

## **Evaluation of the A2Z Project's Support for Pharmaceutical Management of Micronutrients and Anemia-Reducing Medicines in India: May 1 to 16, 2010**

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## **About CPM**

Since its original inception as the Drug Management Program in 1983, the Center for Pharmaceutical Management (CPM) at Management Sciences for Health (MSH) has maintained a sustained focus on increasing access to and improving use of pharmaceutical products and services worldwide. CPM does this by providing high-quality technical assistance and partnering with local, regional, and international stakeholders to build consensus for change and capacity in pharmaceutical management.

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## ACRONYMS AND ABBREVIATIONS

ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BHEO	Block Health Education Officer
BSPM	Bal Swasthya Poshan Mah [Child Health and Nutrition Month, State of U.P.]
CARE	Cooperation for Assistance and Relief Everywhere
CMSD	Central Medical Stores Depot [U.P. Directorate of Health and Medical Services]
CHC	Community Health Centre
CIDA	Canadian International Development Agency
GOI	Government of India
JMSSPM	Jharkhand Matri Sishu Swasth Evam Poshan Maah [Mother Child Health and Nutrition Month, State of Jharkhand]
IFA	iron and folic acid
IFAS	iron and folic acid supplementation
MCHIP	Maternal and Child Health Integrated Program
MOH	Ministry of Health
MOHFW	Ministry of Health and Family Welfare [GOI]
MOIC	Medical Officer In Charge
MSH	Management Sciences for Health
NFHS	National Family Health Survey
NRHM	National Rural Health Mission
PHC	Primary Health Centre
PIP	Project Implementation Plan
RACHA	Reproductive and Child Health Alliance [Project]
RCH	Reproductive and Child Health [Programme]
SOP	standard operating procedure
SPS	Strengthening Pharmaceutical Systems Program
S. R. Nagar	Sant Ravidas Nagar [Bhadohi district]
UNICEF	United Nations Children's Fund
UNOPS	United Nations Office for Project Services
U.P.	[State of] Uttar Pradesh
USAID	United States Agency for International Development
VAS	vitamin A supplementation
WHO	World Health Organization



## EXECUTIVE SUMMARY

In 2007, Management Sciences for Health's (MSH) Strengthening Pharmaceutical Systems Program in collaboration with the A2Z project prepared a concept paper that outlined a process for developing a toolkit for better pharmaceutical management of micronutrients and anemia-reducing medicines. The key components of the process were an initial assessment in three countries (India, Cambodia, and Uganda), implementation of recommended interventions to address the gaps identified during these assessments, evaluation of the impact of the interventions, and the development of a toolkit based on the lessons learned during the assessments and implementation of interventions. This report summarizes the findings of the evaluation step for India.

The initial assessments were conducted in the States of Jharkhand and Uttar Pradesh in 2007 and 2008. In 2010, an MSH consultant contracted by the A2Z project visited India from May 1 to 16 to conduct an evaluation of the impact of interventions taken to address gaps identified during the initial assessments, document lessons learned, and recommend steps for addressing additional gaps identified. This rapid evaluation is based on a combination of interviews with A2Z staff and other key stakeholders, and visits to selected medical stores and health facilities in three districts in each State. The consultant also compiled available data at health facilities and reviewed selected A2Z reports and presentations. The key findings, lessons learned, and possible options for addressing additional gaps were discussed and validated with A2Z staff during the preparation of this report.

The factors reported to have influenced A2Z decisions for selecting which interventions to implement in the two States included the changing situation on the ground particularly the recentralization of kit procurement, modifications to program priorities/area of focus, A2Z resource and time constraints, and focusing on activities where A2Z had a comparative advantage. As a result, the project's technical and financial resources were directed toward advocacy and communication to address or prevent supply shortages together with monitoring availability and rational use of micronutrients and anemia-reducing. Other interventions implemented included supporting quantification and distribution planning, and strengthening medication counseling and medicine management at sub-centers through training, developing job aids, and mentoring. The consultant observed considerable improvements in availability and use of medicines at the facilities visited in both States but these changes could not be directly attributed to A2Z interventions for several reasons, including the impact of recentralizing kit procurement to the national level. Consequently, the interventions were evaluated primarily based on feedback from stakeholders on A2Z activities, evidence that A2Z-developed tools were in use, and the extent to which tools and interventions had been transitioned to local partners and had been adopted and sustained.

The report documents the specific lessons learned during the process of selection and implementation and tentatively identifies potential tools for the toolkit pending further evaluation with users. Given the limited time available, the recommendations for addressing gaps focused on completing current A2Z activities and included conducting a structured follow up of implemented interventions and preparing for the hand over to partners where appropriate; identifying a partner or project to take over A2Z's advocacy and monitoring role on availability of micronutrients and anemia-reducing medicines; and advocacy at the national level to include the reporting of stock-outs of individual kit A and kit B medicines on the National Rural Health Mission reporting form.



# INTRODUCTION

## Evaluation Rationale

Previous projects to promote micronutrient supplementation and use of anemia-reducing medicines have not incorporated strengthening of the pharmaceutical systems that are responsible for procuring and distributing medicines to the end users. The A2Z Project, in collaboration with the Strengthening Pharmaceutical Systems (SPS) Program, has been working to identify and document key pharmaceutical management challenges affecting the procurement, distribution, and use of quality micronutrients and anemia-reducing medicines, and to propose and test specific interventions to address some of these challenges. The SPS Program is funded by the U.S. Agency for International Development (USAID) and implemented by Management Sciences for Health (MSH).

In general, vitamin A and other micronutrients are procured and distributed through vertical distribution systems managed mainly by donors or other partner agencies. The absence of information on how these vertical supply systems function in countries and the insufficient capacity of country teams to manage their procurement and distribution make it difficult to integrate these supply systems into the regular government procurement and distribution systems, and to sustain supply of these micronutrients in the absence of ongoing support. The procurement and supply of anemia-reducing supplies (iron, folic acid, mebendazole, and albendazole) are already integrated into the regular national pharmaceutical supply system in most situations. However, by and large, the regular availability and appropriate use of these medicines at health facilities remains problematic.

In 2007, SPS, in collaboration with A2Z, developed a concept paper outlining a three to four-year process that would eventually lead to developing a toolkit for the better pharmaceutical management of micronutrient and anemia-reducing medicines. The key components of the process involved initial assessments in three countries, implementation of recommended interventions to address the gaps identified during these assessments, evaluation of the impact of the interventions, and development of a toolkit based on the lessons learned during the assessments and implementation of interventions. The first two steps of this process have been completed under the A2Z project in Uganda and two states in India, and with the support of the USAID-funded Reproductive and Child Health Alliance (RACHA) project, in Cambodia. Activities to address the gaps identified during the assessments have been implemented and are ongoing in all three countries.

In 2010, SPS (in collaboration with A2Z and other partners) plans to conduct an evaluation of the interventions implemented to date in the three target countries (India, Cambodia, and Uganda) to determine the impact of those interventions on the availability of micronutrients and anemia-reducing medicines in the focal countries and to document the lessons learned from this evaluation to use in the development of a toolkit. During the evaluation, an attempt will be made to identify—

- What interventions were actually implemented and how these interventions were prioritized, given the variety of recommendations proposed during the assessment.
- What other factors influenced the implementation of the identified interventions, including but not limited to—

- The priority given to pharmaceutical system interventions in the overall scope of the Ministry of Health (MOH) and A2Z activities
- The level of available funding and technical resources (including staff and technical assistance) to support implementation of the activities
- What type of supervision, monitoring, and evaluation were available to follow-up on the interventions once implemented

### **Scope of Work for the India Evaluation**

A consultant from MSH contracted by the A2Z project will work with the A2Z India country team and local stakeholders to identify the promising practices and the lessons learned from the interventions carried out since 2007 to improve the availability and use of micronutrients and anemia-reducing medicines.

Specifically, the consultant in collaboration with A2Z will—

1. Conduct an evaluation of the impact of the interventions taken to address the gaps previously identified in the pharmaceutical management of medicines and supplies for the vitamin A supplementation, deworming, and anemia control programs.
2. Recommend steps to address any additional gaps identified during the evaluation.
3. Prepare a report documenting the lessons learned.

A combination of interviews with A2Z staff and other key stakeholders, and a visit to selected medical stores and health facilities in one district, will be used to collect the information required for this evaluation.

## BACKGROUND

### Overview of the A2Z Project in India

India has the largest number of micronutrient-deficient people in the world. The prevalence of anemia—largely iron deficiency anemia—is particularly high; the 2005-2006 National Family Health Survey (NFHS-3)<sup>1</sup> found that 70 percent of Indian children aged 6-59 months and 55 percent of women aged 15 to 49 years were anemic. USAID is providing technical support to strengthen micronutrient and anemia-reduction programs in the States of Jharkhand and Uttar Pradesh (U.P.), and at the national level through the A2Z project.

Based on a participatory situational survey conducted in 2006, the A2Z project is supporting all 24 districts in Jharkhand and six eastern districts in U.P. in vitamin A supplementation (VAS) with the aim of improving coverage to 80 percent. The 2005-2006 NFHS-3 found that in Jharkhand, only 28 percent of children aged 12 to 35 months and 20 percent of children aged 6 to 59 months had been given VAS in the six months prior to the survey. In U.P., VAS coverage in the six months prior to NFHS-3 was even lower at just under 9 percent of children aged 12 to 35 months, and 6 percent of children aged 6 to 59 months.

A2Z also provides technical support to anemia reduction programs for pregnant women in eight districts in Jharkhand and six districts in U.P. with the aim of raising coverage of prenatal iron folic acid supplementation (IFAS) to 80 percent of the target populations. Moreover, nine blocks in three districts in each State—Dumka, Latehar, and Ramgarh districts in Jharkhand and Varanasi, Sant Ravidas Nagar (S.R. Nagar), and Kaushambi districts in U.P.—have received focused technical assistance from A2Z consultants since 2008. The project also supports government activities to provide deworming medicine for pregnant women and young children. In addition, in February 2010, A2Z completed an operational feasibility test of a child anemia reduction package among 6 to 23 month-old children in one tribal block in Jharkhand and one rural block in U.P. Community-based approaches and advocacy at national, state, and district levels are important components of A2Z's work.

### Initial Assessment of Pharmaceutical Management in Jharkhand and U. P. (2007 and 2008): Key Findings and Recommendations

As discussed in the introduction, the first step in the A2Z/SPS collaboration for developing a toolkit was an initial assessment in the three countries. In India, these assessments were carried out in two phases by MSH consultants contracted by the A2Z project in March 2007 and January-February 2008. In this section, we set out the objectives and methodology for these initial assessments and summarize the key findings and recommendations to set the background for the evaluation conducted in May 2010.

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<sup>1</sup> International Institute for Population Sciences (IIPS) and Macro International. 2007. *National Family Health Survey (NFHS-3), 2005-06: India: Volume 1*. Mumbai: IIPS.

### **Initial Assessment Objectives, Jharkhand State**

A preliminary study of the pharmaceutical supply system for micronutrients and anemia-reducing medicines in Jharkhand State was conducted by an MSH consultant in collaboration with A2Z staff in March 2007.<sup>2</sup> The key objectives of the assessment were to—

- Study the operation of the micronutrient and anemia reduction pharmaceutical management systems in Jharkhand
- Identify key functional areas requiring further attention based on information collected during the field visit
- Develop options for the A2Z project's overall role and assistance to alleviate supply constraints for achieving improved coverage

In February 2008, MSH conducted a follow-up visit to update findings and review A2Z planned activities for strengthening pharmaceutical management of micronutrients and anemia-reducing medicines in the State.<sup>3</sup> The facilities visited during the two MSH field trips are shown in table 1.

**Table 1. Facilities in Jharkhand State visited during MSH field visits in March 2007 and February 2008**

<b>Facility</b>	<b>District</b>	<b>Visited March 2007</b>	<b>Visited February 2008</b>
State Drug Store at Namkum	Ranchi	X	
Ranchi District Drug Store	Ranchi	X	X
Namkum Primary Health Centre (PHC)	Ranchi	X	X
Hazaribagh District Drug Store	Hazaribagh	X	X
Mandu PHC	Hazaribagh		X
Jokaram Sub-Centre	Hazaribagh	X	
Kuju Sub-Centre	Hazaribagh		X

### **Initial Assessment Objectives, U.P. State**

The initial assessment of U.P. State's pharmaceutical supply system was conducted by MSH in collaboration with A2Z staff from January 21 to February 2, 2008.<sup>3</sup> In contrast to the Jharkhand study, the assessment in U.P. focused on identifying options for A2Z support for

<sup>2</sup> Dias V. 2007. *Micronutrient Pharmaceutical Management in Jharkhand State, India - A Preliminary Assessment Report: March 11 to 19, 2007*. Submitted to the Academy for Educational Development for the A2Z Project by the Center for Pharmaceutical Management, Arlington, VA, USA: Management Sciences for Health.

