



Madhya Pradesh Health Systems Assessment Report

Health Financing Support Program

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Healthcare Finance

An ACCESS Health International Focus Area

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Executive Summary

Madhya Pradesh has been identified by the National Health Mission as a high focus state. Madhya Pradesh has some of the poorest maternal and child health indicators in India. The ACCESS Health International team studied the healthcare delivery systems in two districts with the poorest health indicators in the state: Panna and Satna. The study had four objectives:

To suggest evidence informed policy changes based on available data.

To perform a rapid assessment to understand gaps, challenges, and opportunities in existing structures, healthcare delivery systems, and data management in the districts.

To identify initiatives that build capacity in gap areas of the public system to be facilitated via the intervention and the dashboard.

To develop a health systems dashboard that brings together public health data sources for easy visualization and use in decision making.

In this report, we summarize the findings and implications of our primary and secondary research in Madhya Pradesh. We also describe the process and challenges we encountered while designing an integrated dashboard using three of the fourteen databases used by the government of Madhya Pradesh. Finally, we discuss in detail a proposed intervention process that we designed to improve maternal and child health in the state.

We conducted the study in four phases: pre analysis, assessment, analysis, and design. During the pre analysis phase, we assessed secondary data and conducted unstructured interviews. During the assessment phase, we administered a perception survey and conducted focus group discussions. The analysis phase looked at the primary and secondary assessments. During the design phase, we developed the dashboard and proposed an intervention process to improve health service delivery. Each phase was tailored to achieve the objectives of the study.

Table 1. Summary of Project Objectives and Related Activities

OBJECTIVE	ACTIVITY	DESCRIPTION
Suggest evidence informed policy changes using existing set of available data.	Performed a health situation analysis of the Panna and Satna districts using secondary data and developed tools for a rapid assessment.	We assessed the current health status of Panna and Satna districts using secondary data sources, including the Annual Health Survey, the District Level Survey, the National Sample Survey, the Sample Registration Survey, and other district level administrative sources.
Rapid assessment to understand gaps, challenges, and opportunities in existing structures, healthcare delivery systems, and data management in the districts of Madhya Pradesh.	Conducted a perception survey and focus group discussions with workers and employees in and around the health system.	<p>The survey intended to assess the perceptions of the healthcare workers and employees about the functioning of the healthcare delivery system in terms of governance structure, employee grievance mechanisms, governance structures and mechanisms, and supportive supervision at the district and state levels.</p> <p>We conducted focus group discussions with frontline workers, including accredited social health activists (ASHAs), auxiliary nurse midwives, and beneficiaries.</p>
Development of health systems dashboard to bring public health related data sources together for easy visualization and use in decision making.	Collected, collated, and analyzed the data from the health management information systems and special newborn care units to develop the health systems dashboard	Our objective was to build a demo dashboard for Madhya Pradesh that is capable of drawing insights from data and depicting the information using plots, graphs, and other visualizations. The data sets used were from health management information systems, the special newborn care units, and from Janani Express Vans to transport women.
Identification of interventions to address gap in the public system, using both the information and analysis generated from dashboard.	Proposed interventions for improving quality of maternal and child health based on analysis generated from the dashboard and analysis of data from above sources, such as health management information systems and special newborn care unit data.	We designed an intervention process for the two districts based on the findings from the previous phases. The government of Madhya Pradesh should appoint a knowledge partner to provide technical support for this intervention.

We classified the main findings into four main areas: service delivery, community engagement, use of financial resources, and governance. In service delivery, we observed a severe shortage of workers for the health sector, lack of monitoring and evaluation as required by the National Health Mission guidelines, low quality of care, and lack of specificity in training. In community engagement, we discovered widespread lack of awareness of entitlements or of healthy behaviors among the beneficiaries, social stigma, lack of sanitation, and high migration rates. In financial management, we observed delays in disbursements of salaries and incentives and inadequate awareness of financial entitlements. In the area of governance, we found ill defined work profiles, duplicated data, and lack of accountability in ensuring data accuracy. When it comes to perceptions about incentives, in the more rural district of Panna, the employees place more importance on soft incentives, like appreciation and team ratings, than the do on increased salaries. In urban Satna, financial incentives like increased salaries seemed to be of more importance than the soft incentives.

In our earliest conversations with senior officials in Madhya Pradesh, the officials explained that fourteen different data sets are used by the Department of Health. These data sets provide a wealth of information on healthcare indicators, but lack interoperability among each other. Based on these discussions, we concluded that a dashboard integrating these databases would support timely decision making among policymakers.

The health systems data dashboard provides data in a usable format to monitor various processes, outputs, and outcomes of maternal and child health. The dashboard can also be used to design specific district centric interventions that can be replicated in similar geographies. We outline a process to develop an intervention that consists of quality standards known as “quality statements” within several areas: active management of the third stage of labor, low birth weight, premature infant management, early identification of special newborns in the community, better management of pneumonia and infections in infants. We recommend that the government of Madhya Pradesh appoint a knowledge partner to provide technical support for the quality intervention.

Figure 1. Description of the Study



Summary of Our Findings

Major social, administrative, and demographic challenges exist in the districts of Panna and Satna. Untouchability and male child preference are two serious social challenges. These issues skew the sex ratios toward males and lead to underuse of health facilities for maternal health. Administrative challenges include the lack of trained workforce and lack of incentives or motivation to work in these districts. These challenges need to be considered in the design of any intervention in Panna and Satna districts.

Background

The state of Madhya Pradesh is one of the Empowered Action Group states of the National Health Mission. These states have struggled to contain population growth at manageable levels and have poorer quality of life indicators than other states. The central government has released significant funds to address issues such as human resources, social challenges, and family planning for these states. Madhya Pradesh struggles with health problems that contribute to high maternal and child mortality rates. These problems include anemia, malnutrition among adults and children, early childhood illnesses, and several infectious diseases (NFHS-3, 2006). The state health infrastructure and human resources do not measure up against the standard guidelines (National Health Mission, 2015). Our study was conducted in the districts of Panna and Satna, which have among the poorest indicators for maternal and child health in the state.

According to the *Eighth Common Review Mission Report* of the National Health Mission, the major challenges for the state have been large gaps in healthcare infrastructure, lack of timely transportation for maternal care, and weak referral linkages to the district level. At the subdistrict level, lack of specialists and of blood storage units create challenges for maternal care. Guidelines for maternal and child care exist but are not followed or are not updated. Many of the nutrition rehabilitation centers for undernourished mothers and children at the subdistrict level are nonfunctional (NRHM, 2014).

Access to and affordability of care are challenges for Madhya Pradesh. The seventy first round of the National Sample Survey found that the average out of pocket hospital expenditure in Madhya Pradesh of 24,085 Indian rupees (approximately 360 US dollars) is higher than the national average of eighteen thousand Indian rupees (approximately 268 dollars). These expenditures in Madhya Pradesh are also higher than they are in states where care is dominated by the private sector, such as Andhra Pradesh, Tamil Nadu, and Karnataka, and most of the country. Out of pocket expenditures are higher in Madhya Pradesh despite a nearly equal balance between public and private facilities (NSSO, 2014).

Overall Objective

The overall objective of the project is to improve the maternal and child health indicators through a health systems assessment and the development of data dashboard for Panna and Satna districts.

Specific Objective

To suggest evidence informed policy changes: Use secondary data sources, such as household surveys and administrative sources, to understand what policy changes are needed to improve maternal and child health indicators.

To conduct a rapid assessment of the health system: Conduct expert interviews and field visits to achieve a detailed understanding of gaps, challenges, and opportunities in existing structures, systems, and programs to deliver care and collect data in the districts.

To strengthen capacity building: Identify maternal and child health initiatives to build capacity in the public system in gap areas identified in the rapid assessment. National and international content and expertise will be used in capacity building.

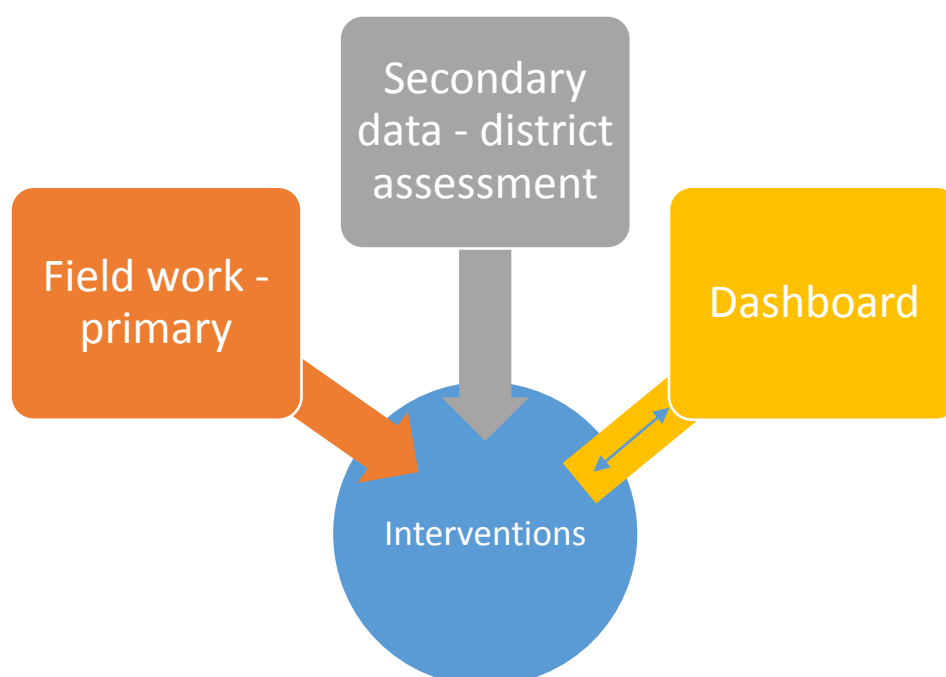
Develop a dashboard: Bring together public health data sources for easy visualization and use in decision making.

