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ZORDAR Project

Promotion of Zinc and ORS for Reduction of Diarrhea and Averting its Recurrence in MADHYA PRADESH

End of Project Report
May 2013 - June 2016

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List of Acronyms

AHS	Annual Health Survey
BMGF	Bill & Melinda Gates Foundation
CHAI	Clinton Health Access Initiative
C&FA	Carrying & Forwarding Agent
EMP	Essential Medicines Program
DAZT	Diarrhea Alleviation Through Zinc and ORS Therapy
DC	District Coordinator
DCR	Daily Call Report
DLHS	District Level Health Survey
DLO	District Level Orientation
GMP	Good Manufacturing Practices
GSS	Gram Sudhar Samiti
IAP	Indian Academy of Pediatrics
IEC	Information, Education, Communication
IMR	Infant Mortality Rate
INR	Indian Rupees
MIS	Monitoring Information System
MRP	Market Retail Price
NFHS	National Family Health Survey
NGO	Non-governmental Organization
ORS	Oral Rehydration Solution
RHCP	Rural Health Care Providers
SRS	Sample Registration Survey
TC	Tehsil Coordinator
TS	Tarun Sanskar
U5	Under Five
UNICEF	United Nations Children's Fund
WHO	World Health Organization
ZORDAR	Zinc and ORS to Reduce Diarrhea and Avert its Recurrence

Executive Summary

Despite progress in the recent years, Madhya Pradesh has the highest rate of infant mortality and second highest rate of under-five mortality in the country (SRS 2012) with deaths due to diarrhea being an important contributor to infant and under-five mortality. Data from the DLHS 2007-2008, showed that in Madhya Pradesh, coverage of ORS and Zinc was abysmally low - with ORS use at 30 percent and Zinc at below one percent. Though majority of women were aware of ORS as the first line of therapy for childhood diarrhea, around 29 percent children continued to be provided home remedies as a first line of treatment, or no treatment at all.

To address the low usage of ORS and Zinc, in May 2013 the Clinton Health Access Initiative (CHAI), , collaborated with FHI 360 as a partner on the IKEA funded Essential Medicines Program (EMP) which aimed to prevent child deaths by increasing usage of Zinc and ORS and to determine effective interventions to drive scale-up in other high-burden states. As a partner to CHAI, FHI 360 implemented the *Zinc and ORS to Reduce Diarrhea and Avert its Recurrence* - ZORDAR project, to promote rationale prescription of ORS and Zinc among private rural health care providers (RHCPs) across 16 districts of Madhya Pradesh.

The ZORDAR project aimed to increase the prescription rates for ORS and Zinc by 50 percent from the baseline in three years through the private sector and ensure last mile supply chain through *a unique NGO and Pharma Hybrid model*. The key objectives of the project were to: a) promote awareness and use of Zinc and ORS among informal health care providers in the private sector; b) ensure uninterrupted supplies of Zinc and ORS to dispensing RHCPs and rural drug stores and c) develop and operationalize a robust management information system (MIS) to monitor and evaluate sales, use, accessibility and availability of Zinc and ORS.

To engage the private sector and saturate coverage of all RHCPs and drug stores across the 16 intervention districts, the Hybrid model involved working with four grassroots level NGOs and a pharmaceutical company. This hybrid model was based the integration of strengths and shared responsibility of both NGOs and a pharmaceutical company. The model sought to utilize the grassroots level presence of the NGOs to ensure accessibility and increase acceptability of ORS and Zinc products especially in the remote rural areas. The role of a small scale pharmaceutical company was to ensure

uninterrupted supply of WHO Good Manufacturing Practices (GMP) certified ORS and Zinc products to RHCPs and drug stores in the 16 districts.

In a short span of three years (May 2013 – June 2016), the project achieved significant coverage, product placement and productivity – the three parameters against which project performance was measured.

- **Coverage -** Around 17,000 RHCPs and Drug Stores were registered and reached actively in remote rural and peri-urban geographies across 18,895 villages.
- **Product Placement -** Around 2.5 million units of ORS and 1 million units of Zinc were placed by the FHI 360-supported partners. This accounted for more than 1/3rd of the overall volume of ORS and Zinc placement under the larger CHAI / IKEA funded EMP. Last mile supply chain was established thereby ensuring sustained supply of ORS and Zinc to providers across all 16 districts even after project close-out.
- **Productivity -** 82 percent registered providers became repeat users and bought ORS and Zinc more than five times through the life of the project.

The CHAI mid-line evaluation for the larger EMP for Uttar Pradesh, Gujarat and Madhya Pradesh was completed in 2015. Findings for Madhya Pradesh showed that, 75 percent caregivers were going to the private sector to seek treatment for childhood diarrhea as compared to 16 percent caregivers who were going to the public sector. The combined coverage for ORS and Zinc stood at 20 percent, with ORS coverage showing an increase from 30 percent at baseline (DLHS-3 in 2007-2008) to 59 percent (NFHS 4 in 2015-16); and Zinc from zero percent at baseline to 26 percent. ORS and Zinc availability with the RHCPs increased from 6 percent to 27 percent and among retailers/drug stores, from 7 percent to 54 percent. This was made possible through the creation of a last mile supply chain network by engaging NGO partners who ensured last mile reach; and through an active engagement of a pharmaceutical partner who ensured timely availability of WHO certified high quality and subsidized ORS and Zinc products.

By focusing on last mile reach, the project has brought to light the lack of availability of public healthcare in remote rural areas and the high dependence of the communities in remote areas on private health care providers. To move towards sustainability, transition and handover of the project to a pharmaceutical company has created a platform for continued work with RHCPs and Drug Stores. This project NGO-Pharma hybrid model is an important addition to the models that have been tried to engage private sector for other public health concerns such as Tuberculosis (TB). Lessons learnt from this project can be used for developing future models for engaging the private sector specifically for treatment of childhood diseases such as diarrhea and pneumonia.

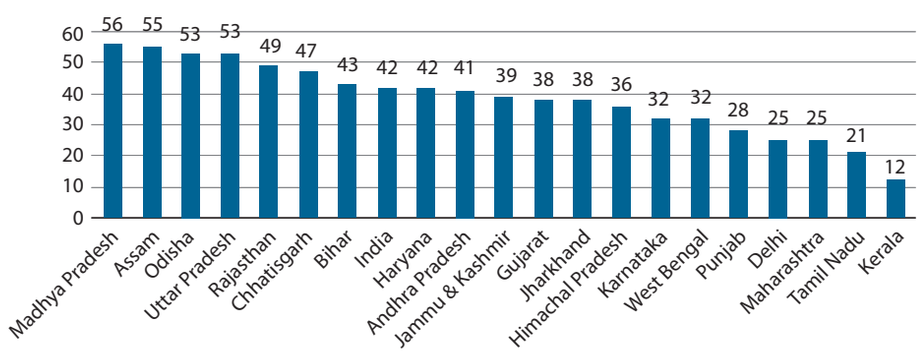
Background

UNDER FIVE DIARRHEAL DEATHS IN MADHYA PRADESH

Diarrhea is the second most common cause of child deaths worldwide. Nearly three quarters of child deaths due to diarrhea occur in just 15 countries with the highest number occurring in India. Diarrhea is the third most common cause of death in under-five children, responsible for 13 percent deaths in this age-group, killing an estimated 300,000 children in India each year (Bassani DG, et al. 2010). According to the National Family Health Survey-3 (NFHS-3, 2005-06) report, 9 percent of all under-five children were reported to be suffering from diarrhea in the last 2 weeks. Poor sanitation, lack of access to clean water, and inadequate personal hygiene are responsible for an estimated 88 percent of childhood diarrhea in India (UNICEF, 2013).

With a population of 72.5 million, Madhya Pradesh is the sixth most populous state in the country and is one of the poorest states in India with over 37 percent of its total population living below the poverty line. Despite progress in recent years, Madhya Pradesh remains the state with the highest rates of infant mortality (56 deaths per 1,000 live births) which is much higher than the national average of 42 deaths per 1,000 live births).

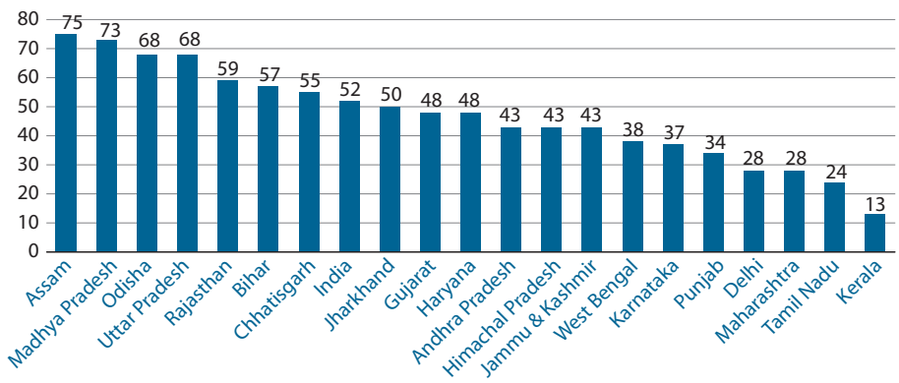
Infant Mortality Rate - State Wise



Source: SRS-2012

The state also has the second highest rate of under-five mortality (73 deaths per 1,000 live births) which is again much higher than the national average of 52 deaths per 1,000 live births (SRS 2012). Deaths due to diarrhea are an important contributor to infant and under-five mortality in the state and according to the Annual Health Survey (2011), around 15.2 percent children suffered from diarrhea (15.7 percent -rural; 12.9 percent -urban).

Under-five Mortality Rates (U5MR)



At the national level, IMR was reported to be 42 and varied from 46 in rural areas to 28 in urban areas; under-five mortality rate was estimated at 52 and it varied from 58 in rural areas to 32 in urban areas. Starker rural –urban differentials were also reported for MP, with IMR and U5 mortality being much higher in the rural areas than in urban areas.