<sup>3</sup> Walkowiak, H. 2008. *Assessment of Micronutrient Pharmaceutical Management in Uttar Pradesh State and Planning for Technical Support to Jharkhand State: January 21 to February 8, 2008*. Submitted to the Academy for Educational Development for the A2Z Project by the Center for Pharmaceutical Management, Arlington, VA, USA: Management Sciences for Health.

strengthening systems at the district level and below. The key objectives of the assessment were to—

- Observe, assess, and document the existing distribution and record-keeping systems for the district level and below for micronutrient and anemia-reducing medicines
- Document availability of micronutrient and anemia-reducing medicines and identify possible causes of supply interruptions at facilities visited
- In coordination with key stakeholders and A2Z staff, identify potential options for the A2Z project's overall role and interventions for alleviating supply constraints in the short to medium term.

In addition to state-level stores (in Lucknow, U.P.'s capital), facilities in four districts were visited to collect information on pharmaceutical management operations.

- Lucknow—the Directorate of Health and Medical Services' Central Medical Stores Depot (CMSD) and the Directorate of Family Welfare Store
- Allahabad district—District Store, Karchana Block Community Health Centre (CHC), Bhadevara Sub-Centre, and Darwala Sub-Centre and Additional PHC
- Kaushambi district—District Store, Bharwari Sub-Centre, and Bejha Sub-Centre
- S.R. Nagar district—District Store and Gopiganj Block CHC (included an interview with the Auxiliary Nurse Midwife [ANM] from Matetu Sub-Centre)
- Varanasi district—District Store, Chiraigaon PHC, Pindra PHC, and Paterawa Sub-Centre

### ***Initial Assessment Methodology***

Data was collected using semi-structured interview guides administered to government officials, partners, and key informants at national and state levels, and structured data collection instruments for observing operations and conducting inventory record reviews at facilities. The interview guides and instruments were developed by MSH whose consultants also reviewed selected key background documents.

### ***Overview of the Supply System in the State of Jharkhand***

With a population of 30.6 million, Jharkhand is a relatively new state formed in 2000 by carving out a part of the neighboring State of Bihar.<sup>4</sup> Micronutrients and anemia-reducing medicines are not managed as a vertical program, but as part of a wider range of primary health care pharmaceuticals. Until 2005, essential medicines for the Reproductive and Child Health (RCH) Programme (including micronutrient and anemia-reducing medicines) were purchased by Government of India's (GOI) Ministry of Health and Family Welfare (MOHFW). The primary health care supplies were supplied in two kits—kit A and kit B—

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<sup>4</sup> Government of India. 2001. "Census of India 2001."  
<[www.pon.nic.in/open/depts/ecostat/census/HOME PAGE. HTM](http://www.pon.nic.in/open/depts/ecostat/census/HOME PAGE. HTM)>

each intended to meet the needs of one sub-center serving a population of 5,000 for six months. The kits were shipped directly to district-level storage facilities in each State every six months and then forwarded through PHCs/CHCs down to the sub-center level.

In 2005, responsibility for procurement of kits A and B was transferred to the States in line with the objectives of the National Rural Health Mission (NRHM) to integrate vertical health programs and decentralize procurement to state level. The GOI authorized the States to procure the kits and transferred funds to purchase them early in 2006. In Jharkhand, the State Directorate of Health and Family Welfare assumed responsibility for managing RCH medicines. At the time of the first MSH consultancy in March 2007, the State RCH Society Committee was procuring micronutrient and anemia-reducing medicines for the RCH Programme. In addition, the Micronutrient Initiative was providing funding from the Canadian International Development Agency (CIDA) to the United Nations Children's Fund (UNICEF) to procure supplies of vitamin A liquid to fill supply gaps in RCH procurement. Later in 2007, RCH kit procurement for all States reverted back to GOI because of the lack of capacity, along with other constraints, at the state level to manage procurement. The United Nations Office for Project Services (UNOPS) was contracted to handle the World Bank-funded procurements. However, because of delays in signing the contract with UNOPS and processing and awarding the tenders, kits that were expected to be delivered to the States in October 2007 were anticipated to be delayed until April 2008.

At the time of the follow-up consultancy in February 2008, the States had been authorized to procure the RCH medicines and kits for the year 2007-2008. It also appeared likely that States would be required to manage interim procurements during the year 2008-2009 while constraints to procurement at the national level were addressed. By February 2008, UNICEF was no longer procuring vitamin A liquid for Jharkhand State; the last procurement was made in October 2007.

### ***Overview of the Supply System in the State of U.P. (2008)***

The State of U.P. has a population of 166.2 million people<sup>4</sup> making it India's most populous state. As in Jharkhand, micronutrients and anemia-reducing medicines are managed as part of a wider range of primary health care pharmaceuticals. Procuring RCH medicines and supplies became the responsibility of the State Directorate of Family Welfare when GOI transferred procurement of kits A and B to the States in 2005. Because of the State Directorate of Family Welfare's lack of procurement capacity, the Directorate of Health and Medical Services' CMSD was assisting with these procurements at the time of the assessment. For reasons described above, it was probable that U.P. State's Directorate of Family Welfare would need to handle interim procurements during the year 2008-2009.

As in Jharkhand, the Micronutrient Initiative had been providing CIDA funding to UNICEF to procure supplies of vitamin A liquid to fill supply gaps in U.P. However, the workplan developed jointly with the U.P. Government in May 2007 made provision for UNICEF to supply vitamin A liquid for only the first of the two biannual rounds in 2007. Ultimately, UNICEF also procured vitamin A liquid for the second 2007 biannual round in response to a request from the government.

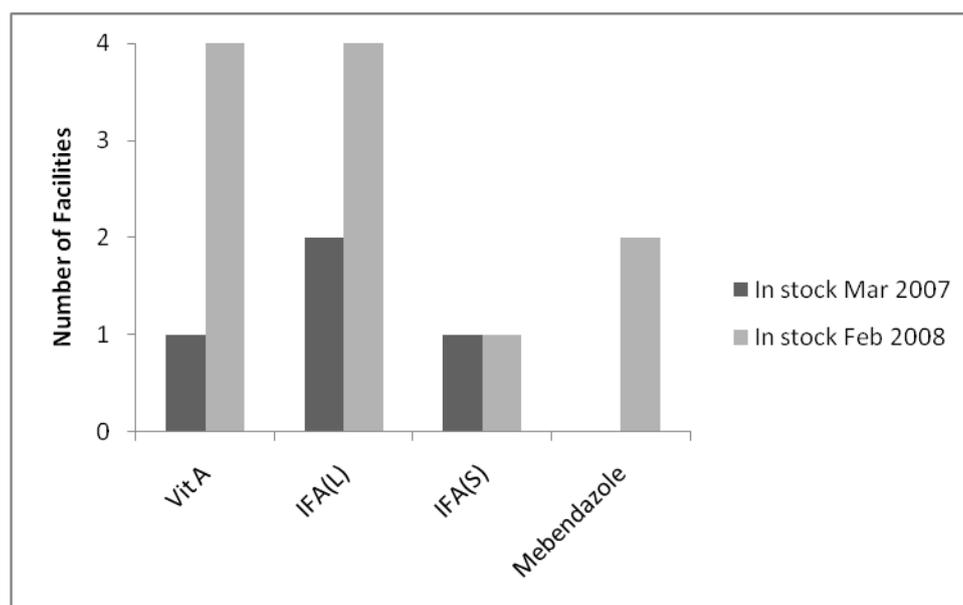
## Findings (2007 and 2008): Medicine Availability at Visited Facilities

### Jharkhand State

Availability data was collected at the State Drug Store, the district drug stores at Ranchi and Hazaribagh, and at one PHC in Ranchi District. At the time of the visit in March 2007, stocks of micronutrient and anemia-reducing medicines were found to be seriously depleted (figure 1).

- Vitamin A liquid was only available at Namkum PHC
- Iron and folic acid (IFA) Large tablets were out of stock at both of the district stores visited
- IFA Small tablets were only available at the State Drug Store
- Mebendazole tablets were out of stock at all four facilities, including the State Drug Store

By the time of the February 2008 visit, however, the availability of vitamin A liquid and IFA Large tablets had improved considerably.



**Figure 1. Of the four facilities visited in Jharkhand, the number that reported having of micronutrient and anemia-reducing medicines in stock**

Figure 2 shows the percentage of time out of stock at the same 4 facilities for the 12-month period prior to the visit in March 2007 and for 10 months prior to the visit in February 2008. The data collected in March 2007 indicated that stock-outs had been an ongoing problem, especially at Hazaribagh District Store. The follow-up visit in February 2008 found that although the availability of micronutrients and anemia-reducing medicines had improved considerably at the State Drug Store since March 2007, other facilities continue to experience significant shortages indicating problems not only with procurement, but also with distribution of supplies.

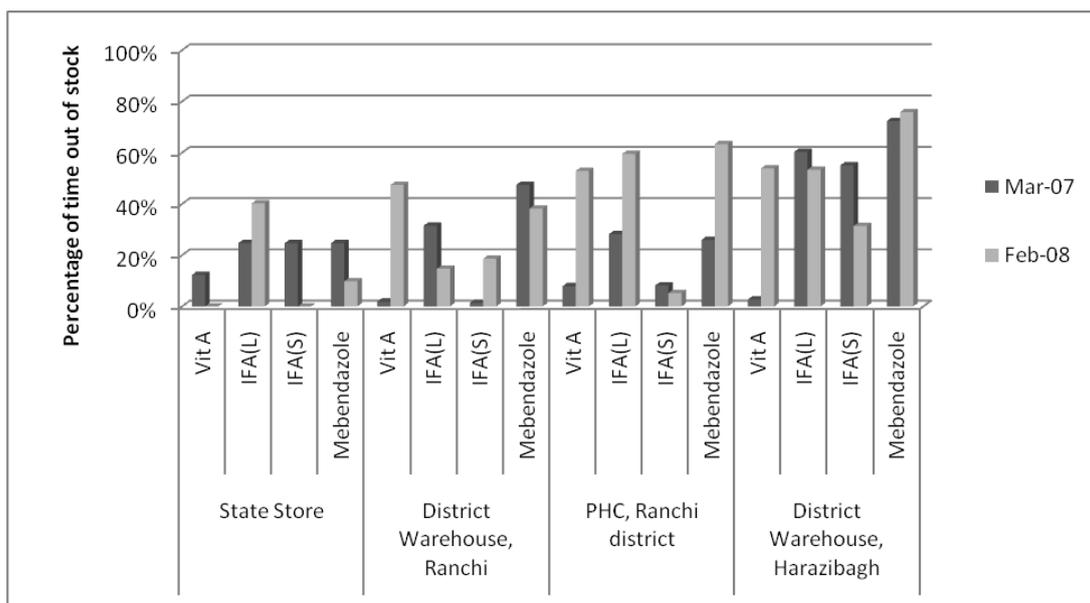


Figure 2. Percentage of time out-of-stock for micronutrient and anemia-reducing medicines for the previous 12/10 months at four facilities in Jharkhand State

*U.P. State*

As stocks of micronutrients and anemia-reducing medicines are not routinely held at the state, district, and PHC/CHC levels in U.P., stock-out indicators were only calculated for sub-centers. Availability data was collected at five sub-centers. At the time of the visits (January 24-29, 2008), all three anemia-reducing medicines were reported to be out of stock at four of the five sub-centers visited (figure 3). In addition, none of three other essential medicines supplied as part of kits A and B—co-trimoxazole tablets 120 mg, methylergometrine injection 0.2 mg/mL, and oral rehydration salts—were in stock at any of these four sub-centers indicating that supply problems are not restricted to micronutrient and anemia-reducing medicines alone.

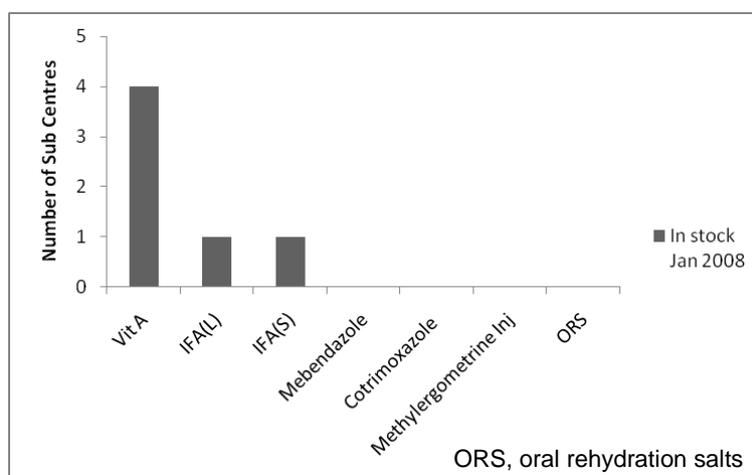


Figure 3. Number of five sub-centers visited in U.P. State that reported having micronutrient, anemia-reducing and tracer essential medicines in stock

As only two of the ANMs interviewed kept stock records with a running balance, availability over time was calculated by asking ANMs to recall the number and length of stock-outs of IFA Large and Small tablets since the beginning of the financial year (the previous nine months). The information was cross-referenced with the client issue records and records of issues at the local PHC/CHC where possible. The estimates presented in figure 4 indicate that IFA supplements for both adults and children had probably been in short supply for most of that financial year (2007-2008).