Methodology

We conducted the assessment using a mixed methodology. The study was conducted in four phases: **pre analysis**, **assessment**, **analysis**, and **design**. In the first phase, we studied the health profile of Madhya Pradesh in general, and in Panna and Satna specifically. The research team members familiarized themselves with the public health situation of the two districts by conducting unstructured interviews of senior officials and by visiting the block level health centers. We designed a questionnaire to assess the perceptions of the staff of the National Health Mission. The questions are based on the insights provided by these officials. During the assessment phase, we conducted both primary and secondary research. We used secondary data, including administrative data from the government of Madhya Pradesh and household survey data from the National Sample Survey Organization. The primary research included a perception survey of the National Health Mission officials and focus group discussions with frontline health workers.

The analysis phase looked at primary and secondary data. This phase also included planning the design of an integrated dashboard. In the design phase, we developed a health data integrated dashboard and proposed a process to develop an intervention to improve quality.

Figure 2. Areas of Research That Informed the Proposed Intervention Process



Pre Analysis Phase

The objective of this phase was to understand the health system profiles of Panna and Satna. In addition to examining secondary data sets, including reports from the National Health Mission, the ACCESS Health team conducted unstructured interviews with district health officials, medical staff in government hospitals, and frontline workers to understand healthcare delivery in the district.

Unstructured Interviews

The ACCESS Health international team conducted about thirty unstructured interviews in the districts of Panna and Satna and in the state headquarters at Bhopal. The interviewees included district level officials, such as chief medical officers, chief surgeon, district community mobilizers, district program managers, block medical officers, nurses, and heads of other national programs. We also conducted interviews with a few nongovernmental organizations working at the district level and doctors at the Birla Hospital in Satna. We asked the interviewees to enumerate the causes of poor maternal and child health indicators in Panna and Satna, challenges faced in providing healthcare services, and potential solutions to improve the delivery of care.

District Profile

Demographic and Health Status

In terms of demographic and health status, Madhya Pradesh ranks below the national average for key health indicators. Although classified as an Empowered Action Group state, Madhya Pradesh has the highest infant mortality rate in the country, after Assam. The Empowered Action Group (EAG) was set up by the Ministry of Health and Family Welfare to facilitate the preparation of area specific programs in eight states – Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Orissa, Rajasthan, Uttar Pradesh, and Uttaranchal – that have lagged behind in containing population growth to manageable levels.

Table 2. Demographic, Socioeconomic, and Health Profile of Madhya Pradesh

INDICATOR	MADHYA PRADESH	INDIA
Total Population (in millions) (Census 2011)	72.6	1210.1
Decadal Growth (percent) (Census 2011)	20.30	17.64
Crude Birth Rate*	26.3	21.4
Crude Birth Rate **	24.5	

Crude Death Rate *	8.0	7.0
Crude Death Rate **	7.7	
Natural Growth Rate *	18.4	14.4
Natural Growth Rate **	16.8	
Infant Mortality Rate *	54	40
Infant Mortality Rate **	62	
Neonatal Mortality Rate*	36	
<5 Mortality Rate **	54	
Maternal Mortality Ratio ^^	221	178
Maternal Mortality Ratio^	227	
Total Fertility Rate *	2.9	2.4
Sex Ratio (Census 2011)	930	940
Sex Ratio^	920	
Child Sex Ratio (Census 2011)	912	914
Sex Ratio (0-4 years)^	916	
Scheduled Caste population (in crore) (Census 2001)	0.91	16.67
Scheduled Tribe population (in crore) (Census 2001)	1.22	8.43
Total Literacy Rate (percent) (Census 2011)	70.63	74.04
Male Literacy Rate (percent) (Census 2011)	80.53	82.14
Female Literacy Rate (percent) (Census 2011)	60.02	65.46

*Sample Registration Survey 2014

**Annual Health Survey 2014

^Annual Health Survey 2012-13

^^ Sample Registration Survey 2012-13

All child mortality rates are per thousand live births and maternal mortality per one hundred thousand live births.

The infant mortality rate is a major cause for concern. The discrepancy between the Sample Registration Survey estimate and the Annual Health Survey estimate seems to indicate that the infant mortality rate is either stagnant or worsening. The under five mortality rate of fifty four per thousand live births also falls short of the targeted child mortality rate in the state. The state is making slow but steady progress. The infant mortality rate decreased from seventy nine per thousand in 2004 to fifty four in 2013. The state has shown a decline in neonatal mortality rate, from thirty nine per thousand in 2012 to thirty six in 2014.

The maternal mortality ratio has also declined over recent years, to 230 per one hundred thousand live births. Despite this decline, the ratio is still higher than the national average of 178.

The declining sex ratio is also an area of concern for Madhya Pradesh. Both the Census of 2011 and the Annual Health Survey of 2012 to 2013 place the sex ratio at about 920 females per one thousand males in the state, significantly lower than the national average (AHS, 2013).

Many underlying factors account for the high mortality rates in mothers and infants in Madhya Pradesh. These factors include the lack of available human resources in the state, the shortage of health specialists, the high malnutrition rate, lack of awareness of entitlements and healthy behaviors, particularly among the rural population, and poor access to health services. Lack of facilities to address serious cases at district or block levels and the poor referral system in public hospitals are also factors.

Table 3. Reproductive and Child Health Indicators in Panna and Satna Districts

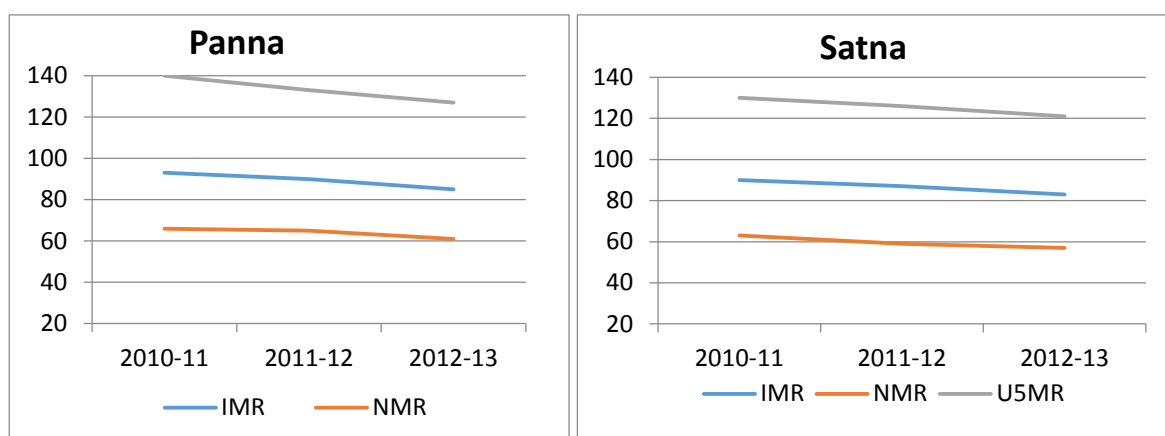
INDICATOR	PANNA		SATNA		MADHYA PRADESH	
	2011-2012	2012-2013	2011-2012	2012-2013	2011-2012	2012-2013
Infant Mortality Rate*	90	85	87	83	65	62
Neonatal Mortality Rate*	65	61	59	57	43	42
Under five Mortality Rate*	133	127	126	121	86	83
Maternal Mortality Ratio*	386	322	320	268	277	227
Sex Ratio	942	885	908	848	904	905

Source: Annual Health Survey - Madhya Pradesh State 2010-11, 11-12, 12-13

*All rates of child health are per one thousand live births and maternal mortality ratio per one hundred thousand live births.

Panna and Satna districts are the poorest performing districts in the state. The infant mortality rate in 2010 to 2011 was ninety three in Panna and ninety in Satna. The maternal mortality rate was 397 in Panna and 336 in Satna. The infant mortality rate, neonatal mortality, and under five mortality rate have declined significantly over the years.

Figure 3: Child Health Indicators in Panna and Satna Districts



Source: Annual Health Survey, Madhya Pradesh State 2010-11, 11-12, 12-13 (AHS, 2013)

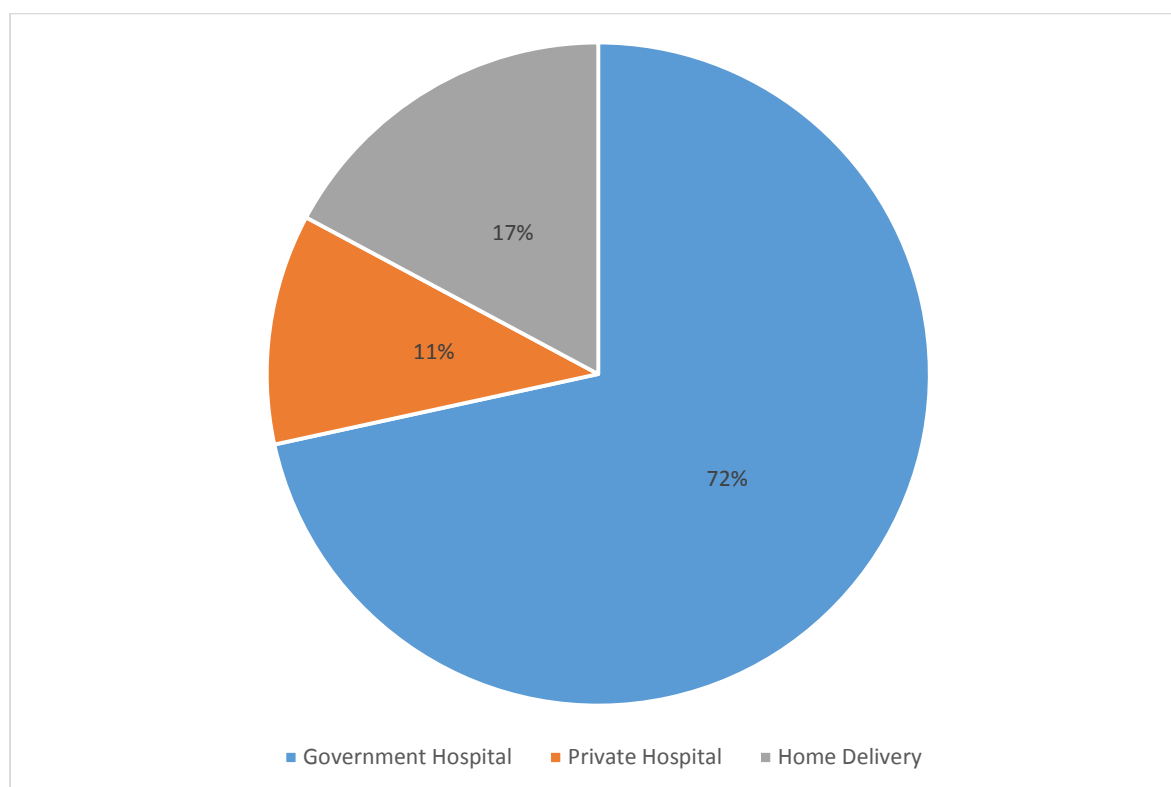
Neonatal mortality in 2010 was sixty six and decreased to sixty one in 2012. The under five mortality was 140 in 2010 and declined to 127 in 2012 in Panna district. Satna district had a neonatal mortality rate of sixty three in 2010 and fifty seven in 2012. The under five mortality rate was 130 in 2010 and decreased to 121 in 2012.