Infant Mortality Rate (IMR)	India	Rural	Urban
	42	46	28
	Madhya Pradesh		
	56	60	37
U5 mortality	India		
	52	58	32
	Madhya Pradesh		
	73	79	46
SRS 2012			

USE OF ORS AND ZINC FOR TREATMENT OF CHILDHOOD DIARRHEA

Over the past several decades diarrheal deaths among children under five have reduced dramatically and this reduction has been attributed to several important interventions, most notably increased use of oral rehydration solution, or ORS. This simple and affordable mixture of salt, sugar, and water is estimated to reduce diarrheal deaths by 93 percent (Munos et al, 2010). ORS remains the cornerstone of appropriate

case management of diarrheal dehydration and is considered the single most effective strategy to prevent diarrheal deaths in children. In 2004, WHO also began recommending Zinc supplementation in addition to ORS for the treatment of diarrhea, due to Zinc's demonstrated ability to reduce the duration, severity, and recurrence of diarrhea.

Despite their effectiveness and free distribution under the National Rural Health Mission (NRHM) through the ASHA workers as well as in health facilities, ORS and Zinc coverage has remained stubbornly low. According to NFHS-3, 2005-06 knowledge of ORS among mothers of under-five children in India is good (73 percent), but there is a big gap between knowledge and practice as reflected in poor ORS usage rates (43 percent). The availability of ORS has been widespread in India since the 1980s, and yet it is only used to treat one quarter of diarrheal episodes (NFHS-3, 2005-06). Very low coverage of Zinc prescription has been documented, due to lack of knowledge and awareness among providers (Bajait C and Thawani V, 2011).

State-wide coverage estimates had ORS use at 30 percent in Madhya Pradesh and Zinc coverage estimated to be below one percent (DLHS-3, 2007-08). Though 91.6 percent women were aware of ORS as the first line of therapy for childhood diarrhea, around 29 percent children continued to be provided home remedies as a first line of treatment, or no treatment at all.

ROLE OF PRIVATE PROVIDERS IN TREATMENT OF CHILDHOOD DIARRHEA

In rural India, where up to 80 percent of children are brought to the private sector for care (DLHS-3, 2007-08) and informal providers may outnumber qualified physicians 10 to 1, it is difficult to increase access to high quality and consistent care without addressing the importance of the private sector in scaling–up adequate diarrhea treatment (Radwan I, World Bank, 2005). The private sector is comprised of providers with formal medical degrees and those practicing in the informal sector, many of whom do not have a license to practice and thus are not recognized by government.

Evaluations of private sector providers in India have found that even informal providers are capable of delivering services of relatively high quality for basic medical care if knowledge and competency are high (Radwan I, World Bank, 2005). Compared to ORS, Zinc is a relatively new addition to the advised childhood diarrhea treatment protocol, and there is a dearth of available evidence on the acceptability of Zinc among practitioners in rural areas, many of whom are removed from formal training resources and the influences of pediatric associations promoting national guidelines.

Despite current guidelines for management of diarrhea by the Ministry of Health and Family Welfare, Government of India, which recommends ORS, Zinc and continued feeding of energy dense feeds in addition to breastfeeding, unwarranted antidiarrheal

drugs and injections are prescribed frequently by providers as reported in NFHS-3, where 16 percent and 30 percent children were treated with antibiotics and "unknown" drugs, respectively.

In most cases of diarrhea, home remedies are adopted as the first line of treatment by caregivers, followed-by over-the-counter purchase of ORS/drugs through local chemists, and only in case of a severe condition, the child is taken to nearby health care providers, most of whom are unqualified. Low awareness among caregivers and providers results in low demand for ORS and Zinc and suppliers therefore, lack incentive to invest in the market due to perceived low returns. This market trap results in low availability, access and use of ORS and Zinc. Informal private providers are often the first choice of caregivers and thus a worthwhile target of diarrhea management programming. If substantive improvements in diarrhea treatment are to be made, improvements in the treatment practices of the informal private sector must be addressed.

Evolution of the ZORDAR Project

CHAI'S PARTNERSHIP WITH FHI 360 UNDER IKEA-FUNDED ESSENTIAL MEDICINES PROGRAM

To address the low usage of ORS and Zinc, the Clinton Health Access Initiative (CHAI), the Bill & Melinda Gates Foundation (BMGF) and UNICEF mobilized a global effort to rapidly scale-up diarrhea treatment across the 10 highest-burden countries – including India. Since 2012, CHAI in collaboration with other key stakeholders implemented the IKEA-funded Essential Medicines Program (EMP) for preventing child deaths by increasing usage of ORS and Zinc and to determine effective interventions to drive scale-up in other high-burden states and countries. It focused on scaling up the use of ORS and Zinc for treatment of diarrhea in children under-five in Uttar Pradesh, Madhya Pradesh, and Gujarat.

In May 2013, CHAI collaborated with FHI 360 as a partner on the EMP with the goal of preventing child deaths by increasing usage of Zinc and ORS to 50 percent in Madhya Pradesh. With its manpower, operations, infrastructure and local partnerships, FHI 360 was well positioned to work with CHAI to build on its existing presence in Madhya Pradesh to implement the ZORDAR project. Further, FHI 360 leveraged from its past experience of implementing the Bill & Melinda Gates Foundation (BMGF)-funded Diarrhea Alleviation Through Zinc and ORS Therapy (DAZT) projects in Uttar Pradesh and Gujarat.

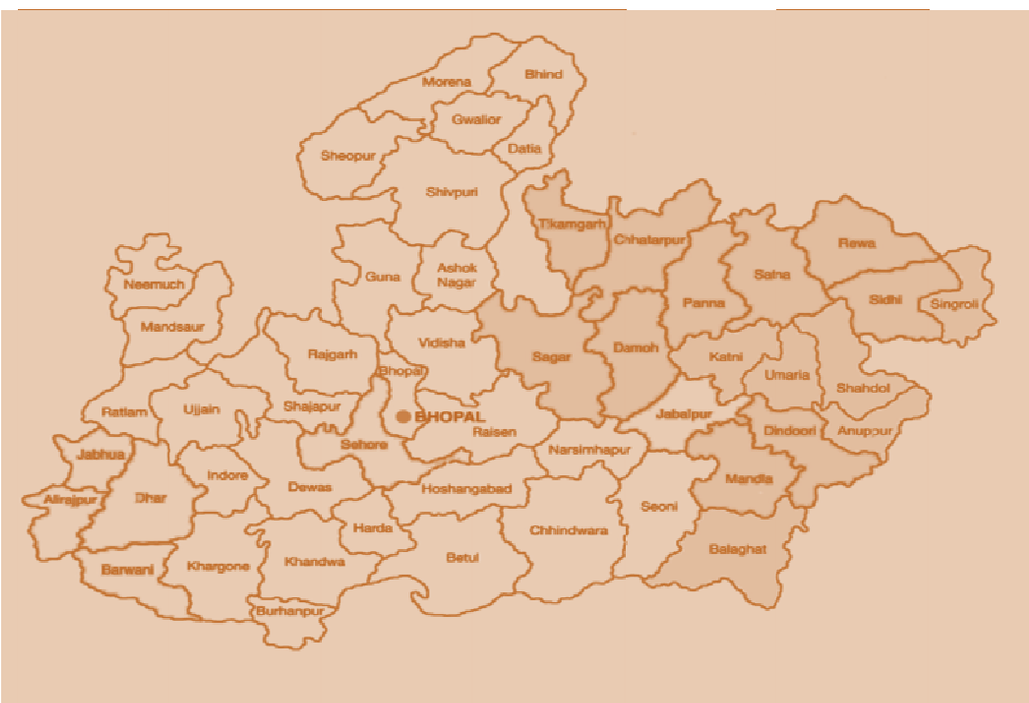
GOAL AND OBJECTIVES OF THE ZORDAR PROJECT

CHAI's partnership with FHI 360 was christened as ZORDAR to denote promotion of Zinc and ORS for Reduction of Diarrhea and Averting its Recurrence. The **goal** of ZORDAR was to reduce morbidity and mortality related to diarrhea among U5 children by engaging with the private sector across 16 districts in Madhya Pradesh. The **objectives** of the project were to: a) promote awareness and use of Zinc and ORS among informal health care providers in the private sector; b) ensure uninterrupted

supplies of Zinc and ORS to dispensing Rural Health Care Providers (RHCPs) and rural drug stores and c) develop and operationalize a robust management information system (MIS) to monitor and evaluate sales, use, accessibility and availability of Zinc and ORS. The ZORDAR project aimed to increase the prescription rates for ORS and Zinc by 50 percent from the baseline in three years through the private sector and ensure last mile supply chain through a unique NGO and Pharma Hybrid model.

GEOGRAPHICAL COVERAGE

FHI 360 worked across 16 of the 51 districts of Madhya Pradesh namely - Anuppur, Balaghat, Chhatarpur, Damoh, Dindori, Katni, Mandla, Panna, Rewa, Sagar, Satna, Shahdol, Sidhi, Singrauli, Tikamgarh, and Umaria. The estimated burden of diarrhea across these 16 districts was 16.8 percent as compared to the state average of 15.2 percent and 13 of these 16 districts feature in the top 40 districts in India in terms of IMR. Of the 16 districts, except for Balaghat, Katni and Rewa remaining 13 districts are High Priority Districts (HPDs).



NGO-PHARMA HYBRID MODEL FOR ENSURING LAST MILE REACH

Replicating learnings from implementing the DAZT Project in Uttar Pradesh and Gujarat, FHI 360 under ZORDAR too, adopted the NGO-Pharma model to ensure last mile penetration of RHCPs and drug stores. FHI 360 was the only CHAI partner to adopt this approach. All other CHAI partners under EMP that covered the remaining 35 districts were pharmaceutical companies that focused on promoting bulk sales of ORS and Zinc.