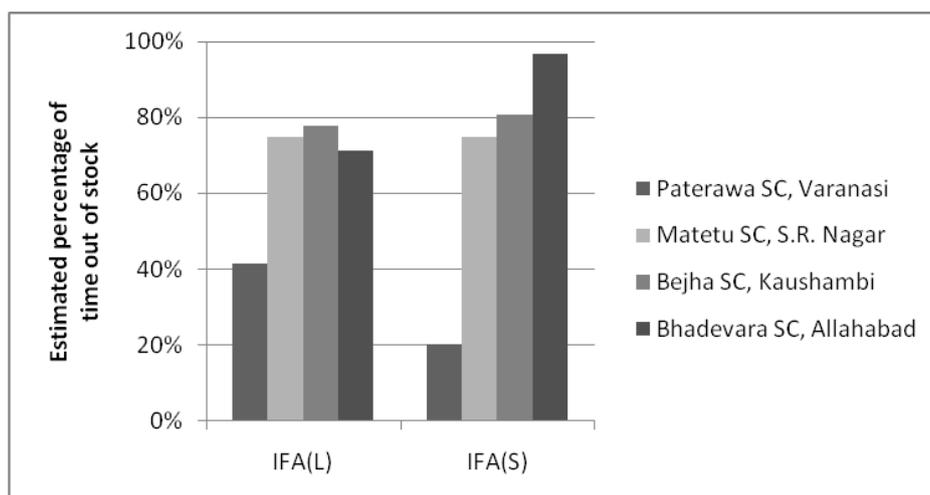


Figure 4: Estimated percentage of time out of stock for IFA Large and Small tablets for April to December 2007) at four sub-centers in U.P. State

### Findings (2007 and 2008): Key Constraints

#### Weak Pharmaceutical Procurement Capacity and Practices

- There was no permanent procurement unit within the State of Jharkhand's health department that could be held accountable for maintaining an efficient procurement process. Procurement functions were undertaken by the RCH Society Committee, which consists of five or six health department staff members, who are called for tenders when medicines were needed.
- In U.P., State-funded procurements of RCH kits or their individual contents had largely been organized on an ad hoc basis and initiated in response to shortages. Roles and responsibilities of the State Directorate of Family Welfare and the Directorate of Health and Medical Services' CMSD for RCH kit procurement had not been formalized.
- States lacked standardized systems and procedures for procuring kits A and B (or their contents), for example, that detail when to order and how much to order
- In common with other States, U.P. and Jharkhand, faced numerous challenges in procuring RCH supplies including lack of experience in preparing tenders for kits; lack of clarity about how to handle the procurement as some of the kit contents were listed for mandatory procurement from Central Public Sector Enterprises; political

upheaval and elections that stalled procurement; no response to tenders (in U.P., for IFA Large and Small tablets); very high bids leading to cancellation of the tender (for kit B); and specifically in U.P., purchase quantities too large for one manufacturer to supply requiring the tenders to be split.

- The lack of clarity and policy decisions about how the responsibilities for procuring RCH medicines and kits would be assigned in the long term, and if procurement will revert back to the States in the future, made it difficult for both States to plan to address existing procurement constraints. The recommendations and potential strategies identified by the MSH consultants to strengthen pharmaceutical management for micronutrients and anemia-reducing medicines would need to be reviewed once these important decisions are made.
- In U.P., stocks of RCH medicines were not routinely held at state, district, and PHC/CHC levels primarily due to the lack of storage space. The absence of an information tracking system that reports on consumption and available supplies especially at the sub-center level made it difficult for procurement staff at State headquarters to know when to initiate procurement and to ascertain how much to procure, particularly for individual medicines.

#### *Lack of Standardization in Quantification, Distribution, and other Operating Procedures*

- Neither state had standard operating procedure (SOP) manuals for pharmaceutical management operations
- The “bottom up” approach used in Jharkhand for estimating requirements for micronutrient and anemia-reducing programs needed to be standardized and well documented
- Although the A2Z project had been assisting six U. P. districts to calculate needs and to develop a distribution plan for vitamin A liquid, the process needed to be institutionalized at the state level
- Inventory control decisions such as “when to order” and “how much to order” needed to be standardized in both States.
- In both States, indicators that can be used to monitor availability and the performance of pharmaceutical management operations were not routinely reported or tracked.

#### *Poor Inventory Control and Storekeeping Practices*

- In both States, the capacity of most drug stores appeared to be very limited. Space constraints and the lack of equipment, such as pallets and shelving, made it difficult for the stores’ staff to follow good storekeeping practices.
- Maintenance of inventory and other logistics records needed to be strengthened at all levels in both States. In U.P., some ANMs at the sub-centers visited had a specific register for medicine stock (receipts/issues/balance) but it was not always used or up to date.

- Most of the staff interviewed who were responsible for managing supplies did not have any formal training in pharmaceutical management, including good storage and inventory management practices.

#### *Lack of Information to Promote Rational Use*

- Most ANMs at the sub-centers visited in U.P. reported a lack of information to assist them with counseling clients on how to take their medicines and manage side effects.

### **Recommendations (2007 and 2008)**

#### *Initial Recommendations for A2Z Project Support in Jharkhand (March 2007)*

Based on the local situation in March 2007 and the assumption that the procurement of RCH supplies, including micronutrients and anemia-reducing medicines, would remain a State responsibility, the MSH consultant recommended that the A2Z project support a comprehensive systems-strengthening approach to addressing pharmaceutical supply problems. The specific activities included—

- Developing systems and procedures for strengthening pharmaceutical procurement, storekeeping, quantification, inventory control, distribution, pharmaceutical management information systems, rational use, and monitoring and supervision systems
- Developing SOP manuals that describe in detail how pharmaceutical management functions should be performed and providing training on pharmaceutical management and use of SOPs
- Field-testing SOPs by implementing them in a few pilot facilities located in A2Z priority districts; providing on-the-job training to pharmaceutical management staff in implementing SOPs; using indicators and making visits to monitor progress made by pilot facilities, assess performance, and decide whether to scale up SOP usage in non-pilot facilities throughout Jharkhand State

The 2007 report identified two options for implementation. The first would require strengthening systems for all primary health care medicines, which would require substantial resources in terms of time, money, and effort for providing technical assistance and the active participation of many other program managers besides those dealing with micronutrient and anemia-reduction programs.

The second option would be to initially restrict system development and implementation at pilot facilities to only the four micronutrient and anemia-reducing medicines. Although this choice would require fewer resources, this option would resemble a vertical program and may be difficult to sustain in the long term and would therefore need to be verified with program and pharmaceutical managers at the state level before proceeding. Given the resources and time available to the A2Z project for implementation, the consultant outlined a preliminary plan for building system capacity based on the second option and recommended that a short-term consultant be engaged to provide intermittent specialized technical support over a period of one to one and a half years.

*Recommendations for A2Z Project Support in Jharkhand and U.P. States (February 2008)*

Following the assessment in the State of U.P. in January 2008, the MSH consultant visited the A2Z team in Jharkhand State to identify changes since the 2007 consultancy and potential developments that may affect the supply system for micronutrients and anemia-reducing medicines specifically and pharmaceutical management operations in general. At the end of each field visit, the MSH consultant worked with the local A2Z state teams and the Resident Advisor for the A2Z project in India to identify potential options to assist the State governments in alleviating supply constraints. For Jharkhand State, the changing procurement situation and the potential of reverting to kits procured by GOI together with the A2Z's emerging time and resource constraints were key considerations when revisiting options.

The potential options for A2Z project support to State governments identified in conjunction with the A2Z state teams in 2008 are set out in Table 2.

**Table 2. Potential Options for A2Z Project Support to State Governments Identified in conjunction with the A2Z State teams in 2008**

Potential A2Z Activities	Jharkhand	U.P.
<b>Advocacy and communication:</b> Alert state-level staff responsible for procurement and supply to problems with micronutrient and anemia-reducing medicine availability "on the ground."	X	X
<b>Quantification:</b> Provide support for quantification of micronutrient needs for scaling up coverage for the biannual rounds in focus- districts. (This activity will include developing piloting tools and SOPs, training staff, and monitoring progress.)	X	X
<b>Distribution planning:</b> Support district staff in distribution planning for micronutrient and anemia-reducing medicines not packaged in kits (including developing and testing SOPs, training staff, and monitoring progress).	X	X
<b>Inventory management:</b> Work with supply managers to standardize key inventory management functions for micronutrient and anemia-reducing medicines in focus-districts. (This activity will include developing and testing SOPs, training staff, and monitoring progress.)  <i>Note:</i> this activity is likely to require large-scale investments in time and technical assistance.	X	X
<b>Training ANMs:</b> Assist the Directorate of Family Welfare to develop a short module on managing supplies and record keeping and medication counseling for the ANM training.		X
<b>Medication counseling:</b> Strengthen ANM skills in medication counseling on specifically how to take medicines correctly and manage side effects.	X	X
<b>Monitoring:</b> Help identify a few key indicators to inform procurement and supply management; work with each level to identify feasible approaches to capture the data.	X	

## **Criteria for Selecting and Prioritizing A2Z Activities**

In the 2008 assessment report, the MSH consultant set out some key considerations and criteria for the A2Z project to apply when deciding which interventions to implement. The consultant noted that while some of the constraints identified during the two initial assessments were unique to managing micronutrients and anemia-reducing medicines, other identified problems were systematic issues common for all types of pharmaceutical products procured for the public sector. Many of these problems are not easily fixed and can require years and substantial technical assistance funding.

Furthermore, government commitment is essential.

The most effective strategy is to take a systems-strengthening approach because piecemeal approaches often produce less than optimal results as the constraints that are creating bottlenecks may not necessarily be addressed. The consultant observed that it might be difficult for the two or three A2Z staff stationed in each State to support technical assistance alone, and sustaining implementation through long distance technical assistance does not always work well. The A2Z project might therefore need to consider employing a local consultant to support activities. Another key consideration was the time for A2Z to implement activities before the end of the project.

Given that micronutrient and anemia-reducing programs can work only if medicines are continuously available, the challenge for the A2Z project was to select options to support government actions to alleviate supply constraints that—

- Are feasible given the project's resource and time constraints
- Are short-term or can be sustained by the government after the end of the A2Z project
- Avoid creating a vertical supply system that is unlikely to be sustained when donor support is withdrawn
- Will remain relevant given the uncertainty on how the procurement and supply of micronutrients and anemia-reducing medicines will be managed in the immediate and long term
- Have an impact on availability of micronutrients and anemia-reducing medicines that is worth the investment of time, effort, and resources



## METHODOLOGY

The information used to prepare this report primarily came from interviews with A2Z project staff working in India. The MSH consultant used semi-structured interview guides to interview A2Z staff stationed in Delhi, and the States of Jharkhand and U.P. The MSH consultant was also able to meet with eight of the nine A2Z consultants contracted to support maternal anemia activities in U.P. focus-districts at their monthly meeting. US-based A2Z staff provided valuable guidance and access to documents. Mr. Suneel Muttoo, the former Resident Advisor for the A2Z project in India, graciously made himself available for several interviews with the MSH consultant. Copies of tools and guidance developed by A2Z to support their pharmaceutical management interventions were collected and reviewed.

At health facilities in three districts in each State, the MSH consultant used structured data collection instruments to observe operations and perform inventory record reviews; in addition, semi-structured interviews were conducted with government officials and health workers. In addition, information was drawn from A2Z state and country reports produced annually, quarterly, and monthly. Other documents reviewed included *Assessing the Sustainability of the Jharkhand District Vitamin A Supplementation (VAS) Program: Results from a Sustainability Study* (2010 draft) produced by the A2Z Project for the Government of Jharkhand's Department of Health and Family Welfare and national and state-level NRHM documents.

Interviews with current and former A2Z project staff and consultants yielded information on the factors that reportedly influenced the selection of activities and on the interventions actually implemented by the A2Z project, including rationale, challenges, resources allocated, outcomes, lessons learned, and gaps to be addressed. Interviews with government officials and health workers, observations, and record review at health facilities were the sources for information on availability and use of micronutrients and anemia-reducing medicines. These interviews also provided information about ongoing challenges, awareness and feedback on A2Z activities, and the perceived contribution of the project to alleviating supply shortages and improving appropriate use.

The consultant discussed and validated key findings, lessons learned, and possible options for addressing additional gaps identified with A2Z staff during the preparation of this report. A list of the persons interviewed is in annex 1 and the list of health facilities visited is in annex 2.

