develop several information packages on child and maternal health for use of all types of village level providers. The country coordinator has worked on similar small scale technology pilots in the past and can bring that knowledge and experience to the requirements of this project.

Potential challenges for implementation

Establishing coordination and agreement between various departments and sectors

The practicalities of implementation will call for an advanced level of coordination of data flows between the public and private sectors, and with other departments like the ICDS. Currently there is very little coordination between these various bodies and it will need to be built from the ground level. It could take a long time to initiate and then to get it working in a consistent manner. However once the basic inter-departmental agreement has been reached, we can use technologies to make the ongoing data collection and integration much faster and error free.

Photo below: © Dr Bilal Avan

Limited data utilisation and decision making at the district level

Current data utilisation at the district is quite limited. It focuses on financial verification of JSY payments, setting immunisation targets and reviewing performance against targets, and developing the annual PIP in the DHS. However the final PIP is what is sanctioned by the state and may not necessarily be exactly what the district had planned. Some public sector staff said that the real decisions were made at the state level, not so much at the district level. Another example is transfers of senior officials from one district to another district, which does not seem to follow any clear policy guidelines. This state of affairs could serve as a disincentive for a district level DIPH and we will need to address this issue as imaginatively as the technical aspects of implementation.

Quality of data; inconsistencies between public sector and NGO data

There are inaccuracies and inconsistencies in the current data system, and also NGOs and the public sector may report different figures for the same activity such as immunisations. Many of these errors begin at the data collection stage at the field level and we could reduce many of these errors by using a streamlined technology enabled data collection system.

Private sector's unwillingness to share data; NGO data of limited project duration

NGOs may not be willing to share reporting formats or data if bound by obligations to donors; thus their cooperation may not be complete unless there is donor consent as well.

Photo above: © Bill and Melinda Gates Foundation

In addition, NGOs usually maintain records over their limited time bound projects, thus the long term participation of NGOs in the DIPH will need to be worked out. Private hospitals are reluctant to share complete data on their patients and services, another challenge. This however could be resolved to some extent if we introduce innovative technologies in the project (such as by reading the smart cards that households use in the RSBY scheme).

What to do about the invisible but significant informal private sector?

A majority of households seek care in the private sector for acute illnesses, including child illnesses. There are no formal private providers in villages, only informal ones and their role in child health is invisible but needs to be recognised and addressed, given the high under five mortality rates in UP.

Infrastructure and language

In both districts power supply is available only for about 6 hours daily and it alternates during the day for one week, and during the night the following week. Connectivity is also quite erratic. We could bring in innovative low cost technologies to address both these challenges. Language is also an issue – the field level workers use Hindi whereas all online systems are in English. However, we can use available technologies such as translation software and voice recognition devices to address these challenges to a large extent.

Contractual nature of appointments, especially data staff in the NRHM

The data entry person is a contractual appointment. Contractual renewal comes from Lucknow, but often gets delayed by a few months. For one such data assistant, the contract finished in March and a renewal order came only on 7 May. With a more streamlined data system, we can help officials at all levels keep track of such situations and receive timely alerts.

In conclusion we can say that a DIPH is technically feasible in India, provided we recognise and appreciate local needs and challenges. Many of the challenges outlined here can be resolved through imaginative and creative solutions, and by making use of existing innovative technologies that are easily available in India. In our view these challenges and issues are inseparable from setting up a DIPH and will need to be addressed in a substantial way as we move towards creating sustainable and useful district level data informed health platforms. ■

Appendix

Appendix 1 – Records maintained at various public health facilities

District Planning and Monitoring Unit (DPMU) (District level)
- NRHM Monthly reporting format for DH or equivalent institutions
- Formats for quarterly reporting to State Health Society (forms M1-29)
- Consolidated report from district to state level
- JSY – format for website

Chief Medical Officer's Office (District level)
- JSY – Monthly physical and financial progress report
- Maternal Death Review Report
- Distribution of contraceptives by ASHA
- Universal Immunisation Programme – Monthly District Performance Report
- Intensified Pulse Polio Immunisation Programme – Daily District Reporting format
- Integrated Disease Surveillance Programme – Weekly reporting format