This hybrid model was based the integration of strengths and shared responsibility of both NGOs and a pharmaceutical company. The model sought to utilize the grassroots level presence of the NGOs to ensure accessibility and increase acceptability of ORS and Zinc products especially in the remote rural areas. The role of the NGO staff was to create awareness about use of Zinc and ORS in childhood diarrhea treatment and generate demand for it among RHCPs. In this model the role of a small scale pharmaceutical company was to ensure uninterrupted supply of WHO Good Manufacturing Practices (GMP) certified products to RHCPs and drug stores in the 16 districts and to ensure sales of ORS and Zinc for treatment of childhood diarrhea. The table below shows a comparative analysis of the advantages and disadvantages of the different models of service delivery.

Table 1: Comparative Analysis of Different Service Delivery Models

Pharma Only Model	NGO Only Model	NGO-Pharma Model
• Profit driven • Focuses on brand promotion of ORS and Zinc, rather than generic product promotion • Uses marketing and promotional strategies to achieve maximum market share of own brands e.g. incentives, gifts to clients • Focuses on bulk sales • Mostly operates on large credit recovery policy • Not necessarily supports last mile reach unless operational costs are covered • High chances of sustainability with an increased basket of products, because of good margins and bulk sales	• Not-for Profit • Strong public health focus • Strong local/ community level presence up to the last mile • Willing to do product promotion if linked to a social / public health cause • More interested in generic promotion of ORS and Zinc than brand promotion, so easier acceptance and trust can be built with RHCPs and Drug Stores • Not likely to sustain once external funding ends	• Takes advantage of NGO presence for last mile reach and Pharma's presence for supply of quality products at subsidized costs • Ensures access to remote rural populations at affordable prices • Helps to introduce NGO partners to marketing strategies and approaches and Pharma to a public health perspective to product promotion and sales • Most likely to be sustained, provided transitioning from NGO to Pharma is done timely and with proper handholding and supervision

DISTRICT ALLOCATION TO NGOS AND PHARMA PARTNER

FHI 360 partnered with four NGOs - each covering four contiguous districts to ensure saturated coverage and last mile reach. A private pharmaceutical company was also sub-contracted and given the responsibility of product procurement, storage, supply and sale of ORS and Zinc to the RCHPs and drug stores registered by the NGO partners across the 16 project districts. While 100 percent of the operational costs of the NGO partners were covered through CHAI funds, the pharmaceutical partner

was contracted on a cost-share principle, wherein part of the operational costs were covered through the project, while the pharmaceutical partner was also required to cover the major proportion of the operational costs which ranged from a minimum of 50 percent to 70 percent by the end of the project.

Table 2: District-wise Allocation to Partners in the Initial Phase

Partner	Districts covered	Villages / Blocks* covered	Total Project Staff	RHCPs covered	Drug stores covered
Gram Sudhar Samiti (GSS) HQ at Sidhi	Rewa, Sidhi, Satna and Singrauli	6,170	26	4,397	913
Darshana Mahila Kalyan Samiti (DMKS) HQ at Chhatarpur	Tikamgarh, Sagar, Panna and Chhatarpur	4,911	26	4,013	764
Tarun Sanskar (TS) HQ at Jabalpur	Dindori, Mandla, Anuppur and Balaghat	4,164	19	3,025	678
National Institute of Women, Child and Youth Development (NIWCYD) HQ at Katni	Katni, Damoh, Shahdol and Umaria	3,750	20	2,476	457
Jamson Pharmaceutical Private Limited (Pharmaceutical Partner)	Rewa, Sidhi, Satna, Sagar, Singrauli, Tikamgarh, Panna, Chhatarpur, Damoh, Dindori, Mandla, Anuppur, Balaghat, Katni, Shahdol, Umaria	114*	21	2,236	1,457

PROJECT STAFFING

The project had a lean staffing structure where all the four NGOs had a similar staffing structure consisting of a Project Director, Project Coordinator, District Coordinators (DC) and Tehsil Coordinators (TC). The Pharmaceutical Company had a Project Director, Regional Sales Managers, Area Sales Managers and Business Executives.

The field staff was the backbone of the project and on an average per month each TC visited 253 RHCPs and 34 Drug stores. On a daily basis each TC and Pharma representative was required to make 12-15 visits to the RHCPs and drug stores. Based on their daily visits they were required to fill in their Daily Call Reports (DCRs). They were also responsible for placing the products based on requirement and collecting payment for the products from the RHCPs and drug stores. Each DC was responsible for one district and all Tehsil Coordinators (TCs) in a particular district reported to the

DC of that district. There was some variation in the number of total project staff of each of the NGOs as the number of TCs allocated for the bigger districts were more. On an average there were 3-4 TCs for each district.

Role of TCs	
Average number of days in the field per month	22
Average # of RHCPs visited by each TC per month	253
Average # of Drug Stores visited by each TC per month	34
Average # of calls per day per TC	13

EVOLUTION OF THE MODEL AND CHANGES IN ROLES OF NGO AND PHARMA STAFF

While initially the role of the NGO staff was awareness and demand creation among the RHCPs and Drug stores after which the Pharma staff would place the products with the providers who expressed interest in buying ORS and Zinc. The project encountered some challenges with this division of roles. After the demand for the products had been created by the NGO staff there was a time lag in the product placement by the Pharma staff. Further, it was also felt that meeting the same providers twice – first by the NGO staff, followed by the Pharma staff, was duplication of efforts. Since the NGO staff had raised awareness and created demand for the products, if provided the products the NGO staff themselves could also place the same products. Given the rapport and relationship that was built between the NGO staff and the providers, the providers were more comfortable to interact with the NGO staff for the placement of the products also. This would also ensure one point of contact for the providers.

Understanding these concerns and based on feedback and insights from implementing the project, after some months the division of roles between the NGO staff and Pharma staff was changed. In the second year of the project, the pharma partner began supplying products to NGO partners for placement in the rural areas, while pharma partner's coverage was restricted to urban providers and drug stores to avoid duplication. The pharma staff were assigned urban areas and the prescription market up to the block level. Given the expertise of the pharma company staff they were better suited for detailing and interacting with more of the qualified doctors in the urban areas. Utilizing the expertise and local knowledge of the NGO staff to reach the micro interiors they were able to cover all providers below the block level.

Convincing the providers and changing their prescription practices was a gradual, intensive process for which the project staff used a number of ways.

- The providers were made aware about the high infant mortality in India and Madhya Pradesh and that diarrhea was a leading cause of child deaths.

- To convince the providers the staff emphasized that diarrhea if not treated timely and properly could lead to infant deaths and that the providers could play a key role in preventing diarrheal deaths by treating with ORS and Zinc.
- The staff used a variety of print and audiovisual communication materials to promote ORS and Zinc
- They informed the providers about the global acceptability of Zinc and ORS in diarrhea treatment and recommendations of agencies such as WHO, UNICEF, Indian Academy of Pediatrics (IAP) and the Government of India for ORS and Zinc use.

To initiate use of ORS and Zinc with most providers, the staff started by placing small quantities of products and urged the providers to at least use them once and then follow-up with the caregivers on results. If they were satisfied with the results they could order a re-supply.

No Push for Bulk Sales

The staff did not push for bulk placements but given the limited purchasing power of the small rural providers the staff placed small quantities of products each time. The focus was on reaching each and every provider even in the remotest corner and ensuring that they start using ORS and Zinc without putting undue emphasis on the quantity of products that the provider wanted.

For the providers to try out the ORS and Zinc products for the first time, the staff gave a small batch of products on credit which was recovered during the visit to place the next batch of products. Since awareness and use of Zinc was very low it was harder for the staff to convince the providers about the use of Zinc compared to ORS. To keep the field staff motivated an incentive of Re.1 on sale of each sachet of ORS and Rs.3/- for a strip of zinc tablets or a bottle of Zinc syrup was given to the TCs and the Pharma partner field staff.

"I was surprised that he (TC) had travelled such a long distance to come to me even though I took very few products. What he would have spent on petrol to get to me would be much more than the cost of the products I took."

– RHCP in Dindori district

TRANSITION TO A PHARMA-ONLY MODEL

With the project funding coming to an end in June 2016, to move towards sustainability a transition plan was worked out by FHI 360 in consultation with CHAI and the partner

organizations. Given that there was no cost share from the NGOs and NGOs were most likely to stop selling products once project funding was over it was decided to move from a NGO – Pharma Hybrid model to a Pharma only model where the Pharma Partner would be able to sustain ORS and Zinc promotion and sales with an increased basket of products. Jamson – the pharma partner was assigned the entire geography and all trained NGO staff were given an option to shift to the pharma partner. Except for a few NGO staff, most of them were willing to shift to the pharma partner. Based on their own recruitment processes a total of 48 NGO staff were absorbed by the pharma partner – 40 out of the 63 TCs and 8 out of the 16 DCs. While the staffing structure in the NGO-Pharma model had 154 staff, in the pharma only model the number of staff was reduced to 66 staff. The Pharma model had 2 Regional Managers, 10 Area Managers and 54 Business Executives. The TC positions were designated as Business Executives and the DC positions were Area Sales Managers based on the staffing structure of the pharma company. The salary of the NGO staff was also hiked by 40-50 percent in line with the pharma partner's salary structure. This transition was done in a phased transition where for 6 months (May 2015 - Oct 2015) NGOs continued with reduced supervisory staffing to optimize on costs. During this period NGO staff prioritized their visits to the high volume RHCPs (A category); with reduced visits to the low volume RHCPs (C category).

PHASED REDUCTION OF COST SHARE AND TRACKING OF PHARMA PROFITS

The pharma partner continued at 50 percent cost share focusing on prescription RHCPs (A & B category) across 16 districts. By February 2016 the NGO staff had transitioned to the pharma partner and the project was transitioned to the pharma partner and their cost share was increased from 50 percent to 70 percent and covered all 16 districts. Along with phased reduction in cost share and the P & L of the pharma partner was closely tracked to ensure that interest of the Pharma Partner is sustained in promotion of ORS and Zinc.