### **Caveats and Limitations**

As previously mentioned, this evaluation was performed to determine the impact of A2Z interventions on the availability of micronutrients and anemia-reducing medicines in the focal countries and to document the lessons learned during this evaluation to develop a toolkit. During the evaluation, the consultant observed considerable improvements in availability and use of these medicines at facilities visited in both States since the initial assessments in 2007 and 2008. However, it was difficult to attribute these improvements to A2Z interventions for a number of reasons.

First, at the time of the February 2008 MSH assessment, responsibility for procuring kits A and B had just been transferred back to the GOI. Two national procurements have been

completed since then and the first delivery of kits reportedly arrived at district stores in Jharkhand and U.P. States in mid-2009. As a result, the availability of micronutrients and anemia-reducing medicines at sub-centers had improved enormously at the time of this evaluation. Therefore, it was difficult to attribute improvements in availability of these medicines to A2Z state-level interventions that mainly addressed issues further down the supply chain when RCH procurement procedures for the whole country had changed so profoundly.

Second, pharmaceutical management systems are complex and typically problems are many requiring multifaceted solutions; so, it can be difficult to see results from interventions that only address pieces of the system. Third, most interventions introduced by A2Z are recent and limited to selected blocks or districts. A final reason is that only a few facilities were visited for a limited time so it is difficult to extrapolate findings beyond these few facilities. During the visit, the MSH consultant was able to observe some of the storekeeping and inventory management practices including record keeping at different levels, but these were not evaluated in any systematic way.

In addition, several limitations were encountered in preparing this report. First, the A2Z project has experienced a very high turnover of staff both in India and in the US office in the last two years. The two staff currently stationed in the State of U.P. and one of the two staff working in Jharkhand State took up their posts after the MSH consultancies in 2007 and 2008 (two of the three staff arrived in 2010). In addition, the Resident Advisor in the Delhi office and A2Z US Project Director have both changed within the last year. As a result, the information on how activities were selected, including factors that influenced decision making and constraints encountered during implementation often came from one source and could not be cross checked.

Second, in Jharkhand State, inventory records at state, district, and PHC/CHC stores had been removed as part of a statewide investigation. As a result, only three to four months of data on the availability of micronutrients and anemia-reducing medicines was available to the MSH consultant at the stores visited, making it difficult to make meaningful comparisons with the situation back in 2007–2008.

## FINDINGS

### Selection of Interventions

The two assessments identified many constraints, and in 2008, the MSH consultants outlined seven technical assistance activities that A2Z could potentially implement. Some of these activities were multi-step processes that would likely require several years to implement to achieve significant results and government commitment and engagement would be essential for sustainability. While some of the constraints identified were specific to micronutrient and/or anemia-reduction programs, many were common for all medicines procured by the public sector for public health programs. The A2Z project faced two major challenges that are common to many donor-funded projects that focus on a specific disease or health program. The first is how to support the government to maintain the continuous availability of micronutrient and anemia-reducing medicines (essential if these programs are to achieve impact over the length of the project) without creating a vertical supply system that is unlikely to be sustained when donor support is withdrawn. The second is, given that problems exist in all functional areas of the supply system, a comprehensive system-strengthening approach was recommended because a bottleneck may be the result of many constraints that may not necessarily be addressed by piecemeal approaches. However, comprehensive approaches to strengthening pharmaceutical management systems require investment, a long-term strategy, and specialized technical assistance that often go beyond the mandate and resources available to health program-focused projects such as A2Z.

Given these dilemmas, how did the A2Z project choose which interventions to implement and how were they prioritized? As mentioned earlier, information to answer this question is unfortunately limited as most of the staff who had been involved in the decision making process were no longer working for the A2Z project. Insights into the process and factors that influenced the decisions made are drawn from interviews with three staff members (one current and two former), two of whom were only familiar with discussions that pertained to their state. These key informants indicated that the decision-making process was not a onetime event and that various discussions took place over a period of time between the A2Z US office staff and the Resident Advisor in Delhi, the A2Z Delhi staff and each state team, and between the local A2Z team and the state government. Reportedly, the decisions made were constantly revisited as the situation on the ground changed, (particularly regarding the transfer of procurement responsibilities from States to GOI and, in Jharkhand, with changes in government) and as A2Z's area of focus was modified and projected resources decreased. In each state, the MSH assessment reports were shared with government officials; in U.P., the government did act on some specific recommendations, such as clarifying the roles between the State Directorate of Family Welfare and the Directorate of Health and Medical Services' CMSD for RCH kit procurement. In Jharkhand, the A2Z team presented the data on the stock situation at facilities in February 2008 and, with the government, selected the activities that A2Z would support based on the priority needs in the districts.

The factors reported to have influenced the selection of interventions included—

- *Changing situation on the ground.* Particularly with the re-centralization of procurement of kits A and B, some interventions were no longer relevant for the micronutrient and anemia-reduction programs.

- *Modifications to program priorities/areas of focus.* In 2008, the focus of the A2Z project in India shifted, at which point maternal anemia reduction became the main priority with less time and resources allocated for VAS. As a result, many of the interventions ultimately implemented by A2Z focused on anemia-reducing medicines for pregnant women.
- *Resource constraints.* In Jharkhand State, A2Z staff initially planned to implement most of the recommended activities. However, as resources shrank later in 2008, staff decided to shelve many of the activities or to concentrate on selected medicines and focus-districts or blocks. In both States, the competing priorities for the A2Z two-person team meant that they had limited time to devote to implementing pharmaceutical management activities. Furthermore, funding levels did not allow for hiring consultants (international or local) to provide the short-term specialized technical support needed.
- *Time constraints and sustainability.* Strengthening inventory management systems including developing, testing, and training staff in SOPs; and improving information capture and reporting were considered to be “too big” for the A2Z project, as they required large-scale investment in time and resources. Only initial steps in this process were likely to be completed in the time left to the project (18 months at the time of the assessment in 2008). Furthermore, the lack of success of recent large-scale, donor-funded projects in addressing these systemic weaknesses in both States was also a deterrent for a project whose primary focus was not pharmaceutical management.
- *Comparative advantage of A2Z.* The staff decided to focus on activities that build on the strengths of A2Z project. Consequently, advocacy, facilitation, tracking availability, and identifying bottlenecks in focus-districts to inform advocacy and communication with governments and partners were identified as their major priorities.

## **Summary of Implementation Activities**

This section outlines the interventions and subactivities that were actually implemented, implementing partners, constraints encountered, results reported if any, and status/next steps. Table 3 maps out the activities that were recommended and those that were actually implemented for each State and at the national level.

**Table 3. Activities to Strengthen Pharmaceutical Management of Micronutrient and Anemia-Reducing Medicines: Recommended versus Actual Activities Implemented**

Potential A2Z Activities	Jharkhand State		U.P. State		National Level
	Recommended	Implemented	Recommended	Implemented	Implemented
<b>Advocacy and communication:</b> Alert state-level staff responsible for procurement and supply to problems with micronutrient and anemia-reducing medicine availability “on the ground.”	X	X All micronutrient and anemia-reducing medicines	X	X All micronutrient and anemia-reducing medicines	X All micronutrient and anemia-reducing medicines
<b>Quantification:</b> Provide support for quantification of micronutrient needs for scaling up coverage for the biannual rounds in focus-districts.	X	X Vitamin A liquid (state level)  All anemia-reducing medicines – temporarily (state level)	X	X Vitamin A liquid (state, district, block Project Implementation Plans [PIP])	
<b>Distribution planning:</b> Support district staff in distribution planning for micronutrient medicines and anemia-reducing medicines not packaged in kits	X	X Vitamin A liquid and deworming medicines (state level)  All micronutrient and anemia-reducing medicines – temporarily (state and district level)	X	X Vitamin A liquid and deworming medicines (focus-districts)	
<b>Inventory management:</b> Work with supply managers to standardize key inventory management functions for micronutrient and anemia-reducing medicines in focus- districts.	X		X		

Potential A2Z Activities	Jharkhand State		U.P. State		National Level
	Recommended	Implemented	Recommended	Implemented	Implemented
<p><b>Training ANMs:</b> Assist the Directorate of Family Welfare to develop a short module on managing supplies and record keeping, and medication counseling for the ANM training.</p>		<p style="text-align: center;"><b>X</b> Maternal anemia; child anemia in one block in one district</p>	<p style="text-align: center;"><b>X</b></p>		
<p><b>Medication counseling:</b> Strengthen ANM skills in medication counseling specifically on how to take medicines correctly and manage side effects.</p>	<p style="text-align: center;"><b>X</b></p>	<p style="text-align: center;"><b>X</b></p>		<p style="text-align: center;"><b>X</b></p>	
<p><b>Monitoring:</b> Help identify a few key indicators to inform procurement and supply management; work with each level to identify feasible approaches to capture data.</p>	<p style="text-align: center;"><b>X</b></p>	<p style="text-align: center;"><b>X</b> Monitoring: anemia-reducing medicines (focus blocks)  Improve ANM record keeping (focus blocks)</p>		<p style="text-align: center;"><b>X</b> Monitoring: anemia-reducing medicines (focus blocks)  Improve ANM record keeping (focus blocks)</p>	

## **Advocacy and Communication**

**Recommended intervention area**—Alert state-level staff responsible for procurement and supply to problems with micronutrient and anemia-reducing medicine availability “on the ground” to inform decision making on procurement.

**Rationale**—This activity builds on the advocacy role that A2Z had been playing in both states. In U.P., given that micronutrient supplies are only held at the last of four levels in the supply system, that is at the sub-center level, it is difficult for procurement staff to know when supplies need to be ordered and how much to order. In Jharkhand, supplies may be available at different levels in the supply system and at the sub-center level, but there may not be enough to meet the needs of the biannual Jharkhand *Matri Sishu Swasth Evam Poshan Maah* (JMSSPM) [Mother Child Health and Nutrition Month] Round.

**Priority and resources assigned**—High priority. This activity became increasingly important after RCH kit procurement transitioned back to GOI and when delays occurred due to processing and awarding the tender at the national level. The States were authorized to manage interim procurements but lacked systems and procedures to know when to order and how much to order, especially of individual medicines. No specific A2Z funding was assigned to support the activity although significant staff time was devoted to this issue from 2007 until the kits arrived at the district in mid-2009. In Jharkhand, relatively frequent changes in State government and the subsequent turnover of health officials has meant that the A2Z staff has needed to devote significant staff time to sensitizing new leaders on the importance of micronutrient and anemia-reduction programs and the need for continuous availability of supplies.

**Focus**—All micronutrient and anemia-reducing medicines

**Where implemented**—National level, Jharkhand, and U.P. States

**Description**—The A2Z staff worked to communicate the extent of supply shortages at sub-centers to government officials at national, state, district, and block level and implementing partners, and to advocate for action to address constraints or explore alternative solutions. Data and indicators on availability of micronutrients and anemia-reducing medicines generated through the monitoring activity (described later) were used to support advocacy efforts. Facilitation and problem solving were key areas of work and A2Z engaged at all levels of the health systems and also with the procurement agent and vendors to resolve issues. This activity was ongoing at the time of the assessments in 2007 and 2008; the change after the MSH assessment in 2008 was that A2Z used indicators to support advocacy on the need to act. Some examples of issues addressed are listed below—

- National Level
  - When GOI resumed the procurement of RCH kits in 2008, A2Z advocated for increasing the number of bottles in each kit from 6 to 12 to meet the expanded need due to changes in age group recommendations and increased coverage. This increase was particularly important for the States of U.P. and Jharkhand where higher coverage levels meant that the stock supplied in kit A was insufficient to meet requirements, especially at sub-centers that served populations greater than 5,000.

- Also at this time, A2Z worked with UNOPS to replace mebendazole tablets with albendazole tablets in kit B in line with changes to the national standard treatment guidelines.
- In 2008, A2Z worked with GOI and UNOPS to correct IFA syrup specifications in the pending UNOPS procurement which specified a concentration of ferrous sulphate 100 mg and folic acid 0.5 mg per 5 mL, instead of elemental iron (as ferrous sulphate) 100 mg and folic acid 0.5 mg per 5 mL. The product as specified would provide only 4 mg instead of 20 mg of iron in 1 mL.
- In June 2010, A2Z communicated with GOI to advocate for a change to the specification for vitamin A liquid issued in the bid document for kit A. Following the communication from A2Z that included information on the increased toxicity associated with the use of water-miscible products, the specification was amended from a water-miscible to an oil-based liquid.
- State of Jharkhand
  - The A2Z project has been assisting the Directorate of Health and Family Welfare to address procurement and supply problems and alerting them to stock shortages since procurement of RCH kits was decentralized to States early in the project.
  - In May 2008, there were difficulties and expenses encountered in procuring kits so the State procured individual medicines and decided to pack kits themselves. After two months, the A2Z project contacted the government to alert them to impending shortages at sub-centers and advocated for prompt distribution of the individual medicines to the district stores and down through the PHC/CHC level to the sub-center level to alleviate shortages. A2Z assisted the State government to develop distribution plans at both state and district levels (discussed later).
  - In September 2009, vitamin A liquid sufficient to cover two rounds was supplied without spoons, delaying the second JMSSPM Round by three months. A2Z helped to get this addressed.
  - In 2009, when the first tranche of GOI-procured kits arrived at the district stores, it was discovered that no kits had been sent for the newly established districts. A2Z staff advocated for and assisted with the redistribution of kits to ensure that sub-centers in the new districts were not left without supplies.
  - In 2009, the A2Z project organized meetings with local chemists and druggists to sensitize them to the anemia-reduction programs available in the public sector and to ask them to inform pregnant women about these programs and refer them when appropriate.
- State of U.P.
  - As in Jharkhand, a priority activity for the A2Z team has been to alert government officials at all levels of impending shortages and to advocate for action to prevent or alleviate them.
  - In 2009 following the award of the tender, A2Z worked with UNOPS, the vendor and the State government to collect complete address information for the entire district consignees thereby accelerating the delivery of the kits to district stores.
  - Meetings were also held in U.P. in the latter part of 2009 to sensitize local chemists and druggists about public sector anemia-reduction programs. Three meetings were held and 80 individuals attended.