Compared to other districts, immunization coverage in Panna district is low. Only 38.4 percent of children aged twelve to twenty three months are fully immunized, with forty seven percent in urban and thirty six percent in rural areas. Satna also performs poorly in terms of immunization coverage. The district reports that 54.7 percent children receive full immunization. The low rates can be attributed to the difficult geographical terrain, low monitoring and supervision in immunization programs, lack of awareness, cultural issues, and challenges with supply and cold chain in vaccine delivery (AHS, 2013).

Health Service Delivery

The uptake of services is better in Madhya Pradesh than in other Empowered Action Groups states. Use of services, particularly of maternal and child care, has been steadily improving in the state. To reduce maternal mortality, some critical aspects of service usage need to be addressed. The data indicate that seventeen percent of women continue to deliver at home. Of those who delivered in an institution, about 21.8 percent stayed at the institution for one day or less following delivery.

Figure 4: Place of Delivery



Source: Annual Health Survey 2012-13

Only 16.2 percent of women received full antenatal care, five checkups, with disparities between urban and rural women. More than eighty percent of rural women consumed no iron and folic tablets or syrup for one hundred days of gestation or more. Most rural women had received more than two tetanus toxoid injections.

Only 58.1 percent of children age six to thirty five months had received at least one dose of vitamin A, and only 12.7 percent had received the second dose. Overall, health and nutrition indicators for children, particularly newborns and those younger than three years of age, need attention. A third of children younger than five are underweight, and two thirds are anemic. Only about one third are breastfed twenty four hours after birth, indicating a failure of the awareness and counseling program. More than half of married women in the state are anemic. The impact of nutritional status and feeding practices in health outcomes is well recognized and needs to be addressed (State Planning Commission, 2012).

Table 4. Immunization Coverage

DISTRICT NAME	PERCENT FULL IMMUNIZATION
Madhya Pradesh	66
Indore	86
Ratlam	82
Sehore	78
Tikamgarh	32
Panna	38
Umaria	41
Satna	55

Source: Annual Health Survey 2012-13

Table 5 below presents the service delivery indicators in Panna and Satna from the data available in the health management information systems.

Table 5. Service Delivery Indicators in the Public Health System

SERVICE DELIVERY INDICATORS	PANNA	SATNA	MADHYA PRADESH
Maternal Health			
Total number of pregnant women registered for antenatal checkups	29,319	65,025	1,884,355
Of those registered for antenatal checkup the ones who received antenatal checkup within the first three months of pregnancy	70.6%	46.0%	53.4%
Mothers who had at least three antenatal checkups out of total mothers registered for antenatal checkup	71.3%	82.4%	76.8%
Total reported deliveries to estimated deliveries	54.3%	56.4%	67.6%
Total reported institutional deliveries to total annual estimated deliveries	49.6%	48.1%	58.3%
Proportion of mothers paid Janani Suraksha Yojana incentives for delivery at public institution to total public deliveries	96.8%	91.1%	91.6%

Child Health			
Newborn breastfed within one hour of birth to total reported live births	93.4%	91.8%	92.2%
Newborn weight less than 2.5 kilograms to total newborn weight at birth	14.9%	12.5%	15%
Infant full immunization to the reported live births	129.8%	113.3%	104.8%
Service Delivery			
Inpatient cases per ten thousand population	463	369	413
Outpatient cases per ten thousand population	3,127	4,468	4,092

Source: Madhya Pradesh health management information system data for 2013-14

More than seventy five percent of estimated annual deliveries in Panna and Satna districts were reported to take place in a facility (AHS, 2013). Janani Suraksha Yojana incentives were paid to more than ninety one percent of mothers who had an institutional delivery.

Among the child health indicators, Panna and Satna show more than 110 percent immunizations reported in the health management system database. This number differs from the Annual Health Survey report, which showed thirty eight percent full immunization in Panna and fifty five percent full immunization Satna district.

Health Infrastructure and Human Resource Availability

Health infrastructure and availability of human resources are major concerns in the state. Madhya Pradesh has a shortage in actual human resources relative to the number of sanctioned positions. This shortage is forty two percent in primary health centers, thirty three percent in community health centers, and twenty eight percent in subcenters. The state is relatively sparsely populated, with an average population density of 196 per square kilometer, compared to the country average of 274 per square kilometer. Madhya Pradesh is the second largest state in the country and accounts for 13.5 percent of the total area of India. The state is organized into small hamlets fragmented throughout the state. This geographic arrangement makes it difficult to position and develop health centers in the state.

Panna district has six blocks: Ajaygarh, Amanganj, Devendranagar, Pawai, Shahnagar, and Panna Urban. In Tables 6 and 7, we present the healthcare infrastructure available in each block of Panna and Satna districts.

Table 6. Health Infrastructure in Panna

NUMBER OF HEALTH FACILITIES, WITH AVAILABLE BEDS IN PARENTHESES				
Block	District Hospital	Community Health Center	Primary Health Center	Subcenter
Ajaygarh	-	01(30)	04(24)	30
Amanganj	-	02 (60)	01(06)	32
Panna (Devendranagar)	01 (200)	01(30)	04(24)	36
Pawai	-	01(30)	03(18)	31
Shahnagar	-	01(30)	01(06)	30
Total	01(200)	06(180)	13(78)	159

Table 7. Health Infrastructure in Satna

NUMBER OF HEALTH FACILITIES, WITH AVAILABLE BEDS IN PARENTHESES				
Block or Urban Area Name	District Hospital	Community Health Center	Primary Health Center	Subcenter
Nagod	-	1(30)	5(30)	34
Amarpatan	-	2(100)	6(30)	32
Unchehra	-	1(30)	3(18)	31
Majhigawan	-	1(30)	9(54)	38
Rampur	-	1(30)	6(36)	31
Kothi	-	1(30)	7(42)	34
Devrajnagar	-	2(30)	3(18)	24
Amdara	-	1(30)	3(18)	34
Satna Urban	1(400)	0	2(12)	0
Total	1(400)	10(310)	44(258)	258

Source: Madhya Pradesh state information and data department of National Health Mission

Satna district has a population of 2.2 million in nine blocks. The district hospital, with four hundred beds, is located in an urban block. The district also has ten community health centers, with approximately three hundred beds, forty four primary health centers, and 258 subcenters.

Satna has only one blood storage unit, located at the district hospital. The lack of blood storage poses a major concern for emergency care in the district. Difficult geographical terrain, low population density, and lack of basic facilities keep private sector practitioners away from this area. In both districts, the private sector presence is limited to smaller clinics. There is no major private hospital, aside from Birla Hospital in Satna.

Household Survey Findings

We also looked at healthcare data for Madhya Pradesh from the seventy first round of the National Sample Survey to analyze the health situation. This data reports the percentage of males and females in rural and urban areas seeking care compared to those sick but not seeking care. In rural Madhya Pradesh, the percentage of women not seeking care is higher than men. Women preferred traditional doctors more than men did. For hospital care in India (the National Sample Survey does not distinguish between tertiary and secondary care), there is a clear preference for private hospitals, in general. This preference is stronger among males, irrespective of rural or urban. Unlike India as a whole, in rural Madhya Pradesh, there is a higher preference for public hospitals. States in northeastern India, Himachal Pradesh, Chandigarh, Andaman and Nicobar Islands, Lakshadweep, and Jammu Kashmir, are among the few states that show a preference for the public sector in both rural and urban areas. The availability of private hospitals is lower in many of these states. On average, the annual household expenditure on hospitalization in Madhya Pradesh was 14,683 Indian rupees (approximately 215 US dollars) in 2014. In Panna, this number was 7,924 Indian rupees, after controlling for very high values. It was 9,098 Indian rupees (approximately 135 US dollars) in Satna (NSSO, 2014).

Summary of Findings from Secondary Research

The overarching issues that determine the use of services and health outcomes in these districts appear to be the complex social structure, difficult and inaccessible terrain, and scattered settlements over a vast geographical area. Together, these factors pose formidable problems for health service delivery systems. Many areas are inaccessible by road and are located between five and thirty two kilometers into the hills and forests. While the Emergency Management and Research Institute ambulances deployed across the state have significantly enhanced the availability of emergency transport, the ambulances are not able to reach communities that live

deep inside hills and forests. Women have to travel almost four kilometers to access the closest source of antenatal care in rural areas. Thirty percent of those who opted for a home delivery reported the reason for the decision was lack of transport (Department of Public Health and Family Welfare, 2011) (Gupta, et al., 2013). Low awareness of health issues, gender imbalance, and low literacy rates are other social issues that need to be addressed.