Phased reduction in cost sharing					
Initial phase		Transition phase		Hand over phase	
FHI 360	Pharma	FHI 360	Pharma	FHI 360	Pharma
50%	50%	30%	70%	0%	100%

INTRODUCING BASKET OF PRODUCTS

With the first phase of transitioning from NGO to Pharma partner in November 2015, new products were added to the original product basket after due consultation with FHI 360 and approval by CHAI. The new products were chosen carefully taking into account the market dynamics, client needs, and ability to pay. These included smaller sachets of ORS, an iron tonic, an alkalizer and a pain killer. While in the Hybrid model ORS was priced differently for the urban (Rs.11) and the rural market (Rs.6), in the pharma model ORS is priced at Rs.7 across rural and urban markets. The increased

basket of products and differential product pricing strategy for urban and rural geographies, helped the pharma partner to recover its operational cost, and to make-up for the phased reduction in the cost share from ZORDAR.

Product Name	Price to RHCP/Drug Stores (in INR)
ORS-Large sachet	7
ORS-Small sachet	3
Zinic Syrup	20
Zinic Tablet/Strip	16
Sulucitral Syrup (alkalizer)	41.8
Pace SP Tablet (painkiller)	41.8
Haemojam Syrup (iron tonic)	83.6

"We are happy with the way the phased transition and handover of the project has been done. Through the rural market and distribution network that has been developed as part of the ZORDAR project we are confident of making enough profits to be able to sustain the work of promoting ORS and Zinc that was started by the project."

– Director, Jamson Pharmaceuticals

Project Start-up Activities

STAFF INDUCTION

A three-day project induction training was conducted by CHAI and FHI 360 for the NGOs and the Pharmaceutical partner staff. The NGO partner staff were oriented on the private sector and product promotion, while the Pharmaceutical Partner was oriented more on how to work with RHCPs and drug stores in remote, rural communities. Further, one-day training on online data reporting using tablets was also organized for all project staff.

MAPPING OF RHCPS AND DRUG STORES

Since RHCPs are typically unregistered providers and are not considered part of the formal health care delivery system, no listing of RHCPs and drug stores had been done before. As a result, one of the first major exercises that was undertaken by the project was the mapping of providers and drug stores across all 16 districts. The following process was adopted:

1. Field staff of the NGO partners were assigned villages.

2. Key informants were met at the village level for leads on the existing providers and drug stores in their village. The key informants included - men and women, influential community members, kirana stores and government frontline workers.

3. Each RHCP and drug store that was identified, was visited in person and some basic information was collected which included their name, contact details / mobile number, and average daily patient load.

4. Based on this primary information gathering, a database of the RHCPs and Drug Stores was created village/block and district wise. All RHCPs were identified as either only a prescriber (mostly MBBS doctors only) or as a prescriber and dispenser. Further, all RHCPs and drug stores were categorized into three categories (A, B and C) in terms of their daily patient load.
   - A category - HCPs with a patient load of > 20 patients per day
   - B category - HCPs with a patient load between 11-20 patients per day
   - C category - HCPs with < 10 patients a day

5. Based on this categorization, the field staff decided on the frequency of their visits to the RHCPs and Drug Stores. E.g. TCs visited the RHCPs in A and B categories once in 20-30 days and the HCPs in C category once in 45 days.

6. By the end of this mammoth exercise which was completed in a record time of three months, a database of around 21,000 RHCPs and Drug Stores was created. Each RHCP and Drug Store was assigned a unique code. This data was fed into the online MIS of the EMP that was maintained by CHAI and helped to record visits and sales of ORS and Zinc made to each RHCP and drug store.

7. Regular updating and cleaning of the database was done by FHI 360 and CHAI since this was a dynamic universe. By the end of three years, the project had registered and worked intensively with close to 17,000 providers which included 13,911 RHCPs and 2,812 drug stores.

Database of RHCPs and Drug Stores

A database of 17,000 RHCPs and drug stores with specific unique identification (IDs) was compiled which provided complete line listing of RHCPs and drug stores with their addresses and cell phone numbers; and also their average patient load reported on a daily basis.

DEVELOPMENT AND USE OF COMMUNICATION MATERIALS

In order to raise awareness about ORS and Zinc and bring about behavior change among the RHCPs and the drug stores, a number of communication materials were developed by CHAI under the larger EMP. The project had over 14 different types of communication materials including both printed and audio-visuals such as danglers, posters, stickers, leaflets, a flip book as a detailing tool, a table calendar with information on ORS and Zinc as a detailing aid, prescription pads, envelopes to give medicines in, a height chart, a short video, an audio visual game. Some of the print materials like danglers, posters, boards were displayed either outside the

clinic area of the providers and in front of the drug stores and some materials were displayed inside the clinic. Materials like prescription pads and envelopes were used by the RHCPs and the stores in their interaction with the clients and through them these communication materials with messages on ORS and Zinc reached caregivers.

These provided a variety messages on the importance of ORS and Zinc in case of diarrhea including information on dosage (how much to administer, how long to administer ORS and Zinc and how often to administer), benefits of ORS and Zinc. Given that awareness and use of Zinc was very low at baseline all the products along with ORS also focused on the need to also provide Zinc for diarrhea treatment. None of these communication materials provided information on any particular brand and were not used to promote any particular brand of ORS and Zinc.

All staff specially the TCs and DCs were familiarized with all the materials especially with the detailing story (content, meaning, flow) as per the detailer. The detailer was in the form of a flip book containing a mix of pictures and text which was used for detailing the providers. To be able to convince the providers the detailer provided information about the global acceptability of Zinc and ORS in diarrhea treatment and recommendations of agencies such as WHO, UNICEF, IAP and the Government of India for ORS and Zinc use.

Interactive Game - Kaun Payega Dast Pe Jeet (Who will win over Diarrhea)

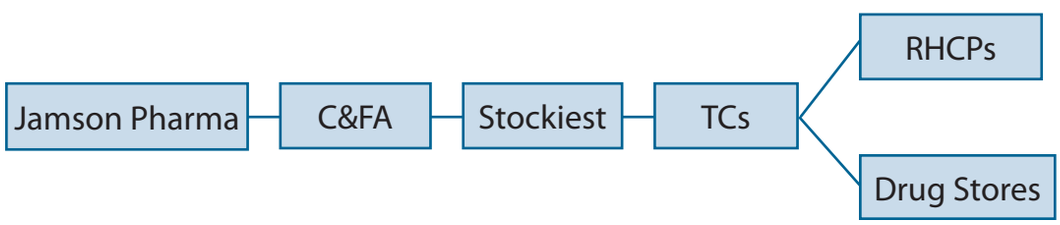
Building on the format of the popular game show *'Kaun Banega Crorepati' (Who will be a Millionaire)* an interactive game called *'Kaun Payega Dast Pe Jeet' was* developed containing a set of 4-5 multiple choice questions relating to knowledge and prescription practices on ORS and Zinc. This was used with the providers to gauge their correct knowledge on issues relating Zinc and ORS, discuss and reinforce information on the questions the providers answered wrong. Given the popular format of the game, its interactive nature and the fact that the providers could play this game on the tablet it provided the TCs an interesting avenue to impart information quickly and engage with the providers.

Product Availability, Pricing and Quality Assurance

SUPPLY CHAIN MANAGEMENT AND CASH AND CARRY SYSTEM

In terms of the supply chain of this project the Pharmaceutical partner got their products from a WHO GMP certified manufacturer which were branded and packaged and then sent to the Carrying and Forwarding Agency (C&FA) to send to the home addresses of all the DCs in the 16 districts. Then based on requirement the TCs would collect supplies from the DC.

Since the supplies from the C&FA came to the DCs one of the challenges for the DCs was to store all the supplies in their homes and then distribute to the TCs as needed. Also the DCs to either carry the products to the TCs who needed them or the TCs had to come to the residence of the DC or meet him somewhere near his home to collect the product. To address this challenge the project introduced the concept of stockiest in each district so that the stocks from the C&FA could go to the stockiest in each district and the TCs in each district could collect their supplies from the stockiest as and when required.



The TCs collected the cost of the products from the RHCPs and drug stores in cash. The RHCPs and drug stores generally paid for a batch of products after the sale of all/part of the products and at the time of placing an order requesting for more stock. After collecting cash from the RHCPs and drug stores, all the TCs in a particular district paid the cash collected on a monthly basis to the DCs.

Each of the DCs in turn based on their collection from all the TCs reporting to them, deposited the cash in the account of the Carrying and Forwarding Agency (C&FA) on a monthly basis who in turn paid for Jamson Pharmaceuticals based on receivables. With the introduction of the stockiest, the TCs after collecting the cash from the providers and drug stores handed it to the stockiest every month. The stockiest in turn based on all the payments received from TCs paid the C&FA on a monthly basis.

ORS AND ZINC PRODUCTS AND PRICING

The products that were places with the RHCPs and the drug stores included sachets of ORS and Zinc syrup and zinc tablets. The pricing of the ORS sachets was different for urban and rural RHCPs and drug stores whereas the pricing of the zinc syrup and tablets were the same for both urban and rural. The products were priced competitively keeping in mind the price of ORS and Zinc available in the market from other brands. They were also priced in a manner so that the providers and drug stores had a reasonable margin when selling at Market Retail Price (MRP) to the clients. Most RHCPs especially in the rural area did not charge a fee, and their income was primarily from the margins on the medicines they gave to the clients.

Table 3: ORS and Zinc Products and Pricing

Products	Pharma company cost	Cost to the RHCP and drug stores (urban)	Cost to the RHCP and drug stores (rural)	MRP
ORS 1 litre Sachet (Per Sachet)	INR 3	INR 6	INR 11	INR 19.52
Zinc Strips (10 tablets Per Strip)	INR 5	INR 16	INR 16	INR 35
Zinc Syrup (60 ml per Bottle)	INR 9	INR 20	INR 20	INR 40

In cases where clients could not afford to pay the MRP, the RHCPs at their discretion reduced their margins keeping in mind the purchasing power of the client. According to a number of RHCPs, clients generally came with a certain amount of money within which they wanted to get treatment. Given this the rural RHCPs many a times had to reduce the margins and adjust the price all the medicines that needed to be given to fit within the money that the client could pay. Depending on the condition of the clients and how well the RHCPs knew them, the RHCPs also provided treatment on credit and would get paid once the client had enough money to them back. Some clients who could not pay in cash, sometimes paid back in kind in terms of their agricultural produce such as wheat, pulses. The project also tried to instill in the providers a sense of social responsibility so as to not refuse treatment to the few who could not pay. When drug stores had people who could not afford to pay for ORS and Zinc they usually referred them to the nearest government facility for free treatment and medicines.