Collaborating with the World Health Organization (WHO), UNICEF, the Micronutrient Initiative and other partners to advocate for and support GOI to introduce policy changes and

provide guidance in line with international recommendations is a key role of the A2Z project. This advocacy has produced changes in rapid succession in policies affecting micronutrient and anemia-reducing programs at the national level and facilitated implementation at the state level. Some of these important policy changes and guidance related to pharmaceutical management, including selection and rational use are set out below—

- National level
  - In January 2007, GOI increased the age group for VAS from 9-35 months to 9-59 months.
  - GOI lowered the age for IFAS from 12 to 6 months and in April 2007 increased the upper age from 3 to 5 years.
  - In April, 2007 the existing IFAS policy for young children was modified to reintroduce a liquid formulation; children 6-10 years old and adolescent girls were added as new target groups.
  - On February 6, 2008, a Child Anaemia Workshop organized by the National Institute of Health and Family Welfare with support from the A2Z project prepared draft recommendations, including one that stated that IFA syrup should be supplied with a dispenser that measured a dose of only 1 mL at a time.
  - In 2009, A2Z prepared a guidance note to support the reintroduction of IFA syrup that provided information on when and how to administer the medicine, how to manage side effects and when to discontinue use. The guidance was shared with the national government, UNICEF, and the Micronutrient Initiative's Assistant Commissioner in Charge of Child Health in April 2010. The guidance has been adopted by U.P. State and Jharkhand State (see below).
  - Following A2Z advocacy, GOI issued new deworming guidelines for pre-school children starting at 12 months instead of 2 years.
  
- State of Jharkhand
  - In 2008, district task forces for maternal anemia were established under chairmanship of Deputy Commissioner in eight districts. Responsibilities include quarterly monitoring of the number of patients receiving IFA Large tablets and deworming medicines, actual coverage compared to expected coverage, and patient adherence levels.
  - In November 2008, the government approved a policy to dispense the total quantity of 100 IFA Large tablets to pregnant women on their first visit. Previously the IFA Large tablets had been supplied in three batches but A2Z advocated for a policy change after it was shown that 35% of pregnant women do not return for all three visits.
  - More recently, following A2Z advocacy, health workers in nine A2Z focus-districts began directly observing the administration of single dose albendazole to pregnant women during the biannual round as a strategy to improve adherence. This practice is gradually being adopted by other districts in the State.
  - The national policies to lower the age for IFAS from 12 to 6 months and lower the age for deworming from 24 to 12 months have been introduced by the Government of Jharkhand.
  
- State of U.P.
  - The national policy to increase the age for IFAS from 3 to 5 years was adopted by the Government of U.P. in September 2009.

- The national policy to lower the age for deworming from 24 to 12 months was introduced by the Government of U.P. for the year 2010-2011.
- Following A2Z advocacy, Anganwadi Workers (AWWs) and Accredited Social Health Activists (ASHAs) in A2Z focus blocks were allowed to keep and distribute IFA Large tablets to improve coverage. The State will monitor results in these focus blocks to inform policy decision making at the state level.
- The guidance note prepared by the A2Z project on IFA syrup described above was shared with the U.P. government and partners, and in February 2010, the note was issued by the Director General of Family Welfare to all 71 districts in the State of U.P.

**Collaborators**—WHO, UNICEF, and the Micronutrient Initiative

**Factors that influenced implementation**—In U.P., the lack of a project office in Lucknow made it difficult for A2Z to effectively advocate at the state level for policy changes and constrained communication on issues such as stock shortages. In Jharkhand, the turnover of government and health officials and having to re-engage and sensitize officials on key issues was a constraint. Advocating for policy change to promote the use of albendazole during pregnancy is somewhat controversial. Despite WHO and UNICEF recommendations on its use, the label currently states that the medicine is not to be used during pregnancy per the directions of India's Drug Controller. There is also some opposition by clinicians who are opinion leaders in the State of U.P.

**Monitoring and evaluation and supervision systems for follow-up**—Not relevant

**Status/Next steps**—A2Z staff members' role in advocacy, communication, and problem-solving will likely be ongoing until the project end. Recognizing the importance of having a champion to advocate for and facilitate problems in micronutrient and anemia-reduction programs, staff in both States have been working with local officials to identify, capacitate, and motivate a government worker who can take on this role. In U.P., following advocacy of the A2Z project, the Block Health Education Officer (BHEO) was appointed as the nodal officer to manage maternal anemia-reduction programs at block level in six focus-districts as a pilot initiative for the State. The BHEO reports directly to the Medical Officer In Charge (MOIC) and the District Immunization Officer, thereby creating an additional layer of monitoring and supportive supervision on a day to day basis. All 80 BHEOs in six focus-districts had been trained by A2Z at the time of the evaluation. In Jharkhand, A2Z have been working to capacitate the District RCH Officer who reportedly has the authority, time, and budget to take on the role of champion for the maternal anemia program. However, unlike the BHEO which is a relatively new post (established in 2006), the challenge is to keep the RCH officer motivated due to competing priorities. For sustainability, it is important that the maternal anemia-reduction responsibilities for these post holders are instituted at state level.

The issues related to the procurement of RCH kits may not all be in the past. Following the expiration of the contract with UNOPS, the GOI has contracted with RITES, a GOI enterprise to manage the next tender for RCH kits and it may take time to get systems and processes up and running. Moreover, a key informant indicated that GOI may transfer responsibility for procurement of the kits back to the States once capacity issues had been addressed. Exploring whether other USAID-funded projects, such as the Maternal and Child Health Integrated Program (MCHIP) could fold advocacy for micronutrient and anemia-reduction programs

into their existing advocacy efforts when the A2Z project finishes is therefore an important consideration.

### **Supporting Quantification**

**Recommended intervention area**—Provide support for rational quantification of micronutrient needs for scaling up coverage for the biannual rounds in focus-districts.

**Rationale**—This activity built on A2Z work in both States to assist focus-districts to quantify vitamin A liquid requirements for the biannual JMSSPM (Jharkhand)/ *Bal Swasthya Poshan Mah* (BSPM—Child Health and Nutrition Month, U.P.) rounds. The methodology for quantifying needs to ensure that sufficient supplies are available to meet coverage targets and complete the biannual round differs from approaches for quantifying needs for other medicines.

**Priority and resources assigned**—Initially, high priority but became less important when the procurement of RCH kits was recentralized and the quantity of vitamin A liquid increased in kit A from 6 to 12 bottles. It is difficult to establish the specific resources assigned (financial and human) to this task as these activities were implemented as part of planning for the JMSSPM/ BSPM Rounds.

**Focus and scope**—Primarily vitamin A liquid at state level. In Jharkhand State, other micronutrient and anemia-reducing medicines for State procurements of individual medicines from 2006 to 2009.

**Where implemented**—Jharkhand and U.P. States

**Description**—In Jharkhand, A2Z assisted with quantification of vitamin A liquid at the state level to ensure that sufficient quantities were requested from UNICEF and later procured by the State to meet coverage goals. Technical assistance was discontinued when procurement of kits was recentralized and the quantity of vitamin A liquid in kit A was doubled. In Jharkhand State, A2Z staff also provided ad hoc assistance to the government to quantify requirements of other individual micronutrient and anemia-reducing medicines for State procurements until procurement was recentralized to GOI and kits were delivered in mid-2009.

In U.P. State, UNICEF and Cooperation for Assistance and Relief Everywhere (CARE) worked with A2Z to assist the Directorate of Family Welfare to implement a standardized evidence-based approach to quantifying vitamin A liquid and budget needs. A population-based methodology was shared with the government and ultimately taken up by State. The formulas for quantifying needs (medicines and funds) have been incorporated into the BSPM Round 2010-11 PIP at state, district, and block level. A2Z continues to support this activity on an annual basis.

**Collaborators**—CARE, UNICEF, and the Micronutrient Initiative

**Factors that influenced implementation**—Technical assistance was no longer needed once kits arrived.

**Monitoring and evaluation and supervision systems for follow-up**—In both States, VAS coverage is followed up as part of the government's monitoring procedures for the

JMSSPM/BSPM Rounds. However, districts do not routinely report on the supply situation of vitamin A liquid. The A2Z project did not follow up to evaluate outcomes.

**Status/Next steps**—In Jharkhand State, technical assistance activities have been completed or are no longer required. In U.P. State, A2Z continues to provide assistance for quantifying needs of vitamin A liquid only. However, procedures for quantification of vitamin A liquid and funding have been institutionalized by incorporating them into the PIP at each level of the health system.

### ***Support for Distribution Planning***

**Recommended intervention area**—Support district staff in distribution planning for micronutrient medicines and anemia-reducing medicines not packaged in kits in A2Z focus-districts.

**Rationale**—This activity built on A2Z work in focus-districts in both States to help them to develop a distribution plan for vitamin A liquid requirements based on population and anticipated coverage at each sub-center. Previously, the same allocation was provided to each type of facility regardless of the population served. The methodology for preparing the distribution plan for the biannual JMSSPM/BSPM Rounds to ensure that sufficient supplies are available to meet coverage targets and complete the round differs from approaches for other medicines.

**Priority and resources assigned**—Initially, high priority but became less important once the procurement of RCH kits was recentralized and micronutrient and anemia-reducing medicines came packed in kits. It is difficult to establish the specific resources assigned (financial and human) to this task as these activities were implemented as part of planning for the JMSSPM/BSPM Rounds.

**Focus and scope**—Vitamin A liquid and deworming medicines for biannual rounds at state level. In Jharkhand State, other anemia-reducing medicines at state and district level.

**Where implemented**—Jharkhand and U.P. States.

**Description**—In Jharkhand, A2Z assisted with distribution planning for vitamin A liquid and deworming medicines at state and district level to ensure that sufficient quantities were provided to sub-centers to meet coverage goals for the JMSSPM Round. In U.P., technical assistance was provided to focus-districts only. The Excel-based tools, instructions, and responsibility for implementation were handed over to states and districts in Jharkhand in 2008 and to focus-districts in U.P. in 2009. In Jharkhand, A2Z staff also provided ad hoc assistance to staff at state and district stores to develop plans for distributing individual micronutrient and anemia-reducing medicines until RCH kits were received in mid-2009.

**Collaborators**—UNICEF and the Micronutrient Initiative

**Factors that influenced implementation**—Technical assistance no longer needed once kits arrived. In U.P., the lack of an A2Z project office in Lucknow made it difficult for A2Z to institutionalize use of the tool and methodology at state level.

**Monitoring and evaluation and evaluation, and supervision systems for follow-up**—In both States, the VAS coverage is followed up as part of the government’s monitoring procedures for the JMSSPM/BSPM Rounds. However, districts do not routinely report on the supply situation of vitamin A liquid. There has been no formal follow up by the A2Z project in either State to see how many districts are still using the tool, or to collect feedback on its usefulness, and to evaluate outcomes.

**Status/Next steps**—In both states, technical assistance activities have been completed or are no longer required. In U.P. State, the tool was not shared at state level and so has not been institutionalized.

### ***Training ANMs in Supply Management and Medication Counseling***

**Recommended intervention area (for U.P.)**—Assist the Directorate of Family Welfare to develop a short module on managing supplies, record keeping, and medication counseling for the ANM training.

**Rationale**—Given that in U.P. State, the sub-center is the only level where stocks of micronutrients and anemia-reducing medicines are constantly maintained, it is important that information on product availability and usage at this level is gathered and reported correctly. To have the desired outcome, micronutrients and anemia-reducing medicines must be taken correctly by clients for the recommended time. Furthermore, irrational use can negate the funds, time, and effort invested in strengthening selection, procurement, and distribution operations.