The gender imbalance and declining sex ratio, particularly in certain districts of the state, are a cause for concern. Although literacy rates are only three percent less than the national average, there is a growing preference for male children, which is being acted upon. The easy availability of testing facilities, particularly in urban areas, could be a contributing factor. There is active monitoring of violations of the Preconception and Prenatal Diagnostic Techniques (PCPNDT) Act. The effectiveness of this monitoring in curtailing violations is questionable. Access to healthcare is another important dimension that needs to be addressed. There is some evidence that males are more likely to receive treatment for various conditions, compared to females (AHS, 2013).

The ACCESS Health team planned a research activity to understand the human face behind these numbers and to understand the grievances of workers in the healthcare system.

Perception Survey Framework

Based on the findings from the secondary data, we developed a framework for a perception survey. The analytical framework is below. This section explores how individual perceptions and attributes affect a person's choices and day to day decision making.

Objectives of Primary Research

The objective of this part of the primary research was to collect and subsequently analyze the opinions of respondents on various aspects of the health system, ranging from policymaking to how the programs are implemented at the ground level and how these processes can be improved to improve maternal and child indicators.

Box 1. Perception Survey Framework

Policy and Decision Making

This section examined the influence of external factors or other departments on an individual's perceptions about policymaking.

Health Management Information Systems

This section examined whether health management information systems are perceived as reducing the individual's workload and whether or not the health management information system achieves the objectives of the health system.

Data Collection and Use and Decision Making

This section examined how data can be translated or converted into action and how data can be used to assess the performance of the individuals within the system.

Developing and Ensuring a Competent Public Healthcare Workforce

This section examined individual perceptions of whether the health system is able to develop the skills and review the performance of its employees and workforce, and whether these processes are sufficient.

Accountability and Monitoring of Health Workforce

This section relates to the previous section. The main objective is to assess whether sufficient and efficient processes exist in the health system to check and monitor the performance of the workforce.

Incentives and Performance Measurement

This section examines individuals' motivations, interest in his or her own performance, and how he or she is measured and incentivized.

Feedback

This section examined the channels that individuals use for grievances and feedback and how helpful individuals perceive these channels to be.

Role of Public Private Partnerships

The section spells out individuals' perceptions of the existing partnerships with the private sector. This section also looked at the merit of introducing partnerships and in what areas, if partnerships did not already exist.

Feedback on the Survey

This section explored respondents' opinions of the survey itself and how the survey can be improved.

Assessment Phase

Primary Research

The data obtained from various administrative sources provided information about the quantitative aspect of healthcare. There was no preexisting mechanism to collect the feedback, perceptions, challenges, and ideas from members of the workforce. The primary research was an attempt to look beyond the numbers and assess the causes for the poor indicators in these districts.

Methodology of Data Collection

We collected primary data using a research tool called the perception survey. We also conducted focus group discussions due to the difficulty of conducting the perception survey with frontline workers, such as the accredited social health activists, commonly known as ASHAs, and the auxiliary nurse midwives. When we tried to interview the frontline workers using the questionnaire, they felt the interview was a test of their knowledge. In a group setting, the frontline health workers were more able to recognize the purpose of the study. The presence of colleagues boosted the confidence of the frontline health workers.

Perception Survey

We created the perception survey to conduct a primary assessment with employees at all levels in the health system, as well as those in systems that are closely affected by the functioning or affect the functioning of the health system.

The survey was conducted in both Panna and Satna. Our sample included the chief medical officers, district community mobilizers, the chief surgeon, block medical officers, block program managers, and block community mobilizers. We hired a data collection agency to conduct the survey.

The Survey Tool

This survey was administered using a set of close ended multiple choice questions, likert scale questions, and open ended free response questions. (See Appendix 2.) The perception analysis tool was reviewed by ACCESS Health International and external experts. The tool was translated and administered in the local language.

Analysis Phase

Analysis Methodology

For the purpose of the analysis, the findings from the perception survey and the focus group discussions were divided into four sections: service delivery, community awareness and engagement, financing of health services, and governance.

Service delivery included management of human resources, quality of care provided, and the technology involved in healthcare. In community awareness, the areas examined included information sharing with the community, community awareness of entitlements, and general health seeking behavior. In terms of health financing, we posed specific questions about the conditional cash transfer program for institutional delivery, Janani Suraksha Yojana. For governance, we looked at grievance redressal processes, incentives, focus areas for public private partnerships, and intersectoral coordination.

Table 8. Distribution of Participating National Health Mission Staff, By Type

SATNA		
Frontline health worker or private doctor	6.1%	2
Government doctor	57.6%	19
Program administrator	36.4%	12
PANNA		
Frontline health worker or private doctor	22.0%	9
Government doctor	22.0%	9
Program administrator	56.1%	23

Box 2. Analytical Framework and Main Findings of Primary Research

Service Delivery

- Lack of adequate human resources
- Lack of monitoring and evaluation as dictated by protocols
- Low quality of care is highest priority in these districts
- Trainings need to be specific
- Potential for public private partnerships

Community Engagement

- Lack of awareness among the beneficiaries
- Untouchability common in communities
- Lack of sanitation causing spread of infectious diseases
- High migration rates

Health Financing

- Salaries and incentives delayed at times
- Better awareness of programs

Governance

- Work profile should be well defined
- Data duplication and lack of accountability for data accuracy
- Soft incentives important in Panna; tangible incentives important in Satna

Findings from the perception survey are outlined in the table below. We discuss these findings in detail and share excerpts from the free responses later in the section.

Table 9. Salient Findings From the Perception Survey

The percentages indicated in the tables represent the proportion of the total employees interviewed for perception survey.

PERCEPTION TOPIC	PANNA	SATNA
Cause of child death	Lack of education in masses	Lack of education in masses
Whether employees have heard of government sponsored insurance	11.8%	21.2%

Most common problem in Madhya Pradesh healthcare system	Lack of adequate monitoring	Low availability of resources
Department of Health uses available resources effectively	26%	35%
Government tries to use resources effectively	61%	47%
Attended Rogi Kalyan Samiti meetings	68%	71%
Personally attended Village Health and Nutrition days	71%	88%
Agree frontline workers subject to discrimination	18%	36%
Important causes for discrimination of employees in the department	Contractual vs. Noncontractual	Caste problems
Most successful government program in the district	Village Health and Nutrition Day	Janani Suraksha Yojana
Perceived Purpose of Data Referral		
Decision making	41%	48.5%
Monitoring and supervision	44%	39.4%
Regular updates to seniors	6%	9.1%
Type of Data Shared with Public		
Information about programs and policies	26.5%	69.7%
Information about new initiatives to be implemented	47.1%	15.2%
Information about high performance outcomes	0.0%	3.0%
Information about all performance outcomes	5.9%	6.1%
Success stories	0.0%	3.0%
Believe Following is Indicator of Good Job Performance		
Salary increase	6.1%	27.3%
Promotion	24.2%	21.2%
Rating in the team	54.5%	30.3%
Regular appreciation by supervisors, without any change in position and salary	15.2%	12.1%

Other	0.0%	9.1%
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Service Delivery

Based on our primary research, we found that smooth delivery of services was hampered by a constant struggle from the lack of human resources, challenges in using technology, like lack of expertise at every community health center to enter data, the use of multiple registries to enter the same data at the same time, which causes inefficiency due to duplication of work, and the need to provide high quality and affordable care. These problems are further accentuated by socioeconomic factors, such as migration, lack of education or awareness, and lack of community participation. These challenges will be discussed in a later section in greater detail.

“In the absence of human resources in absolute numbers, it is difficult to give quality treatment following all the protocols. A posting in Panna is like Kalapanikisaza.”

-Senior Official, Panna

Human Resources

In both the districts, lack of human resources was singled out as the major cause of improper policy implementation. Most of the sanctioned posts remain vacant. The auxiliary nurse midwives reported that it is difficult for them and for the accredited social health activists to provide family planning information to male patients. The auxiliary nurse midwives felt that the male multipurpose worker would be more effective in communicating with the male population about family planning.

“The role of multipurpose worker should be much more than just carrying the registries.”

-Auxiliary Nurse Midwife, Amangunj, Panna

In the initial questions, most of the interviewees reported that good training is provided for each level of the staff hierarchy and that there is a good interdisciplinary

team for training. After further probing, it became clear that additional training is needed. From a clinical perspective, emergency management would be an essential area for training. The auxiliary nurse midwives, particularly the younger ones, are ready for computer training to improve the efficiency of data entry. The auxiliary nurse midwives reported that the present level of training is insufficient. The frontline workers also reported that multipurpose workers could be trained to assist in data entry as well.

“Women do not like taking the taking iron tablets. Instead, they prefer intravenous iron sucrose, but there is shortage of supply.”

-Auxiliary Nurse Midwife, Ajaygarh, Panna

Quality of Care

The prevalence of anemia has been one of the major challenges in both districts. According to National Health Mission data, the percentage of women with hemoglobin counts of less than eleven grams per deciliter increased in 2014, as opposed to 2015. The normal range is twelve to sixteen grams per deciliter (Table 8). Many young girls complain of heavy bleeding and cramps during their menses. The problem is accentuated by lack of sanitary pads, which could easily be provided at an Anganwadi. The auxiliary nurse midwives in Panna suggested that training more tribal women to become accredited social health activists would increase the community voice and increase the acceptability of consuming iron and folic acid tablets to treat anemia. Consumption of these tablets is low among beneficiaries, particularly among girls.

“There are so many Adivasis in our village. The problems are common for all of them. In women, particularly, anemia is everywhere. We give them iron tablets. They throw them away instead of taking them. We provide folic acid tablets to women and also supply the Anganwadi to give to pregnant women. We give women folic acid tablets in the first three months of pregnancy. After three months, we give them other tablets.”