PRODUCT QUALITY ASSURANCE

The Pharmaceutical Company was mandated to only procure products from any of the seven WHO GMP certified manufacturers as recognized by CHAI. Samples of all the products procured had to be sent to CHAI headquarters for product quality testing and approval. Only after receiving approvals from CHAI the products were launched in the market. To ensure product quality controls random quality checks were also conducted at regular intervals by the Pharma Company as well as CHAI.

Online MIS and Project Review Mechanisms

REAL TIME DATA COLLECTION

During the initial stages of the project all data starting with the mapping data on RHCPs and drug stores was collected manually in paper format. Within six months of the project an online MIS system which captured real time data was developed by CHAI. All TCs and DCs and pharma partner staff were given tablets for collecting data from the field. The comprehensive online MIS captured all the mapping data for each RHCP and drug store in terms of their geographical location and contact details and when new RHCP and/drug stores are reached to, that data can be updated in the system. In case a duplication is found or a drug store closes or an RHCP moves out, the system allows for that data to be deleted after due verification.

Capturing Productivity, Sales and Field Staff Performance Data: On a daily basis each TC and Pharma field staff using their tablets updated in the online system their Daily Call Report (DCR) which is the number of visits they made to RHCPs/Drug stores in a day. They were also required to capture the quantity of ORS and Zinc that was placed with each of these RHCPs and Drug stores daily. Based on the DCR, the cumulative productivity as well as productivity per TC, the cumulative sales of ORS and Zinc per day, per TC and per RHCP/drug store was captured. All TCs were advised to input their DCRs on a daily basis and at the maximum within three days.

The system captured real time sales data for ORS and Zinc for each RHCP and Drug store on a daily basis and provided monthly as well as cumulative sales data. This sales data was analyzed to understand sales trend by month (seasonality of sales), by geography, by RHCP, by drug stores, by each TC and pharma staff, by each NGO and pharma partner and also the repeat users. As more products were added to the product basket, the system was also updated to capture sales data of other products as well.

Along with sales data the system also captured data related to the TCs in terms of which blocks and RHCPs and drug stores were being covered by each TC, how many calls they made per day, out of which how many RHCPs and drug stores bought the products (productivity), what type and quantity of products were placed by TCs, the frequency at which the different categories (A, B and C) providers were being visited by the TCs. Based on this data feedback was provided to the TCs on their performance and where they needed to focus more.

Levels of Access to the System: Different levels of access to the MIS system were provided to different levels of staff in CHAI, FHI 360 the partner NGOs and the pharma company. All TCs and Pharma field staff could only access the data related to the RHCPs and drug stores that they were responsible for in their allocated geographical location. All DCs had access to the data relating to the RHCPs and drug stores and the TCs in the districts they were responsible for and so did the Area Sales Manager of the Pharma partner. The Project Coordinators of each of the NGO partners and the Regional Sales Manager of the Pharma partner had access to all data relating to all their staff and the districts they were responsible for. FHI 360 State Program Manager and the two Regional Managers and CHAI State Manager had access to all data relating to the RHCPs and drug stores being covered by the project and also data related to all staff.

Data Quality Checks

Checks were built into the system to ensure data accuracy. The system would send out alerts in case of any of the following:

- ✓ If > 200 units of ORS were placed with one RHCP in one day
- ✓ If > 100 units of Zinc were placed with one RHCP in one day
- ✓ If DCR for any TC was pending for more than 3 days

In case of receiving any of these alerts, the DCs would discuss with individual TCs to verify the data and also understand the reasons behind such delays. Where needed the issue would be escalated to the next level.

Beneficiary Forms for Collecting Client Data: A beneficiary form was developed by the project and given to the RHCPs to fill up for as many of their clients who came for diarrhea treatment of U5 children. While these forms could have provided important information on use of ORS and Zinc by caregivers, these forms were not regularly filled up the RHCPs for their clients. Maybe it is unrealistic to expect the RHCPs to fill in this form. Alternative ways of how this important information could have been collected needs to be thought through. While the beneficiary forms that were to be filled by the RHCPs were not being filled up regularly by the RHCPs there was provision in the system to also capture data from these forms. Data from all the beneficiary forms that were filled was inputted into the system.

ANNUAL PARTNERS MEETINGS' AND SUPERVISORY TRAININGS

Every year FHI 360 conducted an annual review meeting with the NGO and Pharma partners where project related achievements, concerns, challenges as well implementation of strategies were discussed. To develop supervisory skills all staff with supervisory roles within the project were supported for a supervisory training at a Management Institute in Indore.

MONTHLY REVIEW MEETINGS FOR DATA REVIEW AND PLANNING

At the monthly review meetings, the analysis of this data by different parameters were discussed in detail with all staff. Based on the data tour plans of TCs and DCs for the next month were prepared. Based on gaps analysis and identified problems strategies to encourage sales were discussed and staff in supervisory roles also planned their activities in terms of which areas or field staff needed more support. DCRs by TCs and Pharma staff were reviewed by DCs and Area Sales Managers for consistency and completeness daily. Based on this system it was possible to track the progress of the project in terms of ORS and Zinc promotion and sales and field staff performance at any point in time and get real time data on the progress.

District Level Orientation (DLO) Meetings

Sixteen District Level Orientation (DLO) meetings were organized one in each of the 16 districts. These meetings focused on bringing the RHCPs mainly the non-users together in a common place with the purpose of orienting and convincing them about the use of ORS and Zinc. Each DLO was attended by 95-100 RHCPs.

In the DLOs attempts were made to bring district level government officials like the CHMO who could encourage the private providers to promote ORS and Zinc and recognize the role of private providers in treating childhood diarrhea and preventing infant deaths. In some DLOs well known pediatricians were brought in who could speak to the providers about the benefits of ORS and Zinc and encourage them to adopt their prescription practices.

For those who attended the DLO a certificate of attendance was also provided. At the DLO the ORS and Zinc products were also kept on display and special discounts and offers were given only for that day to motivate the providers.

Key Achievements: Coverage, Sales, Productivity and Repeat Users

COVERAGE

The project saturated coverage of all RHCPs and drug stores in the 16 intervention districts which included 13,911 RHCPs and 2,812 drug stores spread across 18,895 villages. Detailed district-wise information about the RHCPs and drug stores is provided in Annexure A.

Table 4: Coverage of RHCPs and Drug Stores

Total Population-Rural	Villages	No of RHCPs	Male RHCPs	Female RHCPs	Pre-scribers	Dis-zpensers	A category	B category	C category	Drug Stores
178,49,280	18,895	13,911	13,657	254	3,041	10,870	2,168	5,272	6,471	2,812

While majority of RHCPs were men, interestingly around 2 percent providers were women. Some RHCPs had a medical training which ranged from Bachelor of Ayurvedic Medicine and Surgery (BAMS), Ayush or had undergone some certificate course such as the Jan Swasthya Rakhsha Yojna Training of the Madhya Pradesh government. However, most RHCPs had experience of assisting MBBS doctors as compounders; had worked in a hospital as a ward boy, or had learnt from a family member who too was an uncertified doctor. While most of them treated patients inside their homes and had earmarked a space/room as their 'clinic', some were 'mobile RHCPs' who travelled around to 5-6 nearby villages to treat patients and when called specifically to see patients in other villages.

"I had to travel almost 15 kilometers to get to a medical store to get the ORS I prescribed. This is the first time anyone has come to me to provide information on child health issues bring me the medicines (ORS and Zinc) that I prescribe. It is very convenient that I can now get these as and when I need them".

– RHCP in Katni district

"We had to cover large stretches of forest on both side to reach the one RHCP in the village with a population of 1100-1200. The nearest government facility was 40 kilometers from the village. The forests are full of wild animals and it was dangerous to travel on these roads especially in the evening when we returned after meeting the RHCP".

TC about Bilaspur village, Chandiya block, Umaria district

"There is a small village beyond a river where the RHCP sits in the open under a tree with all his medicines in a basket. To meet this RHCP after travelling by road, I had to load my bike onto a boat and cross the river. After the boat ride I again travelled by road to reach to the RHCP."

– TC in Singrauli district

Samir Roy, RHCP, Suniyamar Village, Bajag block, Dindori district

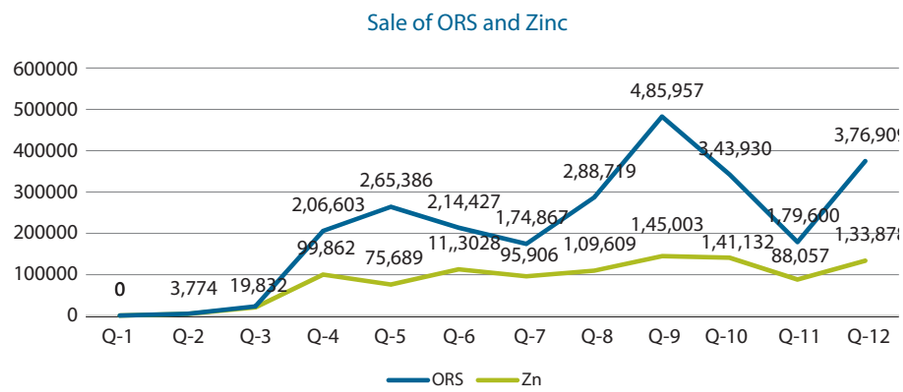
Samir Roy is originally from West Bengal and while in school he had started assisting a homeopathic doctor. After completing school, he assisted an MBBS doctor in Gujrat for 3 years. He has a Certificate in Medical Science (CEMS) from Kolkata. He came to MP many years back and has been practicing for the last 20 years. He is married with a seven-year-old son and his wife works as a tailor.