**Priority and resources assigned**—Not implemented in U.P. The intervention was not perceived as a priority by the government and was not included in the PIP. The resources assigned for implementation in Jharkhand were not reported.

**Focus and scope**—Training in maternal anemia reduction; child anemia reduction in one block (Murhu) in one district (Khunti District) in Jharkhand.

**Where implemented**—Jharkhand State

**Description**—A2Z developed a comprehensive module on maternal anemia reduction that included medication counseling. These training materials were developed in 2008 and are now being used routinely by the Government of Jharkhand’s RCH program to train ANMs and AWWs. Comprehensive materials were similarly developed for the child anemia reduction program and were used in one block of Kunti district where the feasibility of the child anemia reduction package was tested.

**Collaborators**—None identified

**Factors that influenced implementation**—Not seen as a priority for the government in U.P.

**Monitoring and evaluation and supervision systems for follow-up**—There has been no formal follow-up by the A2Z project to solicit feedback on the training materials. Pre- and post-tests are used to check the effectiveness of the knowledge transfer and observation of routine immunization sessions (described later) is used to check if ANMs and AWWs are putting the knowledge and skills gained during the training into practice.

**Status/Next steps**—Training materials for the maternal anemia reduction program have been institutionalized in Jharkhand State. The next steps planned are for A2Z to review and update the materials and share them at the national level.

### **Strengthening Medication Counseling**

**Recommended intervention area**—Strengthen ANM skills in medication counseling, specifically, for advising patients how to take medicines correctly and manage side effects.

**Rationale**—To have the desired outcome, micronutrient supplements and deworming medicines must be taken correctly by clients for the recommended time. Furthermore, irrational use can negate the funds, time, and effort invested in strengthening selection, procurement, and distribution operations.

**Priority and resources assigned**—Not reported.

**Focus and scope**—Micronutrient and anemia reduction for both pregnant women and children.

**Where implemented**—Jharkhand and U. P. States

**Description**—The activity focus was mainly to develop information, education, and communication materials. Three posters that included information on how to take medicines, store them, and how to manage side effects that can be used by ANMs as a checklist for counseling were developed for VAS, maternal, and child anemia-reducing medicines.

In addition, three job cards have been developed to assist ANMs to perform their duties, one for each program —VAS, maternal anemia reduction, and child anemia reduction. The job card for the maternal anemia reduction program provides step-by-step instructions on—

- How to identify and fill registration gaps
- How to identify and fill coverage gaps
- How to prevent stock-outs of IFA Large tablets and deworming tablets (including how to calculate the resupply level at the sub-center based on the number of pregnant women to be served)
- How to administer services and provide medication counseling

A similar job card has also been developed for use by the MOIC at block level. Only the job card for the maternal anemia program was made available to the MSH consultant during the evaluation as the other two job cards are undergoing testing. It is not known if the other two job cards provide similar guidance.

**Collaborators**—UNICEF and the Micronutrient Initiative

**Factors that influenced implementation**—Lack of resources to print and disseminate the posters beyond A2Z focus-districts was reported as a constraint to implementation in both

States. In U.P., A2Z staff reported that resources have not been available to print and disseminate the child anemia reduction poster.

**Monitoring and evaluation and supervision systems for follow-up**—Job cards have only recently been developed and so there had been no follow up at the time of the evaluation. So far A2Z have not planned for any formal follow up in either State to see how widely the cards are used, or to collect feedback on usefulness, and to evaluate outcomes.

**Status/Next steps**—In Jharkhand State, only the ANM maternal anemia reduction job cards have been disseminated widely; the child anemia reduction job cards are reportedly only used in focus-districts. In U.P., the A2Z team had just begun testing the maternal anemia-reduction job cards and planned to finalize them in June 2010.

### ***Monitoring Availability and Rational Use***

**Recommended intervention area**—Help identify a few key indicators to inform procurement and supply management; work with each level to identify feasible approaches to capture data.

**Rationale** —Regularly monitoring a small set of well-defined pharmaceutical management indicators can help managers to detect problems early and address them promptly. Indicators are useful for evaluating the impact of an intervention designed to address a pharmaceutical management problem.

**Priority and resources assigned**—High priority when maternal anemia reduction was made the key focus area for the A2Z program in India. Improving ANM inventory record keeping appears to have been less of a priority. The A2Z consultants in U.P. report that they spend on average one day per month supporting supply management activities in their block, primarily the tracking of IFA Large tablets.

**Focus and scope**—Tracking stock of IFA Large tablets in focus-districts. Monitoring of availability, record keeping, and medication counseling for anemia-reducing medicines for pregnant women at routine immunization sessions, and consumption for pregnant women and children during home visits in focus-districts. Improving ANM inventory record keeping has been targeted in focus-districts.

**Where implemented**—Jharkhand and U.P. States

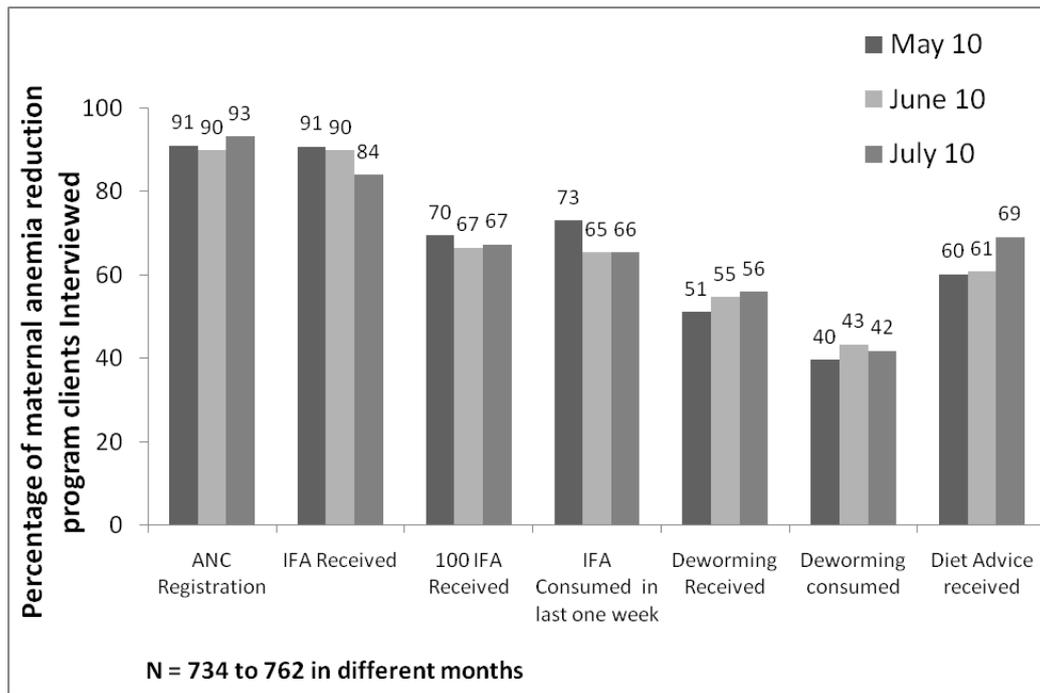
**Description**—Three monitoring tools have been developed by the A2Z/India Senior Technical Advisor, the former Jharkhand A2Z State Program Manager, and the former A2Z/India Monitoring and Evaluation Officer. All three tools have been implemented by the A2Z teams in both States to support their monitoring activities. The tools are currently used by A2Z staff to monitor availability and appropriate use of anemia-reducing medicines in focus blocks only. Two of the tools—the *Routine Immunization Observation Checklist* and the *Home Visit Tool*—are program performance monitoring tools of which pharmaceutical management is one component. The information generated by these tools is reported on monthly by the A2Z program and reports are shared with government counterparts at block and district level. The *IFA Status Report* is a tool specifically for monitoring the stock status of one medicine, namely IFA Large tablets at sub-centers in each focus block.

- The *Routine Immunization Observation Checklist* existed before the MSH assessments in 2007 and 2008. However, after the assessments, some addition parameters were added on availability and medication counseling. The tool was further modified in October 2009 to simplify it and make it easier for the results to be used to provide feedback. The tool has been used in Jharkhand since July 2008 and in U.P. since December 2009. A2Z consultants attend eight immunization sessions per month on average. Data is collected for each encounter on the following pharmaceutical management parameters—
  - Availability of IFA Large tablets for administration to pregnant women
  - Availability of deworming tablets for administration to pregnant women
  - AWW observed to record IFA consumption
  - AWW observed to provide counseling to pregnant women
  - AWW specifically mentions number of IFA tablets to take, when to take IFA; how to take deworming medicines; prevention of side effects during the counseling session

Data is entered into an Excel spread sheet that automatically generates a graph.

- The *Home Visit Tool* was introduced in Jharkhand in June 2008 and in U.P. in December 2009 and again the tool is administered by A2Z staff only. This tool was also modified in October 2009 to make it easier for the results to be used to provide feedback. The Excel-based tool has separate spreadsheets for maternal anemia reduction and child anemia reduction visits; however the child anemia reduction visits are being conducted only in Jharkhand State at present. Data is collected for each visit on the following pharmaceutical management parameters for pregnant women—
  - Whether the pregnant woman received IFA Large tablets
  - How many IFA Large tablets were received
  - Whether she consumed IFA Large tablets in the last seven days
  - Whether the pregnant woman received deworming tablets
  - Whether she consumed the deworming tablets
- For children, data is collected for each visit on—
  - Whether the child received IFA syrup
  - Whether the child consumed IFA syrup in the last seven days
  - Whether the child received deworming tablets
  - Whether the child consumed the deworming tablets

Data is entered into an Excel spread sheet that automatically generates a graph. Figure 5 shows the graph generated from data collected during home visits in three blocks in nine districts of U.P. State for May, June, and July 2010.



Source: Dr. Prakash V Kotecha; Senior Technical Advisor, A2Z India

**Figure 5. Performance indicators for the maternal anemia reduction program generated from home visits in three blocks in nine districts of U.P. State for May, June, and July 2010**

- The Excel-based *IFA Status Report* was introduced in 2008 in both Jharkhand and U.P. The status report is prepared by A2Z consultant staff for focus blocks only. Estimated annual and quarterly consumption are calculated for each sub-center based on population data and entered into the tool at the beginning of the year. Every month, the ANM reports the stock status to the A2Z consultant who enters it into the tool and generates a report for each block. The report is emailed to the A2Z staff office and consolidated into a single report. The information is used to generate a graph that compares stock positions with estimated requirements. The A2Z consultant shares the report with ANMs at a monthly meeting conducted by the MOIC and if the sub-center has less than two months stock available, the ANM is instructed to indent more stock. However, if the sub-center is overstocked, supplies are redistributed, currently by A2Z staff. In U.P., the report is also shared at a monthly meeting with the Medical Officer, Immunization Officer and BHEO.

A2Z consultants in both states have provided some one-on-one mentoring to ANMs to train and motivate them to maintain a stock register, including receipts, issues, and balance. In some blocks, the MOIC has been sensitized to the importance of record keeping and follows up during sub-center visits to check that it is being completed correctly.

**Collaborators**—None identified

**Factors that influenced implementation**—None so far.

**Monitoring and evaluation and supervision systems for follow-up**—There had been no follow-up at the time of the evaluation to collect feedback on the tools usefulness and to evaluate outcomes (for example, stock-outs or expiries avoided; actions taken to improve

practice) and there were no plans to do so. Also, there has been no routine monitoring of improvements in record-keeping practices.

**Status/Next steps**—In U.P., the A2Z team plan to transition use of the *Routine Immunization Observation Checklist* to BHEOs in focus-districts beginning in June 2010 and to hand over responsibility for producing the report to the Investigator cum Computer Clerk officer. At the time of the evaluation some BHEOs had occasionally accompanied the A2Z staff on their visits; however the main obstacle to the handover is the lack of transportation for the BHEO to travel to the immunization sessions. It was not clear at the time of the evaluation how the tool will be institutionalized at state level. In Jharkhand, A2Z staff members have shared the checklist with medical officers, lady health visitors, and other development partners; some of these staff have accompanied A2Z consultants on their monitoring visits. The A2Z state team plan to transition the monitoring of routine immunization sessions to these partners during the remaining project tenure.

It is also intended that the *IFA Status Report* eventually be handed over to the government in both States, however, there is some concern around sustainability and if the local officials will be motivated to continue using what is essentially a one-medicine tool, given all their competing priorities. There are no plans to hand over responsibility for home visit observations—these will end when the A2Z project closes. It was observed that the new NRHM reporting forms completed by the ANMs monthly that have replaced Form 6 no longer collect data on the stock position of pharmaceuticals supplied in kits A and B so the *IFA Status Report* is currently the only source of information available to medical officers on stocks held at the sub-center level. Activities to improve record keeping at sub-centers will probably not be continued after the end of the A2Z project.

The various tools that focus on or have a component that supports pharmaceutical management operations that have been described in this section are listed in Annex 3.