Accredited Social Health Activist, Devendranagar, Panna

Table 8. Anemia Prevalence

PERCENTAGE OF WOMEN TESTED AT TRIMESTER ONE FOUND TO HAVE LOW HEMOGLOBIN (LESS THAN ELEVEN GRAMS PER DECILITER)		
	2015-16	2014-15
Panna	23.8%	16.6%
Ajaigarh	27.9%	9.6%
Amanganj (Gunnor)	32.6%	20.8%
Devendranagar (Panna)	35.5%	17.1%
Pawai	6.5%	10.2%
Shahnagar	16.6%	23.0%
Satna	41.6%	33.6%
Amarpatan	36.1%	26.5%
Chitrakoot (Majhgawan)	53.7%	27.2%
Maihar	54.0%	56.5%
Nagod	41.4%	30.0%
Ramnagar	61.4%	30.7%
Rampur-Baghelan	27.5%	22.6%
Satna (Sohawal)	29.3%	35.1%
Unchehara	41.2%	26.1%

The auxiliary nurse midwives reported that the community health centers seem overburdened because people bypass the primary health centers and delivery points. A delivery point is a small center in the village run by an auxiliary nurse midwife. The auxiliary nurse midwives reported that accredited social health activists believe that the primary health centers would delay the payment of their incentives due to lack of staffing. The accredited social health activists perceive that it would be easier to receive their incentives at the community health centers. The accredited social health

activists prefer to send the patients to the community health center, bypassing the primary health center or the delivery point.

“The van drivers not only take informal payments. They also ask pregnant women to walk across flooded areas to reach the main road so that they do not have to take a detour.”

-Accredited Social Health Activist, Dwari Village, Panna

According to the frontline workers we spoke to, geographic access to certain villages is major cause of delay in reaching facilities, especially during monsoons.

Lack of monitoring and evaluation according to government protocols leads to questionable quality of care. Most of the health providers reported that addressing the low quality of care is the highest priority in these districts.

Community Engagement

Lack of awareness among the beneficiaries is accentuated by the lack access to timely care. In Satna, for cardiology, orthopedic care, or treatment of complicated cases, it is a general belief among beneficiaries that people visit private hospitals. Patients in Panna seem to use the public health system.

“A single accredited social health activist from the Adivasi community has made a huge difference in awareness.”

-Auxiliary Nurse Midwife, Devendranagar, Panna

Awareness

People in both districts have become more receptive to using health services, particularly for registration of pregnancy at the nearest health centers and for institutional deliveries. Challenges remain in improving intake of iron tablets and vaccination rates.

“Should I listen to the accredited social health activist or should I listen to my mother in law?”

-Beneficiary, Satna

It is challenging for the frontline workers to generate awareness on family planning methods and average size of the family. Elderly women, such as mother in laws, and husbands influence decisions on family planning. We should include influential members of the family in awareness programs on family planning practices. As discussed above, the multipurpose male worker could also be instrumental in creating awareness among men.

Mamta Rath is a mobile van that raises awareness on health issues. The van may have a positive impact as it combines an audio and visual message into one channel. Mamta Rath visits the villages infrequently. A smaller version of the advertisements could be loaded onto a compact disc that health workers could play on a regular basis, including Village Health Nutrition Days, immunization days, and at village fairs. This approach would ensure involvement of village panchayat on continuous basis.

While accredited social health activists try to raise awareness of the public health programs among beneficiaries, their efforts are often insufficient and caste driven. Many families still insist that the so called low castes are untouchable and that the accredited social health activists from the perceived higher castes cannot touch the tribal and other low castes.

Our focus group discussions revealed that many of the accredited social health activists have refused to treat children from different castes due to untouchability concerns. These issues need to be addressed in a sensitive manner. The accredited social health activists and auxiliary nurse midwives insist that careful selection of the accredited social health activists is a must. The respondents suggested recruiting more accredited social health activists from the tribal community as an ideal approach to gain the confidence of that community.

“There was an order from the government to build toilets in the village for families certified as below the poverty line. In our village, only the most prosperous people hold below the poverty line cards.”

-Janani Suraksha Yojana Beneficiary, Amangunj, Panna

The villages lack sanitation, water supply, and, in few cases, connecting roads. Lack of roads makes it difficult to reach these areas, especially to transport a woman for delivery. Seasonal variations also add to these problems. When it floods, the van drivers are unable to access villages. Many pregnant women in labor have been asked to walk to the nearest road.

“There is sanitation problem. Women have to go out of their houses for urination and defecation as we don’t have toilets in our village. A few people built toilets two or three years ago. They used them for a year or two. Now, they do not use them because the toilets fell down and are not in usable condition.”

-Accredited Social Health Activist, Kothi, Satna

Girls who come from poorer families lack sanitary pads, leading to poor menstrual hygiene and pain and cramps due to infections. These problems can be reduced by providing free sanitary pads.

Panna and Satna districts are located in the Bundelkhand region. The districts have recorded high migration rates and a high degree of poverty, with people struggling for basic livelihoods. These factors contribute to the lack of community awareness of basic health knowledge (Planning Commission , n.d.).

Financing of Health Services and Resource Usage

Among the major issues raised in our primary research have been delays in paying employee salaries and beneficiary incentives. These delays lead to mistrust of the government and lack of interest in work.

Accredited social health activists feel that they need appreciation in addition to financial incentives. Some of the accredited social health activists reported that they

had never been visited by any district or state level official, aside from the block authorities and their trainers.

Health insurance has not been widely used in Madhya Pradesh as a financing mechanism for beneficiaries. Even the nationally sponsored Rashtriya Swasthya Bima Yojana program is present in only eight districts. Panna and Satna are not a part of the program.

Governance

Monitoring and evaluation of the workforce need strengthening. Workers must be evaluated. Work profiles should be well defined. These processes should be conducted in an official manner.

The value of awards, appreciation, and incentives for any worker in an organization cannot be undermined. Incentives play an important role in keeping the workforce motivated to excel and deliver beyond expectations. The lack of incentives is viewed differently in the two districts. In the district of Panna, soft incentives like appreciation and team rating are more influential than salary increases. In Satna more tangible incentives like salary increases seem to be stronger incentives.

We found that there are few existing public private partnerships. The existing partnerships include collaborations with nongovernmental organizations to train frontline health workers and to manage distribution of smart cards for the Deen Dayal Upadhyay program. Training, emergency care, and cancer management are additional areas where public private partnerships may be helpful.

Respondents reported data duplication and a lack of accountability to ensure data accuracy. The auxiliary nurse midwives are required to fill out multiple book registries with the same information. It would be worth exploring these areas further to reduce the time spent on data entry and to ensure more time for clinical services.

The findings from both the primary and secondary research offered an overview on what indicators should be addressed and included in the dashboard and in a policy intervention.

Design Phase

Integrated Health Data Dashboard

In our conversations with senior officials in Madhya Pradesh, we learned that there are fourteen databases used in the state. These fourteen databases provide a plethora of information on healthcare indicators related to service delivery, health financing, procurement of drugs and other usables, mortality and morbidity. Much of the data focuses specifically on maternal and child health. In the absence of interoperability between and among these databases, it is difficult to draw insights from them to formulate reports or to generate graphs or plots for comparison. Based on our discussions, we decided to develop a dashboard to integrate these databases. An integrated health data dashboard will help the department of health to analyze data and make better decisions about how to improve the quality of maternal and child health services in Madhya Pradesh.

Objective of the Dashboard

Our objective was to build a dashboard for Madhya Pradesh that is capable of drawing insights from the data and of depicting information in plots, graphs, and other easy to understand visualizations. The dashboard would have the ability to generate reports about the data analyzed and to provide insights and inferences.

The dashboard design includes features to make it easier for the user to see and comprehend the information with minimal manual effort. The dashboard is able to provide integrated information on a single screen, with filters and customizable views. Ideally, the dashboard should work on dynamic data that is updated on the backend at specified intervals. This capability can be decided by the user during the development.

Figure 5: Elements of the Dashboard



The health systems related data in Madhya Pradesh is available through fourteen databases. All of these databases are online. We were granted access rights to the data sets and took measures to maintain confidentiality of the data. We studied all fourteen databases to identify types of variables and indicators available. The focus of the assessment in Madhya Pradesh was to look at the performance of service delivery processes and to identify gaps to reduce infant and maternal mortality in Panna and Satna. We selected data from three data sets for the initial design of the integrated dashboard:

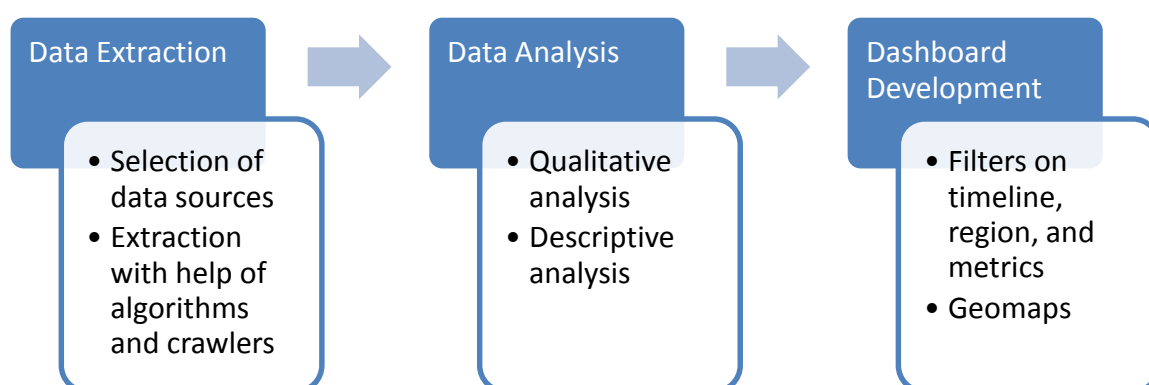
Reports on beneficiaries of maternal and child health services for Janani Express

Details of delivery from the special newborn care units

Standard metrics on prenatal, neonatal, and postnatal care from the health management information systems

These three data sets had related variables and could be integrated to draw insights into service delivery processes. We also used other sources, such as human resource and facility infrastructure data, to complete the health system picture in Panna and Satna for the dashboard. The entire process for development of dashboard was divided into three stages. We specified outputs for every stage of the development process.