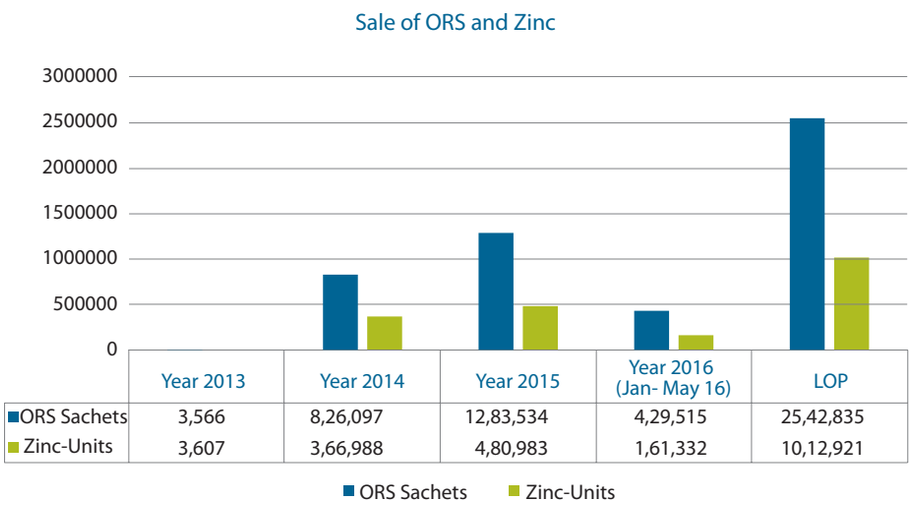
Popularly known as the 'Bengali Doctor' while he sees patients at home he is also a 'mobile RHCP' and visits about 15 villages regularly. He also goes to other villages when specifically called by villagers. He has about 15-20 patients in a month, and the diarrhea cases increase based on season. He doesn't charge a fee, but earns from the margin on the medicines he prescribes. He had been using ORS for treating diarrhea for some time, but did not know about Zinc. After coming in contact with the ZORDAR project staff he came to know about Zinc and has been prescribing it since. In a month, he takes about a box of ORS (30 sachets) and about 20 units of syrup. He is in regular contact with the TC and whenever he needs new products he calls the TC. He never refuses treatment to anyone and for people who cannot pay, he gives medicines on credit to be paid back after the harvest season either in money or in kind as wheat or pulses.

PLACEMENT/SALES OF ORS AND ZINC

The project was able to place over 2.5 million ORS sachets and over 1 million units of Zinc during three years of implementation. This was made possible by creating a last mile supply chain network. It is noteworthy that this was achieved not through bulk sales in urban areas but by reaching out small RHCPs in the remotest rural areas who were only able to purchase small quantities even as less as a few sachets

of ORS and a couple of bottles of Zinc. Due to the seasonal nature of diarrhea, the demand for ORS and Zinc was highest during the peak season from the start of summer to end of the rainy season which was generally between the months of March to August.





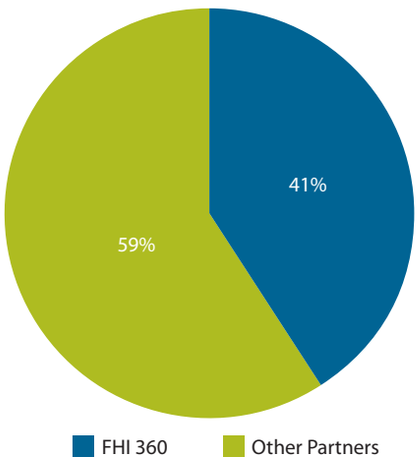
	Year 2013	Year 2014	Year 2015	Year 2016 (Jan- May 16)	LOP
ORS Sachets	3,566	8,26,097	12,83,534	4,29,515	25,42,835
Zinc-Units	3,607	3,66,988	4,80,983	1,61,332	10,12,921

Given the low awareness, availability and use of Zinc that existed, the project helped to increase awareness and availability of Zinc based on the promotion and direct detailing that was done by the project staff. While only Zinc tablets are available in the public system, this project provided the option of Zinc syrup to the providers and caregivers. There were many brands promoting ORS, but very few pharmaceutical companies/brands had Zinc products for the rural market. This project having created a demand for Zinc among the RHCPs also helped to create a new market for Zinc. Having recognised this demand in the rural market in the last year a number of brands have introduced Zinc products to address this demand.

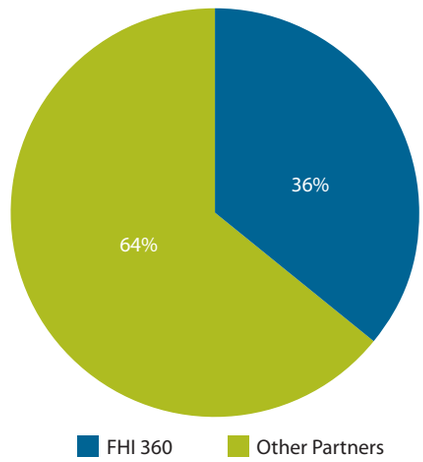
Contribution of FHI 360 to overall sales under EMP: FHI 360 contributed more than one third of the overall ORS and Zinc sales volumes under the EMP. Forty-one percent of ORS sales and 36 percent of Zinc sales were contributed by FHI 360, while the other

three partners together contributed around 59 percent of ORS and 64 percent of total Zinc sales.

Contribution of FHI 360 to overall ORS sales under EMP



Contribution of FHI 360 to overall Zn sales under EMP



PRODUCTIVITY

An important aspect of the project which tried to achieve a balance of both last mile reach as well as sales volumes was the focus on the productivity of the TCs. Each TC was expected to visit about 12-15 RHCPs and drug stores each day. Productivity was defined as the percentage of RHCPs and drug stores which placed an order for supplies out of those who were visited. This was irrespective of the volumes that were placed with each RHCP and drug store.

Productivity Achieved

The productivity achieved by the project was around 48 percent. This means that on an average 6 out of 12 providers visited by the TCs bought ORS and Zinc.

$$\text{Productivity} = \frac{\text{RHCPs and drug stores which placed an order for supplies}}{\text{RHCPs and drug stores visited in a day}} \times 100$$

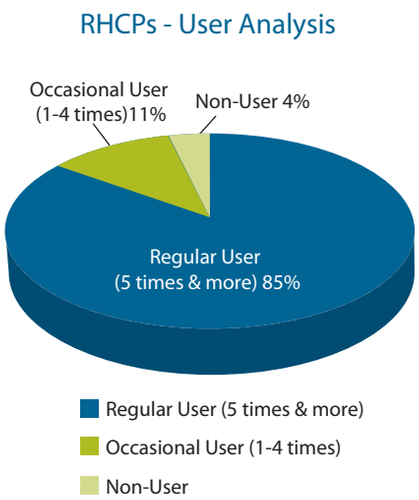
In combination with sales volumes, productivity levels were also being monitored closely to ensure that sales volumes were not being achieved just by focusing more on the urban, easy to reach providers and by placing bulk products. This twin focus of the project on both last mile reach and sales volumes made sure that the project was able to reach the RHCPs and drug stores in the most underserved and remote locations. Details of district wise total calls and productivity calculations are given in Annexure B.

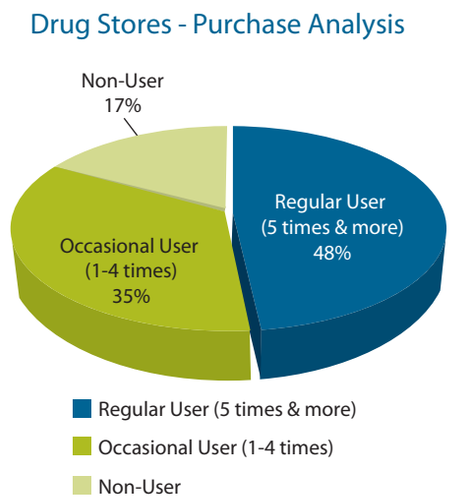
REPEAT USERS

The project categorized all RHCPs and drug stores in terms of repeat users based on the number of times they bought ORS and Zinc from the project staff. RHCPs and drug stores were categorized as 3 types of users:

- Regular users = who bought ORS and Zinc 5 times or more through the life of the project
- Occasional users = who bought ORS and Zinc between 1 to 4 times
- Non-users = who did not use ORS and Zinc even once

Of the 13,911 RHCPs reached under ZORDAR, an overwhelming majority of 96 percent providers were repeat users of which 85 percent were regular users, 11 percent were occasional users and only 4 percent were non-users. On the other hand, of the total 2,812 drug stores, 83 percent had purchased ORS and Zinc from the project - around 48 percentwere regular purchasers whereas about one-third or 35 percent were occasional purchasers of ORS and Zinc. Given the small number of non-users, the project was able to convince majority of the RHCPs and drug stores to start prescribing / selling Zinc and ORS for treatment of childhood diarrhea.





"Almost all of the RHCPs who have been part of this project prescribe ORS and Zinc for childhood diarrhea. Now they call us based on their stock position and let us know what they need to replenish their supplies"

– TC in Sagar district

Midline Evaluation

Between December 2014 and March 2015, CHAI conducted a midline evaluation of the EMP to measure progress on ORS and Zinc placement and scale-up by CHAI supported partners in three states namely - Madhya Pradesh, Uttar Pradesh and Gujarat. Twenty districts were selected randomly in each state, and 220 Primary Sampling Units (PSUs i.e. villages and urban wards) were selected randomly within each state with probability proportional to population size to achieve a state-level representative sample.

Household (HH) Survey

Sample size: 3,300 HHs per state/15 HHs per PSU

Criteria: HHs with at least 1 child under-five

Indicators

- Prevalence of diarrhea
- Care-seeking
- ORS and Zinc coverage
- Caregiver knowledge and attitudes
- Exposure to messaging

Health Care Provider (HCP) Survey

Sample size: Different per state based on snowball sampling. All providers serving community members living in the selected PSUs were targeted.