### **Summary of Observations on Current Pharmaceutical Management Operations in the States of Jharkhand and Uttar Pradesh**

As noted in the methodology section, the observations presented in this section are not formal assessment results and cannot be extrapolated beyond the few facilities visited (annex 2) because of the small number of facilities visited. The primary objective of visiting the facilities was to collect some data on the availability of micronutrient and anemia-reducing medicines and on use, where possible and to solicit feedback on A2Z activities and contributions to improve pharmaceutical management. The consultant also looked for evidence that A2Z-developed tools were in use and explored the extent to which tools and interventions had been transitioned to local partners and whether they had been adopted and sustained. During the visit, the MSH consultant was able to observe some of the storekeeping and inventory management practices including record keeping at different levels, but these were not evaluated in any systematic way.

The constraints to attributing any observed improvements in availability and use of micronutrients and anemia-reducing medicines directly to A2Z interventions are several. Transferring responsibility for RCH kit procurement back to the national level and the consequent changes in availability made it difficult to detect any changes resulting from A2Z interventions that mainly targeted issues further down the supply chain or were no longer

relevant due to changes in procedures for procurement and distribution of RCH medicines. Also, most interventions introduced by A2Z are recent and limited to selected blocks or districts and moreover, only addressed selected gaps in pharmaceutical management of micronutrient and anemia-reducing medicines. An important limitation in Jharkhand State was the removal of inventory records at state, district, and PHC/CHC stores. At the stores visited, only three or four months of data were available on the availability of micronutrients and anemia-reducing medicines, making it difficult to make meaningful comparisons with the situation back in 2007-2008.

### ***Micronutrient and Anemia-Reducing Medicine Availability at Facilities Visited***

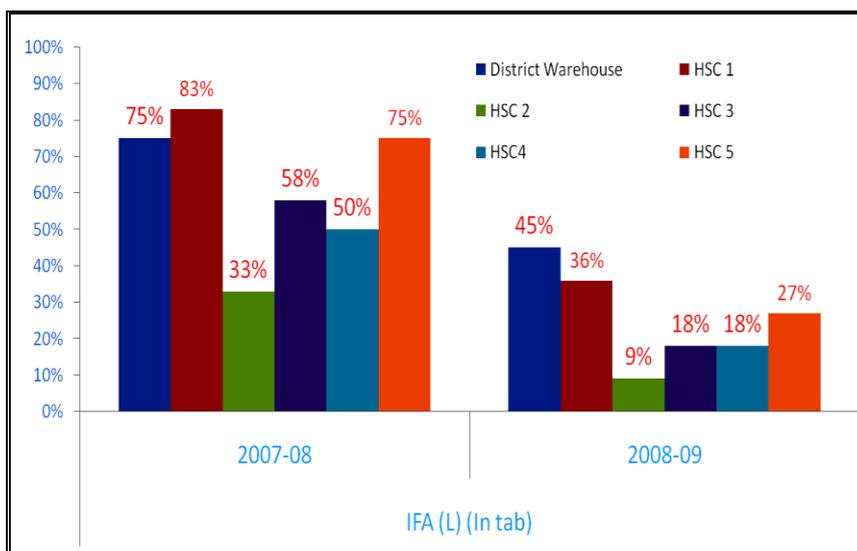
#### ***Jharkhand State***

Once the supply of RCH medicines reverted back to kits, it was no longer necessary maintain a “full pipeline”, that is, to keep stocks of RCH medicines at every level of the health system. Therefore, indicators on availability of micronutrients and anemia-reducing medicines are now only relevant at the sub-center level. Because data on availability at the time of the visit was only collected at two sub-centers (Rampur and Jorakoram Sub-Centres) in 2010, one in 2008 (Kuju), and none in 2007, it is difficult to make comparisons with data from the 2007-2008 (table 4).

**Table 4. Availability of Micronutrient and Anemia-Reducing Medicines**

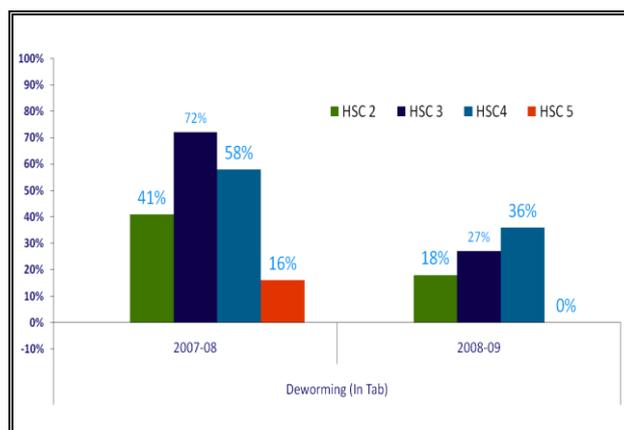
<b>Indicator</b>	<b>Product</b>	<b>Kuju Sub-Centre, Hazaribagh District, February 2008</b>	<b>Rampur Sub- Centre, Ranchi District, May 2010</b>	<b>Jorakoram Sub- Centre, Rampur District, May 2010</b>
In stock at time of visit	Vitamin A liquid	Yes	Yes	Yes
	IFA Large tablets	Yes	Yes	Yes
	IFA Small tablets	No	Yes	No longer used
	IFA syrup	Not available in 2008	Yes	Yes
	Mebendazole/ albendazole tablets	No	No	Yes

Unfortunately, no data was collected on the percentage of time that micronutrient and anemia-reducing medicines were out of stock for any sub-centers in 2007 and 2008. Neither of the ANMs at the two sub-centers visited during this evaluation could recall any stock-outs for vitamin A liquid or IFA preparations over the previous 12 months. However, at both sub-centers, the ANM estimated that albendazole tablets had been out of stock for about 25 percent of the last 12 months. So the indications are that the supply of micronutrients and anemia-reducing medicines has been uninterrupted for the last year with the exception of albendazole tablets in the blocks visited. The A2Z project may want to explore if shortages of albendazole tablets have been widespread and the possible causes. Figures 6 and 7 show the availability indicators for IFA Large tablets and deworming medicines reported by A2Z India in their annual report for financial year 2009 for one district. Availability of these two medicines improved considerably between financial years 2007-2008 and 2008-2009.



Source: A2Z India Annual Report: Financial Year 2009

**Figure 6. Percentage of time out of stock for IFA large tablets at five sub-centers and one district warehouse in Dumka district, Jharkhand State during financial years 2007/8 and 2008/9**

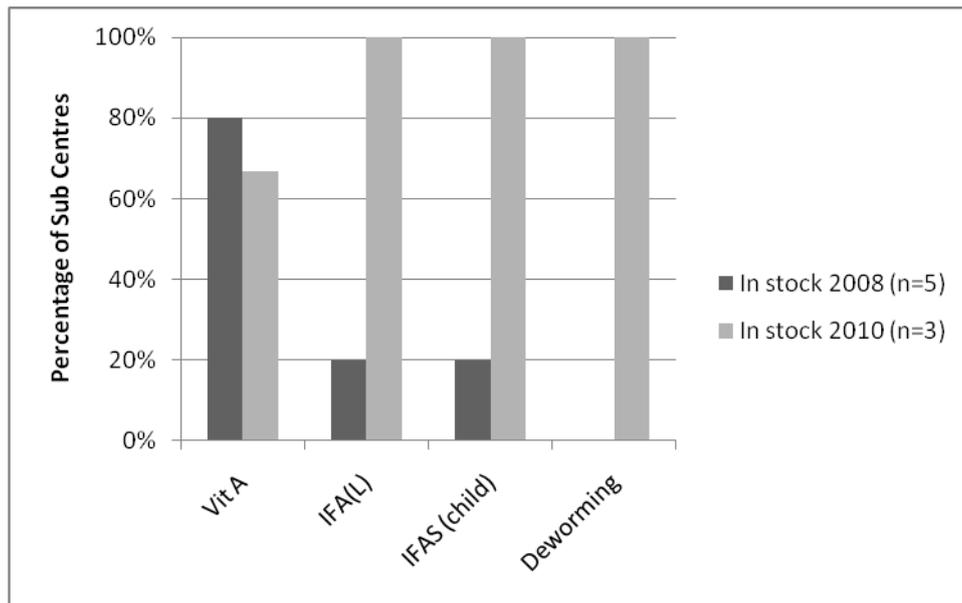


Source: A2Z India Annual Report: Financial Year 2009

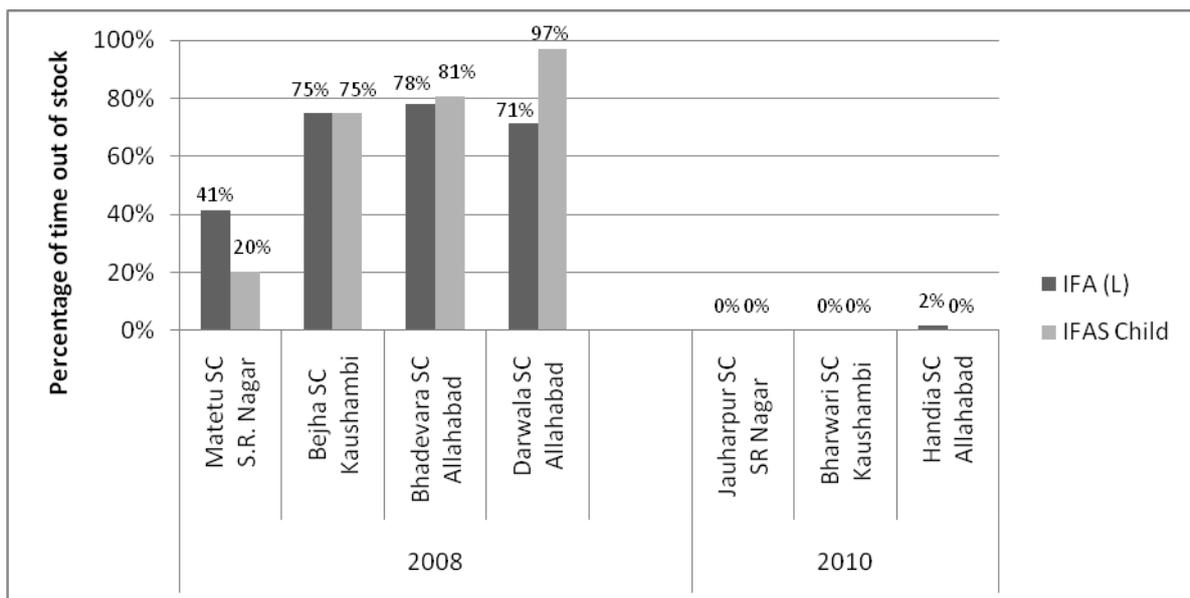
**Figure 7. Percentage of time out of stock for deworming tablets at four sub-centers in Dumka district, Jharkhand**

### U.P. State

The availability indicators presented in figures 8 and 9 indicate significant improvements in the availability of micronutrient and anemia-reducing medicines at sub-centers in the districts visited between January 2008 and May 2010.



**Figure 8: Percentage of sub-centres visited in U.P. State in January 2008 and May 2010 that reported having micronutrient and anemia-reducing medicines in stock at time of visit**



**Figure 9. : Estimated percentage of time out of stock for anemia-reducing medicines for the previous 9 to 12 months at sub-centers, U.P. State in January 2008 and May 2010**

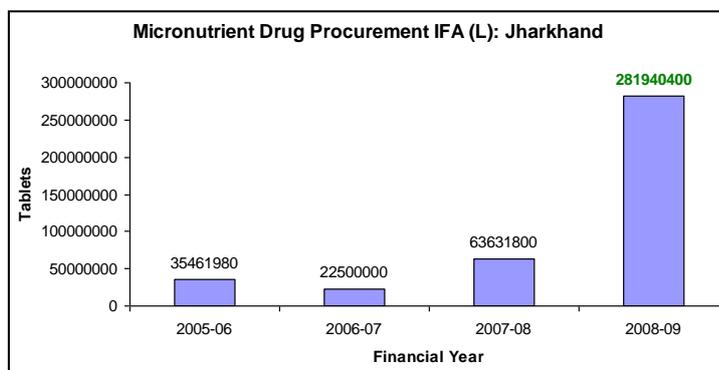
### **Pharmaceutical Procurement Capacity and Practices**

All micronutrients and anemia-reducing medicines for the RCH/NRHM program are now primarily procured at the national level. UNICEF and the Micronutrient Initiative no longer supply vitamin A liquid to either State. It is understood that Jharkhand State is still committed to buy vitamin A liquid for the JMSSPM Round if needed to fill coverage gaps. As the states are no longer procuring micronutrients and anemia-reducing medicines, the consultant did not

visit the State offices responsible for pharmaceutical procurement and is therefore not aware if the issues identified back in 2007-2008 concerning the lack of a permanent procurement unit (Jharkhand), and lack of capacity and standardized procedures (both States) have been resolved. Reportedly, neither state is receiving long-term donor-funded technical assistance to strengthen its procurement and supply management systems at present.