Community Health Centre/Primary Health Centre (Block or sub-district level)

Consolidated reports
- NRHM Monthly reporting format for CHC-SDH-DH or equivalent institutions
- Block level details of CHC/PHC patients
- Monthly report to Chief Minister on 49 heads
- Statement of fund position (financial reports)
- Details of RKS expenditure
- Expenditure during Routine Immunisation
- RKS – User charges report
- RKS – monthly report

MCH/RCH/JSY
- Monthly progress report – MCH and FW programme
- Labour room records
- Maternal Death Review Reporting Format
- RCH Camp progress report
- RCH Camp Financial progress report
- JSY – Description of deliveries
- JSY – Physical and financial progress report
- JSY – Monthly details of physical and actual expenditure
- JSY – Monthly progress report

Family Welfare programme
- Monthly report – Family Welfare
  - Achievements by Family Planning Workers
  - Cases Conducted at PHC/CHC Operation theatre
  - Sterilisation reporting format
  - IUD insertion reporting format
  - Description of operative cases at PHC/CHC
- Details of sterilisation and contraception achievements
- Details of expenditure on Male and Female Sterilisation

Universal Immunisation Programme (UIP)
- UIP Monthly District Performance Report
- Block Immunisation Programme – Block Performance Report
- Routine Immunisation Session Monitoring Format
- Compiled Report of Immunisation Sessions
- Tally sheet for Immunisation Week

Pulse Polio Immunisation Programme/Campaign
- Description of children less than 12 months of age listed in first day of previous phases
- Intensified Pulse Polio Immunisation (IPPI) programme – Checklist for Booth Inspector
- IPP Campaign – Tally sheet for house visits only
- IPPI programme – Description of 'X' marked houses
- 'X' marked Houses Information Sheet
- 'X' houses Tracking Format for Supervisors
- IPP Campaign – Booth Tally Sheet
- IPPI programme phase – Tally sheet of 'X' marked houses for action by B-team
- IPPI programme phase – B-team reporting format
- Daily team level report of high risk group
- Accute Flaccid Paralysis Surveillance System – Weekly 'Zero' report form

Other Health Programmes
- Reporting formats for National Programme for Control of Blindness
- National Leprosy Eradication Programme Monthly Reporting Form
- HIV/AIDS: Monthly Input Formats for Integrated Counseling and Testing Centres

Sub Centre (at 5000 population)
- NRHM Monthly reporting format for SC and equivalent institutions
- Monthly Progress Report – MCH & FW programme
- MCH Register – Format for tracking mothers
- MCH Register – Format for tracking children
- Monthly SC report for CSSM programme
- UIP – Monthly SC reporting format
- Tally sheet for Immunisation Week
- Reporting format for Child Health and Nutrition Month at the SC (Details of Vitamin A distribution and other activities)

ASHA (Community Health Worker)

ASHA Register ■

Acronyms

Acronym	Meaning
ACMO	Additional Chief Medical Officer
ANM	Auxialliary Nurse and Midwife
AHS	Annual Health Survey
ANC	Antenatal Care
ARO	Assistant Research Officer
ASHA	Accredited Social Health Activist
AYUSH	Ayurveda, Yunani, Siddha & Homeopathy
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BDA	Block Data Assistant
BHEO	Block Health & Education Officer
BLAC	Block Level Advisory Committee
BMC	Block Mobilisation Coordinator
B-PHC	Block Primary Health Centre
BPMU	Block Programme Management Unit
CARE	Cooperative for American Relief Everywhere
CCSP	Comprehensive Child Survival Programme
CDPO	Child Development Project Officer
CHC	Community Health Centre
CMC	Community Mobilisation Coordinator
CMO	Chief Medical Officer
CMS	Chief Medical Superintendent
CRS	Catholic Relief Services
DAZT	Diarrhea Alleviation through Zinc and ORS Therapy
DCM	District Community Mobilier
DCMO	Deputy Chief Medical Officer
DG	Director General
DGHS	Director General of Health Services
DHS	District Health Society
DIO	District Information Officer
DIP	District Implementation Plan
DIPH	Data Informed Platform for Health
DM	District Magistrate
DMC	District Mobilisation Coordinator
DOTS	Directly Observed Treatment Short course
DPM	District Programme Manager
DPMU	District Programme Management Unit
DPO	District Project Officer
EDP	Electronic Data Processing
FMR	Financial Monthly Report