Criteria: Public and private providers in the same survey areas as the HH survey

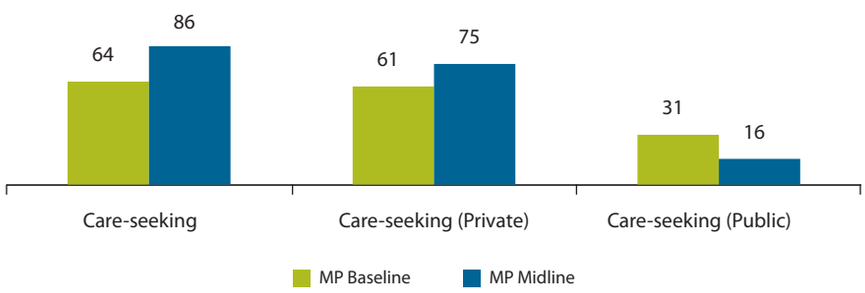
Indicators

- Provider knowledge and attitudes
- Availability of ORS and Zinc
- Price of ORS and Zinc
- Exposure to messaging

KEY FINDINGS OF MIDLINE EVALUATION

- There was a significant increase in ORS and Zinc coverage in Madhya Pradesh, from <1 percent to 26 percent (Zinc), 30 percent to 59 percent (ORS) and <1 to 20 percent for ORS+Zinc.
- In comparison to DLHS-3 results, care-seeking for diarrhoea (during 2 weeks before the survey) had gone up from 64 to 86 percent in Madhya Pradesh.
- Private sector providers played an important role as three-fourth of the total diarrheal cases reported seeking care from private providers.
- Despite availability of ORS and Zinc at CHC/PHC and with the ASHA worker, public sector care seeking in Madhya Pradesh was found to be low (only 16 percent).

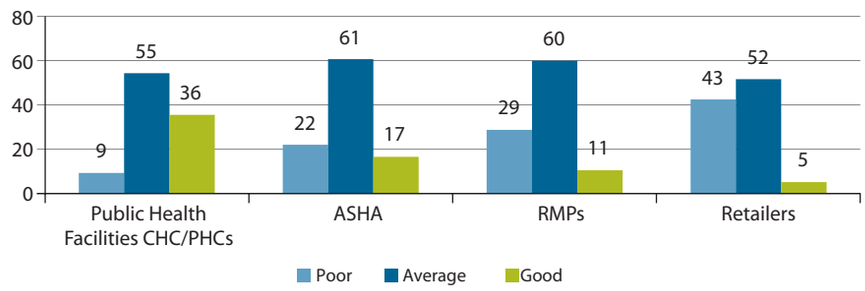
Care-seeking for Diarrhoea During Last 2 Weeks



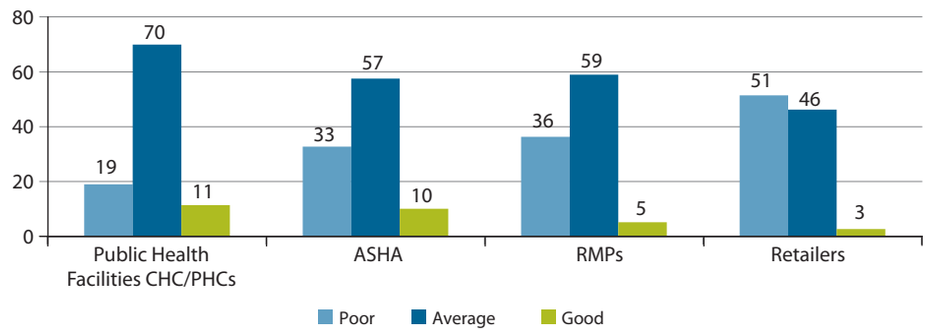
KNOWLEDGE OF ORS AND ZINC AMONG CAREGIVERS

- In Madhya Pradesh, 25 percent caregivers reported (unprompted) what remedies or treatment should be given for diarrhoea. Among those who reported knowing the treatment majority of them mentioned only ORS.
- Knowledge about clinical benefits of ORS viz. "Slows/Stops Diarrhoea" and "Prevents Dehydration" was high among caregivers in Madhya Pradesh
- Very few mentioned Zinc. Knowledge about clinical benefits of Zinc viz. "Regains Strength" and "Strengthens Immunity" was found to be average among caregivers. Program needs strategies for demand generation in such a way that zinc coverage and comprehension among caregivers may be enhanced. Messaging around Zinc requires immediate focus in any future demand generation activities among caregivers.
- Of the 60 percent caregivers who had heard about ORS, about 77 percent knew how to administer ORS. Of the 14 percent who knew about Zinc, 39 percent knew about how to administer Zinc.
- After Government health workers, private providers were the second main source of child health information as well as diarrhea related messages.

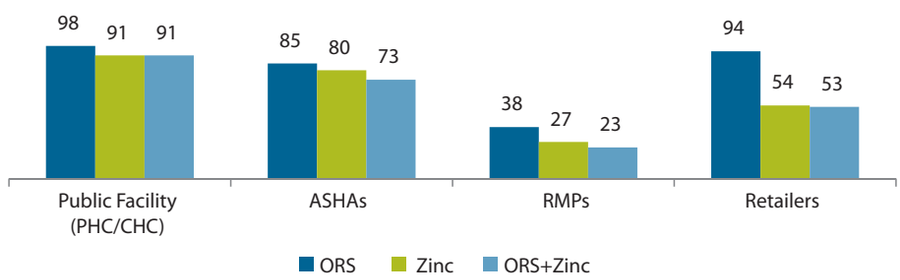
Correct Knowledge about ORS Among Providers



Correct Knowledge about Zinc Among Providers



Availability of ORS, Zinc and ORS+Zinc with Providers



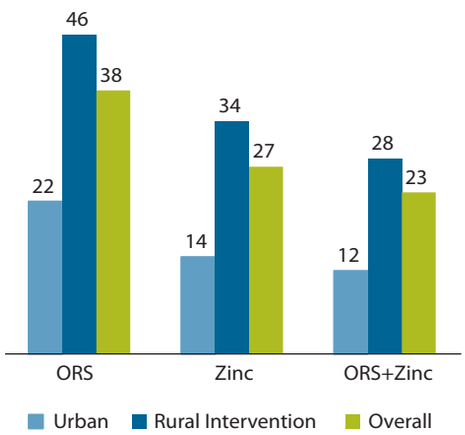
- Zinc availability had increased amongst most provider types, and particularly amongst providers whom CHAI partners were directly detailing.
- In Madhya Pradesh, where CHAI worked directly with ASHAs, RMPs and retailers, Zinc availability had increased by 9-47 percentage points across those provider types.
- At a state-wide level, availability of ORS did not demonstrate the same level of improvement as was seen with Zinc availability.
- Public sector efforts were found to be working effectively in MP as ORS, Zinc & ORS+Zinc was found to be available with majority of public health facilities and ASHAs.

- Lack of Zinc availability in CHCs/PHCs located in urban areas was an area of concern.

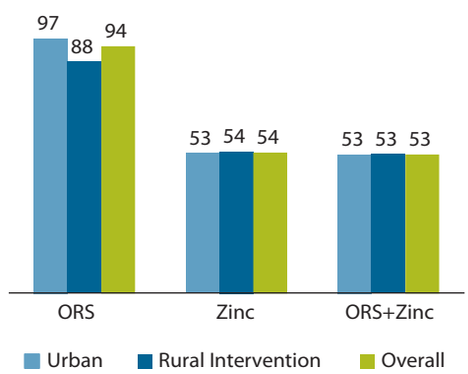
COMPARISON OF PROVIDER INDICATORS BETWEEN NON-INTERVENTION (URBAN) AND INTERVENTION AREAS (RURAL)

- Stocking of ORS, Zinc & ORS + Zinc among RMPs was significantly better in CHAI intervention areas compared to the non-CHAI intervention areas as well as the overall state average.
- In CHAI intervention areas ORS availability among retailers was marginally less in comparison to the non-intervention urban areas and overall state average. But overall Zinc and Zinc+ORS availability in rural (intervention) areas was at par with urban areas and overall state average.

% of RMPs stocking ORS, Zinc, and ORS+Zinc on the day of the survey



% of Retailers stocking ORS, Zinc, and ORS + Zinc on the day of the survey



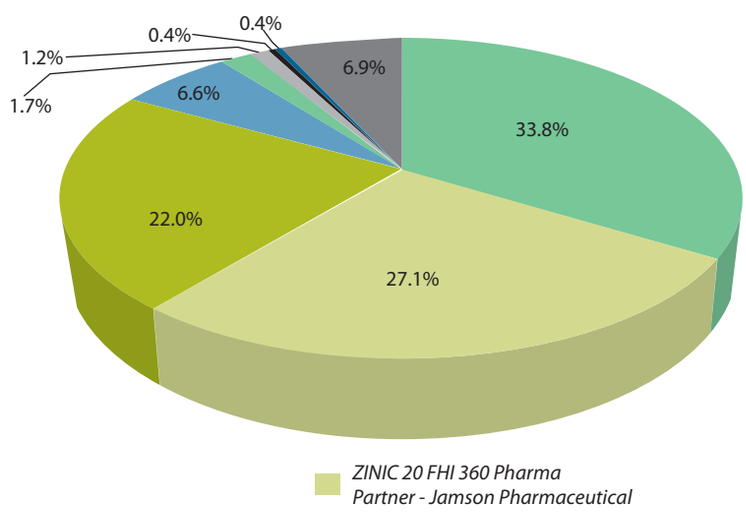
Non-intervention areas = urban areas in districts where CHAI is operating
Intervention areas = rural areas in districts where CHAI is operating

Table 4: Market share of ORS, Zinc syrup and Zinc tablet promoted by CHAI partners in Madhya Pradesh

	CHAI Partners Share
ORS Market Share in Madhya Pradesh	
Proportion of Stock in Hand among RMPs & Retailers	26.1 %
Proportion of Sales during last week by RMPs & Retailers	27.5%
ORS Market Share in Madhya Pradesh (Rural)	
Proportion of Stock in Hand among RMPs & Retailers	48.6%
Proportion of Sales during last week by RMPs & Retailers	42.3%