Figure 6. Stages of Dashboard Development



Data Extraction

Once we shortlisted the data sets to be used, we began the data extraction process. Algorithms were written to extract data from the online portals. The data sets were

downloaded, and these algorithms enabled us to extract the data in a desired format for a specified time period.

Special Newborn Care Units

We extracted data on live births and all neonatal admissions in the special newborn care units from January 2013 to January 2015. The database contained information on all neonates – those born both in a facility and elsewhere – admitted to facilities across Panna and Satna. The data was aggregated at the monthly level, combined, and used to establish a baseline for comparison.

Janani Express Yojana

This database captures information on transportation for pregnant women and sick children to and from the hospital. We used block level call center data on real time coordination and data from monitoring service calls completed and dropped by the Janani Express. Data were available from the first quarter of 2013 to the second quarter of 2015. This data was also aggregated at the monthly level and made part of baseline data for comparison across various service parameters.

Health Management Information Systems

The data for the health management information systems were in the form of indicators with aggregated values. We extracted the data at the block level for years 2013 to 2015. Data for Satna for the first few months of 2013 were missing on the online portal. Some of the metrics and indicators in this data set overlapped with data from the special newborn care unit and Janani Express Yojana data sets. The data from the health management information systems also provided benchmarks to be used as standards for comparison.

Data Merging and Aggregation

The special newborn care unit and Janani Express Yojana data sources have records at the beneficiary, provider, and facility levels. We chose the block level for our dashboard reports because it is the most granular unit of region available in the data. To make the dashboard capable of showing statistics at the block level, the parameters in the data were also merged and aggregated at the block level.

Data Integration

The special newborn care unit data source, used for newborn care data, was integrated with Janani Express Yojana data. The integration was performed at the block and district level due to the lack of a common identifier for the two sources. One could monitor how the change in ambulance response time from the Janani Express Yojana data source for a given block led to a change in the reported infant

death count for that block over a defined time period. We also vetted the data for any gaps or anomalies.

Data Analysis

We performed prescriptive, descriptive, and predictive analytics on the data, including coding and executing all algorithms and models.

Step 1: Standardize “Blocks” field and add corresponding districts.

There are 3,111 blocks in Madhya Pradesh. The raw data contained 586 unique entries for “Blocks.” This discrepancy is because the “Blocks” field contained ambiguous names and spelling errors, which resulted in multiple names for the same block. As a first step to clean the data, we standardize the block names, as per the name of the district.

Any ambiguous cases that still remained were manually converted to identify the correct district match.

Step 2: Remove duplicates.

Data was checked for duplicate entries by using the admission identification number as the unique identifier. If two records have the same admission identification number, then the rest of the parameters will also be the same for these records. We weeded out these duplicate records from the data.

Step 3: Check for data inconsistency.

Numerical variables: We calculated quartiles to check for any outliers.

Categorical variables: Trends for each categorical variable were plotted against time (months) and region (districts). Any irregularities in the plots, such as a spike in the value for “outborn deaths” in the month of December or a sharp decline in the use of “government transport” for a particular district were noted and reviewed.

Step 4: Calculate derived variables.

Variables were derived from within the variables available in the data sets.

Step 5: Generate metrics to drive insights.

Special newborn care unit data were used to generate healthcare metrics at the block level for neonatal care. These metrics were plotted against time at a monthly level, with a window of 2.5 years, starting from January 2013 to June 2015. One could

¹http://www.educationportal.mp.gov.in/Oosc/Public/Ver_Reports_Counts_Records.aspx

select a particular metric and see how it varies for different blocks on a monthly basis.

We developed similar metrics for Janani Express Yojana data to analyze the effects of infrastructure of facilities on maternal and child health at the block level.

The results of the block level statistics will help to derive insights on the quality of healthcare and adequacy of health infrastructure.

Benchmark Views

Based on the availability of data, we included an option to compare the performance of indicators against the benchmarks at the district and state level.

Dashboard Development

We designed the dashboard to integrate data from different sources and to provide capabilities to visualize the interplay of associated metrics. The time trend analysis of associated metrics at the block level enables users to gauge the effects of healthcare policies implemented in Madhya Pradesh since January 2013.

The dashboard design includes the following features:

Map View: This view displays the chosen metric across the state at the district and block levels. One can apply subfilters on this report to compare the contributing factors. For example, the mortality report can be broken down by cause of death. Selected causes can be compared at the block level. With an option to select a specific region on the map, we can also create time trend plots for the associated metric at a monthly level.

Comparative View: This view allows for comparison between two blocks. Overlapping plots will be created for the different metrics. The user can analyze how the two blocks compare over time. District and state benchmarks will be included on the plots to provide a standard for comparison. The time trend analysis, along with the comparative views at block level, will provide insights into the maternal and child health and service infrastructure for Madhya Pradesh. This analysis can help drive effective decisions.

The final dashboard will have access to health metrics and data on quality of care at the block level. The user will be able to select a desired population for monitoring or reporting by selecting filters on demographic variables, region, medical procedures and services, type of facility, and various other criteria. For a given population, predefined sets or custom lists of health and quality of care metrics can be selected to generate reports and graphs. The dashboard will also support geomaps to display these metrics at geographical subregions in the state.

Conclusion and Proposed Process for a Quality Improvement Intervention

The various phases of the study identified prevalent challenges, such as the lack of monitoring according to government protocols and duplication of data. The dashboard can be a tool to provide data to monitor various processes, outputs, and outcomes related to maternal and child health. The dashboard can also be used to design specific district centric interventions that can be replicated in similar geographies in the state, as well as the country. We demonstrate below how policymakers can design quality improvement interventions based on the analyses generated from the health data dashboard by proposing a direction and a process to implement an intervention. The proposed intervention process was designed based on analysis of the special newborn care unit and health management information data sets.

According to experts at the [National Institute of Clinical Excellence](#) in the United Kingdom, once high priority areas have been identified, quality standards must be developed for providing maternal and child health. These quality standards must be customized to the maternal health profile of the catchment area. The main aim of developing these standards is to improve outcomes and to ensure transparency in the provision of maternal care. In the next section, we suggest an approach to promote evidence based decision making. We have also show an example of analysis to identify districts for an intervention, based on key parameters.

Suggested Approach

The government of Madhya Pradesh can implement a quality standards intervention with technical support from a knowledge partner. The knowledge partner may work with the government to identify high priority districts. Once the government passes an order to initiate the collaborative, the government and the knowledge partner should conduct focus group discussions with representatives from the best performing districts and the high priority districts to assess the current situation. The government will create a two member quality assurance team at the district level and allocate five members to hospital groups for mentoring.

Selection of Priority Areas

To propose a direction and process for a quality intervention, we selected a set of parameters to analyze data from all districts in Madhya Pradesh. We chose these parameters because they represent the quality and performance of the system with regard to maternal and child health: infant mortality per hundred live births, still births per hundred deliveries, infant deaths within first twenty four hours per hundred live births, maternal deaths per hundred deliveries.

Each district was ranked on the basis of these rates. A lower rank indicates a poorer performance. Once this ranking was completed, we calculated a composite score to evaluate the overall performance of the district.

Based on the ranking analysis, these nine districts were identified as districts of interest, alongside the two focus districts of Panna and Satna.

Table 9. District Rankings

DISTRICT	COMPOSITE SCORE
Katni	18
Seoni	18
Umaria	45
Chhatarpur	51
Betul	54
Barwani	56
Anuppur	57
Dindori	59
Sheopur	59
Panna	72
Satna	109

For each of the above nine selected districts, along with Panna and Satna, we performed the following analyses:

Proportional mortality was calculated from the main drivers of neonatal mortality.

Proportional mortality was calculated from the main drivers of one month to eleven month mortality.

Proportional mortality was calculated for the main drivers of maternal mortality.

The interest districts were compared to the non interest districts, other districts in the state not included in the above list, on several parameters.

These parameters included avenues for community interventions in early antenatal care that could potentially prevent maternal, neonatal, and infant mortality.

Our analysis suggests that quality standards should be developed in the areas of active management of third stage of labor, low birth weight, management of premature infants, early identification of sick newborns in the community, and better management of pneumonia and infections in infants.

Representatives from the best performing and the high priority districts should be brought together for a focus group discussion to launch the intervention. The government will create a two member quality assurance team at the district level and allocate five members to hospital groups for mentoring. The collaborative would be executed in three phases. The details of the phases are provided in Appendix 3.

To improve the maternal and child health indicators in Panna and Satna districts of requires cumulative efforts to improve the performance of the overall health system performance. These improvements can be achieved by building capacity, implementing interventions to improve quality care, and introducing rigorous monitoring and supervision techniques such as an integrated health systems dashboard.