Acronym	Meaning
FP	Family Planning
FRU	First Referral Unit
GDP	Gross Domestic Product
GM	General Manager
GOI	Government of India
GoUP	Government of Uttar Pradesh
H&FW	Health and Family Welfare
Hb	Haemoglobin
HEO	Health Education Officer
HH	Household
HLFPPT	Hindustan Latex Family Planning Promotion Trust
HMIS	Health Management Information System
HR	Human Resource
HRA	High Risk Area
HV	Health Visitor
ICDS	Integrated Child Development Services
ICTC	Integrated Counselling and Testing Centre
IDEAS	Informed Decisions for Actions to improve Maternal and Newborn Health
IDSP	Integrated Disease Surveillance Programme
IEC	Information, education and communication
IFA	Iron & Folic Acid
IFPS	Innovations in Family Planing Services
IMA	Indian Medical Association
IMR	Infant Mortality Rate
INHP	Integrated Nutrition and Health Project
INR/Rs.	Indian Rupee/Rupees
IPC	Interpersonal communication
IPD	Inpatient Department
IPPI	Intensive Pulse Polio Immunisation
JSY	Janani Suraksha Yojana (Maternal Protection Scheme)
LSHTM	London School of Hygiene & Tropical Medicine
M&E	Monitoring & Evaluation
M&H	Medical and Health
MBBS	Bachelor of Medicine & Surgery
MCH	Maternal & Child Health
MCTS	Mother and Child Tracking System
MD	Doctor of Medicine
MD	Mission Director
MG	Merrygold

Acronym	Meaning
MIS	Management Information System
MMR	Maternal Mortality Rate
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
MOIC	Medical Officer In-Charge
MPR	Monthly Project Report
MS	Medical Superintendent
MTP	Medical Termination of Pregnancy
NABH	National Accreditation Board for Hospitals & Healthcare Providers
NDCP	National Disease Control Programme
NICU	Newborn Intensive Care Unit
NFHS	National Family Health Survey
NGO	Non-Governmental Organisation
NRHM	National Rural Health Mission
OPD	Outpatient Department
ORS	Oral Rehydration Solution
PHC	Primary Health Centre
PHFI	Public Health Foundation of India
PIP	Programme Implementation Plan
PMU	Programme Management Unit
PNC	Post Natal Care
PNDT	Pre Natal Diagnostic Techniques
QPR	Quarterly Project Report
RCH	Reproductive and Child Health
RI	Routine Immunisation
RKS	Rogi Kalyan Samiti (Patient Welfare Committee)
RO	Research Officer
RSBY	Rashtriya Swasthya Beema Yojana (National Health Insurance Scheme)
SC	Sub Centre
SHS	State Health Society
SIFPSA	State Innovations in Family Planning Services Agency
SMC	State Medical Council
SMF	State Medical Faculty
SMNet	Social Mobilisation Network
SPMU	State Programme Management Unit
STLS	Senior Treatment Laboratory Supervisor
TB	Tuberculosis
TFR	Total Fertility Rate

Acronym	Meaning
UIP	Universal Immunisation Programme
UN	United Nations
UNICEF	United Nations Children's Fund
UP	Uttar Pradesh
UPHSDP	UP Health Systems Development Project
UPHSSP	UP Health Systems Strengthening Project
VHND	Village Health & Nutrition Day
VHSC	Village Health & Sanitation Committee
VMU	Voucher Management Unit
WCD	Women & Child Development
WHND	Weekly Health & Nutrition Day
WHO	World Health Organisation

IDEAS project

IDEAS (Informed Decisions for Actions) aims to improve the health and survival of mothers and babies through generating evidence to inform policy and practice. Working in Ethiopia, northeast Nigeria and the state of Uttar Pradesh in India, IDEAS uses measurement, learning and evaluation to find out what works, why and how in maternal and newborn health programmes.

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