	CHAI Partners Share
Zinc Tablet Market Share in Madhya Pradesh	
Proportion of Stock in Hand among RMPs & Retailers	90.3%
Proportion of Sales during last week by RMPs & Retailers	77.9%
Zinc Tablet Market Share in Madhya Pradesh (Rural)	
Proportion of Stock in Hand among RMPs & Retailers (Rural)	93.1%
Proportion of Sales during last week by RMPs & Retailers (Rural)	77.6%
Zinc Syrup Market Share in Madhya Pradesh	
Proportion of Stock in Hand among RMPs & Retailers	53%
Proportion of Sales during last week by RMPs & Retailers	44.8%

Zinc Tablet Market Share in Madhya Pradesh – Proportion of Stock in Hand among RMPs & Retailers (Rural) – FHI 360 Pharma Partner



Zinc Tablet Market Share in Madhya Pradesh - Proportion of Sales during last week by RMPs & Retailers (Rural) – FHI 360 Pharma Partner

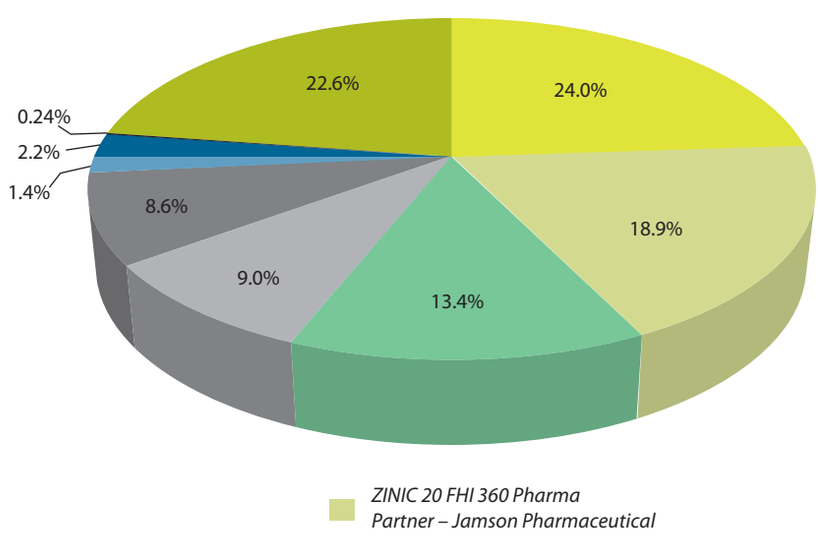


Table 5: Results of Key indicators for Madhya Pradesh

Key Indicators	Madhya Pradesh
ORS Coverage	59%
Zinc Coverage	26%
ORS+Zinc Coverage	20%
Care seeking	86%
Care seeking from Private sector	75%
Care seeking from Public sector	16%
ORS Availability with RMPs	39%
ORS Availability with Retailers	94%
ORS Availability with ASHAs	85%
Zinc Availability with RMPs	28%
Zinc Availability with Retailers	53%
Zinc Availability with ASHAs	78%
ORS+Zinc Availability with RMPs	23%
ORS+Zinc Availability with Retailers	53%
ORS+Zinc Availability with ASHAs	72%

Lessons Learnt

Several lessons learnt from this project can be used for developing future models for engaging the private sector specifically for promotion of ORS and Zinc for treatment of childhood diarrhea. These lessons can provide useful insights for engaging the private sector in addressing public health issues in general as well.

- *Utilization of the A, B, C categorization of RHCPs:* The rationale for categorization of providers into A, B and C was to prioritize visits to high volume providers for bulk placement of ORS and Zinc. Operationally, the project was not able to make optimum use of this strategy for several reasons. Early on, the team realized that the provider universe was not static, and the initial categorization of providers did offer a reasonably accurate estimate of patient load. Further, since ensuring last mile reach was the focus of the project and not necessarily achieving sales volumes, all providers, irrespective of categorization, had to be reached on a regular basis. Had the project triangulated key achievements against the A, B, C categorization e.g. average product placement, or users / non-users, there would have been interesting insights to share on whether the provider categorization offered any major advantage.
- *Sustained focus on use of Zinc required:* Sustained focus on promotion use of Zinc along with ORS is required as Zinc use continues to relatively lower as shown by the midline evaluation findings as well as data from NFHS-4 (2015-16).
- *Regular interaction with RHCPs crucial:* Relationship and rapport of the project staff specially of the TCs with individual RHCPs and drug stores played a key role in the promotion of Zinc and ORS in the rural areas. Low staff turnover in this project is one of the important factors that helped in building and growing the relationship with the providers. Regular and constant face-to-face interaction between the TCs and the providers was crucial in bringing change in their prescription practices.
- *Reaching caregivers – a missed opportunity:* Since the project focused only on the providers and the supply side, no attention was given towards engaging the community. A more comprehensive model will be one which focuses on the demand side for ORS and Zinc as well. This is especially true given that prevalent myths and misconceptions among communities relating to diarrhea

treatment affect the providers. This may include communities delaying treatment seeking, putting pressure on the providers to provide injections and antibiotics (even when they don't want to) and incorrectly using ORS and Zinc. To sustain the changes in prescription practices of the providers that this project has brought about, community awareness and demand creation for correct diarrhea treatment will be crucial.

- *Scope for evidence building:* The project provided substantial scope for both qualitative and quantitative research on the knowledge, attitude and practice of the RHCPs. A research study with private providers utilizing the project staff who had regular interactions with the providers could have added valuable evidence to an area which is under-researched and a basis for designing future programs on private sector engagement.

Way Forward

This model and the lessons learnt from it are an important addition to the models that have been tried to engage private sector for other public health concerns such as Tuberculosis (TB) and childhood pnemonia. Given the increasing need for and interest in engaging private providers for addressing public health issues, the model implemented by the ZORDAR project needs to be widely disseminated and showcased to relevant stakeholders.

To move towards sustainability through the smooth and timely handover and transition of the project to a pharmaceutical company, a platform has been created for continued work with the rural private providers. It will be interesting to understand how the for-profit pharmaceutical company is able to sustain its market share in the light of competition and market forces, and maintain a balance between sales volumes and last mile reach. To demonstrate scalability and replicability of the model, it will be important to implement the model in a few other geographies with different local contexts.

Given the midline evaluation findings that more than 75% of the care givers sought care from the private sector and after government health workers, rural private providers were the main source of child health information as well as diarrhea related messages, continued investments need to be made to engage with the private sector for promotion of ORS and Zinc. Continued focus on ways to promote use of ORS and Zinc is needed to address childhood diarrhea as according to latest NFHS - 4, (2015-16) the prevalence of diarrhea in U5 children in MP is close to 10 percent, children who receive ORS is 55 percent and children who receive Zinc is only 26 percent.

Despite gains in controlling mortality relating to diarrheal disease, the burden of the disease remains unacceptably high. Informal private providers are often the first choice of caregivers and thus a worthwhile target of diarrhea management programming. If substantive improvements in diarrhea treatment are to be made in rural India, improvements in the treatment practices of the informal private sector will need to be addressed. Implementation of models like the ZORDAR project, are needed to engage the private sector to curb the over prescription of antibiotics and antidiarrheal and to increase the promotion of Zinc and ORS by private providers.

To save many more children efforts need to be intensified to target and meaningfully engage informal private providers who play a major role in childhood diarrhea treatment in hard–to–reach areas.

Annexure A: RHCPs and Drug Stores covered

District name *High priority district	Population-Rural	Villages	U5 mortality	No of RHCPs	Male RHCPs	Female RHCPs	Prescrib-ers	Dispens-ers	A category	B category	C category	Drug Stores
Anuppur *	5,43,996	562	85	655	638	17	124	531	62	174	419	82
Balaghat	14,56,682	1272	69	1254	1240	14	305	949	104	641	530	448
Chhatarpur *	13,63,359	1085	79	989	958	31	255	734	112	348	529	158
Damoh *	10,13,668	1278	106	723	714	9	87	636	179	268	276	183
Dindori *	6,72,206	1127	95	408	402	6	53	355	22	86	266	36
Katni	10,28,499	905	83	902	892	10	231	671	188	292	422	114
Mandla *	9,24,716	1203	84	708	692	16	127	581	44	225	439	112
Panna *	8,91,185	947	127	674	665	9	158	516	98	231	358	100
Rewa	19,69,321	2619	100	1376	1338	38	266	1110	330	537	509	395
Sagar *	16,69,662	1901	92	1478	1455	23	490	988	241	683	554	309
Satna *	17,54,517	1799	121	1519	1488	31	279	1240	164	438	917	262
Shahdol *	8,46,463	973	85	583	575	8	101	482	63	264	256	116
Sidhi *	10,33,912	1025	112	817	801	16	202	615	239	243	335	179
Singrauli *	9,51,487	727	112	685	673	12	75	610	128	276	281	77
Tikamgarh *	11,95,393	878	84	872	864	8	263	609	165	453	254	197
Umaria *	5,34,214	594	99	268	262	6	25	243	29	113	126	44
	178,49,280	**18,895**		**13,911**	**13,657**	**254**	**3,041**	**10,870**	**2,168**	**5,272**	**6,471**	**2,812**

Census 2011 Provisional tables Madhya Pradesh & AHS 2014

Annexure B: District-wise Productivity

District	Total Calls	Total Productive Calls	Productivity
Dindori	16,906	8,743	52
Rewa	54,124	27,355	51
Panna	26,841	13,156	49
Satna	49,757	25,975	52
Mandla	30,349	15,670	52
Chhatarpur	45,180	21,004	46
Singrauli	17,800	9,694	54
FHI 360	**32,743**	**15603**	**48**
Umaria	13,665	6,845	50
Tikamgarh	34,370	17,672	51
Sidhi	27,674	14,069	51
Damoh	34,102	14,965	44
Sagar	59,228	23,424	40
Sahdol	26,183	11,521	44
Katni	31,706	14,025	44
Balaghat	34,258	14,239	42
Anuppur	**21,745**	**11,298**	**52**