Appendix 1. Health Infrastructure in Madhya Pradesh

DISTRICT	BEDS	BLOCKS	HOSPITALS		HEALTH CENTERS		
			DISTRICT	CIVIL	COMMUNITY	PRIMARY	SUBCENTERS
Aagar-Malwa	100	4	1	0	3	5	72
Alirajpur	100	6	1	0	5	15	154
Anuppur	100	4	1	0	7	16	127
Ashoknagar	100	4	1	0	4	10	97
Badwani	300	7	1	1	8	29	236
Balaghat	300	10	1	2	8	36	280
Betul	300	10	1	0	10	33	265
Bhind	300	6	1	0	7	20	189
Bhopal	300	2	1	2	3	10	63
Burhanpur	200	2	1	0	4	13	97
Chhatarpur	300	8	1	0	10	37	192
Chhindwada	400	11	1	4	11	67	310
Damoh	300	7	1	1	6	14	167
Datia	200	3	1	2	3	10	94
Dewas	400	6	1	1	7	21	175
Dhar	300	13	1	1	14	47	395
Dindori	100	7	1	0	7	23	160
Guna	400	5	1	1	5	15	119
Gwalior	200	4	1	4	2	15	101
Harda	100	3	1	0	4	6	63
Hoshangabad	300	7	1	2	6	15	140
Indore	100	4	1	3	4	25	93
Jabalpur	500	7	1	3	5	22	193
Jhabua	200	6	1	1	6	19	190
Katni	200	6	1	1	6	17	160
Khandwa	400	7	1	0	6	32	171

Khargone	300	9	1	2	10	54	275
Mandla	300	9	1	1	8	32	240
Mandsour	500	5	1	2	7	40	160
Morena	300	7	1	1	8	17	231
Narsinghpur	300	6	1	1	7	20	141
Neemuch	200	3	1	2	3	16	104
Panna	200	5	1	0	6	15	136
Raisen	200	7	1	1	9	18	214
Rajgarh	300	6	1	3	5	29	175
Ratlam	500	6	1	2	6	24	153
Rewa	100	9	1	1	11	28	271
Sagar	300	11	1	2	11	26	245
Satna	400	8	1	2	9	43	260
Sehore	200	5	1	1	9	16	160
Seoni	400	8	1	1	7	30	260
Shahdol	300	5	1	1	7	28	194
Shajapur	200	8	1	3	4	14	103
Sheopur	100	3	1	0	3	9	90
Shivpuri	300	8	1	0	9	12	192
Sidhi	300	5	1	0	6	25	145
Singrouli	200	3	1	0	6	13	157
Tikamgarh	200	6	1	0	7	20	156
Ujjain	700	6	1	6	5	22	165
Umaria	100	3	1	0	3	12	89
Vidisha	300	7	1	2	7	22	145
Madhya Pradesh	13,700	313	51	63	334	1,157	8,764

Appendix 2. Perception Survey

A. Stakeholder Analysis

This section aims to understand the individual's role and his day to day activities and responsibilities. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

1. What is your role in the health system?

- ☐ Front line health worker, private doctor
- ☐ Government doctor
- ☐ Program administrator
- ☐ IAS
- ☐ Political

Other (please specify)

2. Who do you report to?

3. Who reports directly to you?

4. Do you prefer to read a report, listen to a story, look at a graph, or watch a video?

Please select all appropriate options.

- ☐ Report
- ☐ Listening to case study/story,
- ☐ Graphical presentation
- ☐ Audio-visual
- ☐ Other (please specify)

5. Please rank the following technologies as per your familiarity or comfort of using them.

<input type="text"/>	Mobile Phone	<input type="checkbox"/> N/A
<input type="text"/>	Television	<input type="checkbox"/> N/A
<input type="text"/>	Radio	<input type="checkbox"/> N/A
<input type="text"/>	Computer	<input type="checkbox"/> N/A
<input type="text"/>	Internet and Browsing	<input type="checkbox"/> N/A
<input type="text"/>	Comfortable with all Technologies	<input type="checkbox"/> N/A

Perception Survey of Healthcare providers and officials

B. Individual perceptions and practice

This section aims to understand how individual perceptions and attributes affect choice of a person as well as day to day decision making. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

6. During your last medical episode which type of facility/doctor did you visit and Why?

* 7. Rank the following concerns in order of greatest priority: (1 is the highest priority and 4 is the least)

<input type="text"/>	There is an insufficient focus on prevention
<input type="text"/>	Sick people are unable to get any treatment
<input type="text"/>	Out-of-pocket medical expenditures are too high
<input type="text"/>	The quality of care provided is too low

8. Others, please specify.

* 9. Rank the following in the level of impact on health outcomes at local level: (1 is the highest impact and 4 is the least)

<input type="text"/>	Government of India (including NRHM),
<input type="text"/>	MP department of health,
<input type="text"/>	District collectorate,
<input type="text"/>	Block administrators and below

10. Others, please specify.

11. Do you believe the government is using its resources effectively?

Please mark the most relevant option.

Yes it does	It is trying	May be	It does not	No Idea
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please explain your choice

*** 12. In your opinion rate (or order) the following contributions to maternal or infant mortality: (1 is the highest contributor)**

<input type="text"/>	Nutrition
<input type="text"/>	Sanitation
<input type="text"/>	Medical care
<input type="text"/>	Gender disparities
<input type="text"/>	Education
<input type="text"/>	Migration
<input type="text"/>	Pollution
<input type="text"/>	Other socioeconomic factors.

13. How effective is the PIP (Program Implementation Plan) process at establishing and responding to local priorities?

Please rank your response on a scale of 1 to 5 where 1 represents that PIP is very effective and 5 represents that PIP is ineffective or almost non-existent

Very Effective					Non Effective
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

14. Have you ever personally attended a Village Health, Sanitation & Nutrition Committees meeting or VHND?

Please select the relevant answer from the options below.

- ☐ yes
- ☐ No
- ☐ Not applicable

15. How many committee meetings do you believe happened in last 12 months?

16. How many did you attend in the last 12 months?

17. Have you ever personally attended a Rogi Kalyan Samiti Meeting?

Please select the relevant answer from the options below.

- ☐ Yes
- ☐ No
- ☐ Not applicable

18. Are providers or front line workers subject to any kind of discrimination?

- ☐ Yes
- ☐ No
- ☐ Don't know/can't

say If yes, what kind?

19. Compared to 10 years ago, is the healthcare system in MP performing better, worse or no change? Please rank your thought on the scale of 1 to 5 where 1 represents no change at all and 5 represents worse situation.

Better			No Change				Worse Situation
1	2	3	4	5			
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			

*** 20. Name a government program that you think is a good example of success and why is it a success?**

21. Do you have any suggestions or ideas for us to consider for how the government could improve the health system?

22. Have you heard of the government sponsored insurance schemes in MP or elsewhere?

- ☐ Yes
- ☐ No
- ☐ I don't know about it.
- ☐ if yes kindly elaborate

*** 23. What is your opinion of the 3-d policy? Please rank your opinion on the scale of 1 to 5 where 1 represents that it is very effective at all and 5 represents that it is not effective at all.**

Very Effective					Not Effective	Not aware about 3D policy.
1	2	3	4	5	6	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. Based on your perspective of the healthcare system in MP, please rate the following where one is the biggest problem and six is the least problem.

<input type="text"/>	Amount of money available
<input type="text"/>	Government of India policies
<input type="text"/>	Government of MP healthcare policies
<input type="text"/>	Policies of other departments in MP
<input type="text"/>	District level implementation
<input type="text"/>	Monitoring and regulation

*** 25. What is your opinion of the social awareness vans (Mamta Rath)?**

Perception Survey of Healthcare providers and officials

C. Policy and Decision Making

This section aims to understand what influence do external factors (other departments) on an individual's perceptions about policy making. It also aims to understand the perception one holds of these external factors. Lastly it also focuses on whether the individual finds these policies useful for the beneficiaries or not. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

26. It is important for the health department to coordinate with other ministries such as labor, education and rural development department.

- ☐ Yes
- ☐ No
- ☐ I don't know about it.

* 27. If the answer to the above is yes, is the coordination between the health department and other department is working well? Please rank your opinion on the scale of 1 to 5 where 1 represents that you are satisfied with the coordination and 5 represents dissatisfaction.

Very Satisfied					Not Satisfied
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

28. If answer to question 26 is yes, please comment how the coordination between the departments can be improved

29. The government policies today are designed to ensure all people access high quality and affordable care

- ☐ Agree
- ☐ Agree only to certain degree
- ☐ Disagree
- ☐ No Comments

If you disagree or agree only to certain degree, please elaborate.

30. What do you believe are the main reasons for some policies not being implemented effectively?

31. If you disagree/partly agree in question 29, what policies do you believe should change?

Perception Survey of Healthcare providers and officials

D. Health management information system (HMIS)

This section aims to understand whether HMIS is perceived to reduce the individual's workload and does it achieve the system's objectives or not. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

32. There are appropriate software programs to capture and maintain health records. Please rank your opinion on the scale of 1 to 5 where 1 represents that you fully agree and 5 represents you fully disagree

Fully Agree					Fully Disagree
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

33. Does the HMIS capture data from communities?

- ☐ Yes
☐ No

If yes kindly explain

34. What information would help you to do your job in a better way?

35. Currently where do you get this extra information?

36. If a new HMIS were to be designed, what are the key considerations, constraints and stakeholders to be taken into account.

Perception Survey of Healthcare providers and officials

E. Data collection, use and decision making

This section aims to understand that how the data can be translated (converted) into action and be used assess the performance of the individuals within the system. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

37. There are processes for validation of data. Please rank your opinion on the scale of 1 to 5 where 1 represents that you fully agree and 5 represents you fully disagree

Fully Agree					Fully Disagree
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

38. How much time do you spend filling out forms and reporting data on an average day?

- ☐ 6-7 hrs.
- ☐ 4-5 hrs.
- ☐ 2-3 hrs.
- ☐ Not daily

*** 39. How do you use the results of that data? Please select all relevant options.**

- ☐ Decision making,
- ☐ Monitoring and improvisation,
- ☐ Regular updates to seniors
- ☐ Other (please specify)

*** 40. How do you use the results of that data? Please select all relevant options.**

- ☐ Decision making,
- ☐ Monitoring and improvisation,
- ☐ Regular updates to seniors
- ☐ Other (please specify)

41. What information is shared with the community?

- ☐ Information about Programmes and Policies
- ☐ Information about new initiatives to be implemented
- ☐ Information about high performance outcomes
- ☐ Information about all performance outcomes.
- ☐ Success stories
- ☐ Other (please specify)

42. On a scale of 1 to 5 how important is it to report high performance outcomes?

Very Important					Not Important
1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

43. Do you believe healthcare workers report data inaccurately?

- ☐ Yes
- ☐ No

*** 44. If yes, what are the main reasons for not reporting accurate data?**

*** 45. What can be done to improve the reporting of accurate data?**

Perception Survey of Healthcare providers and officials

F. Development of and assuring a competent Public healthcare workforce

This section aims to the understand the individual's perception towards the system's ability to develop their skills and review their performance and whether these processes are sufficient or not. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

* 46. Are there standards for public health force performance?

☐ Yes

☐ No

47. There exists inter disciplinary team in the health system to improve the quality of health care.

☐ Yes

☐ No

48. The team managers have necessary skills, education and experience to manage the tasks and quality improvement. Please rank your opinion where 1 is that you fully agree and 5 is that you don't agree.

Fully Agree

1

2

3

4

Don't Agree

5

☐☐☐☐☐

49. Do you think there are processes and reviews for workforce planning, assessment and development?

☐ Yes

☐ No

* 50. Do you think training modules exist for health workers at each level in the hierarchy?

☐ Yes

☐ No

51. Training and development is done rigorously at each level with emphasis on the ones directly involved with delivery of services. Please rank your opinion where 1 is that you fully agree and 5 is that you don't agree.

Fully Agree

1

2

3

4

Don't Agree

5

☐☐☐☐☐

52. Do you think these trainings suffice or are there additional areas of training needed?

Perception Survey of Healthcare providers and officials

G. Accountability and Monitoring of health work force

*** 53. Are the health systems and policies successful in motivating the health force to deliver the desired services?**

☐ Yes

☐ No

54. Kindly elaborate on your choice

*** 55. Is there a monitoring mechanism in the health system through which an incompetent health worker can be identified?**

☐ Yes

☐ No

56. Kindly elaborate on your choice

*** 57. Are majority of problems related to quality of care, the result of poor performance by individual healthcare professionals?**

☐ Yes

☐ No

58. Kindly elaborate on your choice

Perception Survey of Healthcare providers and officials

H. Incentives and Performance measurement

This sections aims to understand how motivated does an individual feel about how his/her performance is measured and incentivized. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

59. How is your performance measured and by whom?

	By immediate reporting manager	By Supervisor (Next to the reporting manager)	By concerned district department	By concerned state department
Review of key performance indicators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feedback from colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perception of the reviewer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

60. What do you think is the single most important indicator to tell whether you were doing a good job?

☐ Hike in

Salary. ☐

Promotion.

☐ Rating in the team.

☐ Regular appreciation by supervisors, without any change in position and salary

☐ Other (please specify)

61. What are the incentives in place for doing your job well?

62. What additional incentives do you think are needed?

63. Are there any incentives to exceed expectations?. Please rank your opinion where 1 is that you fully agree and 5 is that you don't agree.

Fully Agree

1

2

3

4

Don't Agree

5

☐☐☐☐☐

If you don't agree that such incentives exist, What should be those incentives? (please specify)

Perception Survey of Healthcare providers and officials

I. Feedback

This sections has a specific aim to understand the channels which the individual uses for his/her grievances and/or gives their feedback and how helpful does he/she perceive them to be. The questions require either an open comment, a pick from multiple choices or ranking from 1-5

64. If you have any complaint about your work, what are the formal processes to file that complaint?

- ☐ Dedicated Grievance Redressal system on web portal
- ☐ Written Complaint in letter or Email
- ☐ Standard Official Format
- ☐ Verbal Complaint
- ☐ Other (please specify)

65. Have you ever filed a complaint?

- ☐ Yes
- ☐ No

If Yes, what happened after that?(Please Specify)

66. What are the informal ways to raise a complaint?

67. Have you ever used any such informal process?

- ☐ Yes
- ☐ No

If Yes, what happened after that?(Please Specify)

68. If you have never raised a complaint, is that because you have no complaints?

- ☐ Yes
- ☐ No

If No and if you do have complains but not raised these, what is the reason? ? (please specify)



Perception Survey of Healthcare providers and officials

J. Mobilize public private partnership to identify and solve health problems

The sections aims to understand the individual's perception of the existing partnerships with the private sector. It also aims to understand that if such partnerships do not exist what would be the merit in introducing them and for what areas.

The questions require either an open comment, a pick from multiple choices or ranking from 1-5.

69. Do you think that increased engagement between the public and private sector will help in improving the outcomes of the health system; for example government collaborating/partnering with private practitioners and hospitals to deliver health services?

☐ Yes

☐ No

70. There are noteworthy existing examples for the public private partnerships in the state.

☐ Yes

☐ No

If Yes, Please name a few.

71. If answer to the question no. 82 is 'No', what can be the possible areas of collaboration?

72. If answer to the question no. 82 is "Yes", What kind of private entities does the government collaborate with?

☐ Non Government Organization

☐ Private Health providers

☐ Think tanks

☐ Individual consultants

☐ Private companies for implementation

☐ Multinational organizations

☐ Other (please specify)

Perception Survey of Healthcare providers and officials

Feedback on the Survey

73. Do you have any comments, or answers to questions that we should have asked?

74. Please enter your details (optional and for internal use only). ACCESS Health International will maintain the confidentiality of the respondents.

Name	<input type="text"/>
Company	<input type="text"/>
Address	<input type="text"/>
Address 2	<input type="text"/>
City/Town	<input type="text"/>
State/Province	<input type="text"/>
ZIP/Postal Code	<input type="text"/>
Country	<input type="text"/>
Email Address	<input type="text"/>
Phone Number	<input type="text"/>

75. Would you like ACCESS Health International to follow up with you for further information and discussion?

- ☐ Yes
- ☐ No

Annexure 3. Phases of the Intervention

	PHASE 1: PREPARATION	PHASE 2: CAPACITY BUILDING	PHASE 3: ONGOING IMPLEMENTATION	ROLE OF KNOWLEDGE PARTNER	ROLE OF STATE GOVERNMENT
<p>Knowledge partner and Government of Madhya Pradesh will identify high priority districts for the project.</p> <p>Government will pass order to initiate the collaborative.</p> <p>Representatives from best performing and high priority districts will be brought together for a focus group discussion to kickstart the intervention.</p> <p>Government will create a two member quality assurance teams at the district level, and allocate five</p>	<p>Form expert panel to develop quality statements.</p> <p>Formation of clinical quality improvement and monitoring teams at each of the project hospitals.</p> <p>Focus group discussions with quality teams from best performing districts and the high priority districts identify locally relevant challenges, opportunities, and best practices.</p> <p>Finalization of all quality statements to address maternal mortality in high priority districts.</p> <p>Identification of a two member quality assurance team at the office of the National Health Mission and/or Commissioner of Health and Family Welfare.</p>	<p>Extensive training of district quality assurance team on science of improvement and collaborative methodology.</p> <p>In person mentoring of quality improvement and monitoring team at the hospitals to facilitate implementation of quality statements.</p> <p>Locally present data systems adapted at each hospital to assess compliance with quality standards and accurate capture of outcomes.</p> <p>Three learning sessions bring together all project teams to share experiences and learnings and discuss challenges. Propagate the Teach all, Learn all</p>	<p>Create a mind map dictionary of successful and unsuccessful changes to facilitate dissemination of knowledge.</p> <p>Evaluate and improve process to address technical (training, knowledge, skill) and non technical (personnel, equipment, infrastructure) gaps in the project hospitals.</p> <p>Identify community and district level interventions for further improvement in outcome indicators and design mechanisms for execution.</p> <p>Plan for scale up of collaborative and best practices to</p>	<p>Provide technical support in creation of quality assurance team.</p> <p>Convene team of technical experts to craft quality statements</p> <p>Train two members of the quality assurance Team on quality improvement collaborative methodology</p> <p>Convene twelve mentoring sessions for the quality improvement team at the hospital and the district level to help think through the execution of the collaborative.</p> <p>Provide technical support to create a gap assessment matrix for the project hospitals.</p>	<p>Identify two high priority districts along with inputs from the knowledge partner to execute the collaborative.</p> <p>Sign a memorandum of understanding for project between the state and the knowledge partner.</p> <p>Execute an eighteen month collaborative across hospitals across the two high priority districts, including organization of three learning sessions and weekly mentoring visits to facilities.</p> <p>Create a web based information management and reporting system incorporating locally present data systems to track progress of project.</p> <p>Identify community based strategies to achieve improvement in maternal care delivery in the antenatal, intranatal and postnatal phases.</p>

<p>members to hospital groups for mentoring.</p> <p>Collaborative executed in three phases.</p>		<p>model.</p> <p>Twelve learning sessions with community level workers to understand challenges at their level and to help facilitate changes in behavior and practices around antenatal care and institutional deliveries.</p> <p>Complete a formal gap assessment of infrastructure, equipment, process, training, and personnel requirement at each project hospital.</p>	<p>districts beyond.</p>	<p>Provide technical support to streamline processes to address technical and non technical gaps.</p> <p>Provide technical support to expand program across other high priority districts and hospitals.</p> <p>Provide technical support to create a mind map of successful and failed interventions.</p>	<p>Convene monthly learning sessions with the community workers to understand and address challenges around antenatal care seeking behavior.</p> <p>Convene a state steering committee to ensure translation of learnings from project to other districts.</p> <p>Complete a formal gap assessment at each of the project hospitals with respect to infrastructure, equipment, training, and human resource needs.</p> <p>Create a mechanism to disburse funds to cover minor infrastructure and equipment gaps at the hospitals identified during the collaborative (one hundred thousand rupees per hospital).</p> <p>Partner with knowledge partner to devise and implement a plan across the high priority districts to address reliability in maternal care.</p>
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Healthcare Finance

An ACCESS Health International Focus Area

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