If however, the GOI decides to decentralize procurement of the RCH kits to the States in the next year or two, the concern for the A2Z project and for the State programs that they support is whether the State procurement units have the capacity to manage the tendering and procurement of kits and overcome the other constraints they encountered in 2006-2009. If the States revert to procuring individual medicines in place of kits, the key consideration is whether the existing supply system with its four levels can distribute the products to the sub-centers when they are needed and in the quantities needed.

Although difficult to quantify, the A2Z project, together with partners such as UNICEF and the Micronutrient Initiative, undoubtedly played some role in helping to alleviate shortages of micronutrients and anemia-reducing medicines (and possibly other medicines that are supplied in the kits) in both States, particularly between 2007 and 2009 by communicating issues with supply to the higher levels and problem solving at all levels. Figure 10 shows the increase in quantity of IFA Large tablets procured by the Government of Jharkhand for financial year 2008-2009 in part due to A2Z and partner communication and advocacy efforts. As one former A2Z staff member reported, “the situation was bad but it could have been much worse.”



**Figure 10. Quantity of IFA Large tablets procured by the Government of Jharkhand**

### ***Standardization in Quantification, Distribution, and other Operating Procedures***

As mentioned earlier, once the supply of micronutrient and anemia-reducing medicines reverted back to kits that were shipped down to sub-centers, standardizing the systems for quantification, distribution, and managing information for resupply became less of a priority for A2Z. From the visits to public-sector facilities conducted during this evaluation, it does not appear as though the pharmaceutical management operations situation has changed significantly since the initial assessment at the district level and below. For example, SOPs for inventory control decisions such as “when to order” and “how much to order” are still lacking.

In U.P., the A2Z project's main contribution in this area has been to standardize the quantification of vitamin A liquid which has now been institutionalized and incorporated into the PIP plan at all levels. The Chief Medical Officer in Allahabad mentioned that once he started to use the formula in the NRHM plan, the district then received enough vitamin A liquid to complete the BSPM Round. There has not been any structured follow-up in Jharkhand State to see how many facilities continue to use the distribution tool developed by A2Z and of its usefulness. However, the Storekeeper In Charge at Ramgarh District Store identified assistance with distribution planning as the most useful contribution of the A2Z project "Now I can calculate alone how much to send." The storekeeper at Ranchi District Store also reported that A2Z cooperation and guidance on distribution as being the most useful input.

Because 200 bottles of IFAS syrup are now included in kit A, the kit is now very heavy. The weight has increased from 12-14 kg to 40-45 kg and now each sub-center receives three cartons instead of one. This increase in size and weight has complicated distribution at several levels. Districts and PHC/CHCs often lack suitable vehicles to transport these goods. Also, the ANM can no longer collect the kit and carry it back to the sub-center in one journey. The A2Z project is now working with districts and blocks to identify solutions to these issues.

### ***Inventory Control and Storekeeping Practices***

With the notable exception of the State Drug Store in Ranchi, most of the other storage areas visited at district and CHC/PHC level in both States continue to experience severe space constraints and lack adequate shelving, pallets, and equipment to practice good storekeeping practice. Although the consultant saw some improvements in the availability of computers and in record keeping practices at most facilities visited, the pharmaceutical information management system still requires considerable strengthening.

There were, however, notable improvements in record keeping by ANMs at sub-centers in A2Z's focus blocks. All the sub-centers visited had a well maintained stock register and two ANMs reported that they had received training from the medical officer or supervisor on how to keep the register. However, it was not clear how the A2Z project plans to roll out, sustain, and institutionalize these practices at state level, if at all.

Although the *IFA Status Report* was not mentioned by name, several key informants at CHC/PHC and district level identified the value of A2Z's role in reporting shortages for medicines and specifically IFA Large tablet stock status on a regular basis so that they could take action to resolve shortages. One MOIC wanted the tool expanded to include all medicines kept at the sub-center. As mentioned earlier, the new NRHM reporting form does not require ANMs to report on the stock position of pharmaceuticals supplied in kits A and B at sub-centers.

### ***Promoting Rational Use***

During the field visits to the four sub-centers in U.P. and two sub-centers in Jharkhand, the consultant was only able to observe one encounter between an ANM and a client. However, of the three ANMs that were available for interview in U.P. State, one was able to state the correct dose and duration by client age and type for vitamin A liquid, IFA Large tablets, IFA syrup, and albendazole tablets. In Jharkhand State, both of the ANMs interviewed were able

to state the correct doses and duration. All five ANMs gave the correct additional information for administering medicines and managing side effects.

The ANMs were also asked about sources of information and job aids that they had available at the sub-center to assist them with counseling clients on how to take their micronutrients and anemia-reducing medicines. Of the posters that A2Z has prepared jointly with partners, the VAS poster was seen in one of four sub-centers visited in U.P. and one of two sub-centers visited in Jharkhand, and the maternal anemia reduction poster was seen in one of four sub-centers in U.P. and one of two in Jharkhand. The child anemia reduction poster was not seen in any facilities visited. At sub-centers visited in Jharkhand, the consultant asked about the maternal anemia reduction job cards developed by A2Z that have been rolled out first in this State, and one of the two ANMs could recall having been given one at a training and reported having used it previously for counseling patients. In one of the sub-centers visited in U.P., the ANM had been distributing IFA syrup to pregnant women as it was better tolerated and preferred by clients. She reported that she had not as yet seen the guidance note on the use of IFA syrup issued by the government in April 2010.

When key informants were asked what they considered to be the most useful A2Z contribution, the majority of the responses related to rational use. Assistance with providing counseling to patients was most commonly mentioned, followed by feedback from the routine immunization sessions and one-on-one mentoring on how to improve.

## LESSONS LEARNED

The information presented in this section was drawn primarily from interviews with current and former A2Z staff in India with some additions by the MSH consultant.

### Advocacy and Engagement

- The continuous availability of micronutrients and anemia-reducing medicines is critical if government VAS and anemia reduction programs are to achieve their coverage goals. Therefore, donor-funded technical assistance providers who support these programs will need to engage with pharmaceutical supply systems and stay engaged. Communication with procurement and supply officials and facilitation to address or mitigate problems are important roles.
- During the life of a project such as A2Z, it is likely that the pharmaceutical procurement and supply system will undergo some kind of reform or that policy changes will be put in place that impact these systems. It is therefore important to monitor the availability of micronutrients and anemia-reducing medicines during these transitions and to alert officials to problems that occur on the ground due to unintended effects of policy changes or delays in implementing new procedures.
- Presenting data on availability of micronutrients and anemia-reducing medicines at a few health facilities can be very effective in supporting advocacy efforts and in convincing health officials and partners on the need to take action to avoid or address stock-outs. Including a few other key tracer medicines, for example, oral rehydration salts, oxytocin injection, or co-trimoxazole tablets, can help to engage other program managers and donor-supported programs and thereby magnify advocacy efforts.
- Early on in the project, identify a facilitator or champion within the State government who can help the program to highlight existing or potential problems with procurement or supply of medicines to high-level officials and advocate for action to address these issues.
- An A2Z staff member reported that the 2008 MSH consultancy was useful in describing the “policy flux” with regard to procurement. There was so much chaos and confusion that it was difficult to understand what was happening and the causes of problems. The consultancy “helped to sort out what was going on” and enabled the A2Z project to better focus its advocacy efforts and facilitation role. The lesson learned is that when project staff are attuned to what is happening with the pharmaceutical supply systems that support the programs they work with, they will be better able to ascertain when to bring expert technical assistance to define what is going on in the pharmaceutical sector and advise how to move forward on advocacy interventions.

## **Project Design**

- Incorporate an assessment of the existing pharmaceutical management system early on, preferably in the project's design phase. It is important to identify not only existing problems but also to ascertain the potential future risks to the success of the project based on planned reforms or policy changes. The baseline data collected can be used to monitor the impact of activities, including advocacy interventions to address the gaps identified and to identify the impact of external factors, such as policy changes on the pharmaceutical supply system over the course of the project.
- If addressing the existing problems is beyond the mandate or financial resources available to the project, then the project can explore options for mitigating or working around the problems from the start.

## **Selection of Interventions**

- Selecting interventions to improve availability and use of micronutrient and anemia-reducing medicines while avoiding vertical or fragmented approaches can be very challenging. The mandate of projects such as A2Z, the resources available (both human and financial), and time constraints often favor approaches that focus on a limited set of medicines or geographical areas.
- Because there are some difficult choices to make, the decision-making process for selecting interventions may not be a onetime event. Discussions may need to be held with partners, the funder, and many other program managers besides those dealing with micronutrient and anemia-reducing programs.
- The factors that constrain the selection of interventions, whether resources or time or project priorities, will also limit the results that will likely be achieved in addressing problems and improving pharmaceutical management systems. Project staff need to recognize and communicate to country partners, funders, and others that selecting to implement a few interventions out of a comprehensive package or restricting the scope or geographical coverage will in turn limit results, so all involved need to be realistic about what can be achieved and the overall impact that can be expected.

## **Implementation**

- To institutionalize tools and approaches, it is essential to engage at the State level.
- When developing tools, consider how to design them so they can be used or easily adapted for other medicines and programs and to avoid vertical approaches that may not be sustainable. Early on, explore mechanisms for sharing ideas and draft tools with technical assistance partners that support other programs in the State to identify opportunities for consolidating tools and approaches, for example, for monitoring and reporting on availability of medicines.
- It is important to work with the government to identify a health worker that can be assigned as the nodal officer for the micronutrient and anemia-reduction programs and to capacitate them for this role. The success of implementation and, ultimately,

sustainability of an intervention depends on having a point person that the activity or tool can be handed over to. This has proved to be particularly important in Jharkhand where each change in government requires someone to sensitize new leaders about the VAS and anemia reduction programs and the importance of having medicines continuously available.

- Improving the availability of medicines and supplies at the sub-center level can have multiple benefits. For example, having medicines available at the sub-center after long shortages was found to raise the motivation of ANMs and improve their confidence in the programs they support.

### **Monitoring and Evaluation**

- The MSH consultant observed that in general there appears to have been little in the way of structured follow-up of the interventions implemented by the A2Z project to strengthen the pharmaceutical management system in the two States. Important information that can be used by A2Z and other technical partners to ascertain promising practices to disseminate and potential tools for the proposed toolkit did not appear to be available during this evaluation. The lesson learned is that it is important to plan and budget for monitoring and evaluation of tools or approaches (e.g., to collect feedback on the usefulness of a tool) and to evaluate outcomes (e.g., stock-outs or expiries avoided; actions taken to improve practice).

### **Potential Tools for the Proposed Toolkit**

During the field visit, the MSH consultant catalogued the various interventions A2Z implemented in India and conducted a rapid review of the tools and approaches introduced. This review included gathering information from A2Z efforts to monitor and evaluate their own interventions. However, many of the interventions are recent and as mentioned above, few structured evaluations of introduced tools had been carried out at the time of this evaluation. As a result, the list of tools that might potentially be included in the proposed generic toolkit for pharmaceutical management of micronutrients and anemia-reducing medicines must be considered as tentative at best and reviewed once detailed information from structured follow-up activities becomes available.

Before they can be included in the proposed toolkit, the potential tools will need to be thoroughly validated and also compared to existing tools as it may well be that there are other tools that do the job better. Furthermore, the tools may need to be modified for wider use and some may need to be adapted to make them appropriate for each local context, particularly with regard to what already exists in countries. It should also be noted that many of the tools A2Z developed are program-wide tools that include one or more components that support pharmaceutical management operations. It will therefore be important to check that the non-pharmaceutical management components of the tools are appropriate for micronutrient and anemia reduction programs elsewhere in India and worldwide before finalizing the generic toolkit.

Of the A2Z tools that focus on or have a pharmaceutical management component (listed in Annex 3), the following tools could be considered for inclusion in the proposed toolkit—

- Methodologies for quantifying vitamin A liquid and budget requirements for biannual rounds (for Indian States and countries that hold biannual rounds)
- Excel-based spreadsheet for distribution planning for micronutrients and anemia-reducing medicines for the biannual rounds (for Indian States and countries that hold biannual rounds)
- Training modules that include medication counseling for maternal and child anemia reduction programs (within India; potentially other countries if non-pharmaceutical management components are appropriate)
- Posters for VAS and maternal and child anemia reduction programs (in India)
- ANM and MOIC job cards for VAS and maternal and child anemia reduction programs (in India; potentially other countries if non-pharmaceutical management components are appropriate)
- *Routine Immunization Observation Checklist* (in Indian States and countries where VAS or IFAS is distributed as part of the routine immunization session)
- Set of indicators for pharmaceutical management

## RECOMMENDATIONS FOR ADDRESSING GAPS

In developing the following recommendations, the consultant considered the time left to the A2Z project for implementation and, as a result, has focused on the finishing up or hand over of existing activities rather than introducing new interventions. These recommendations are not therefore intended to address all existing gaps in the States' pharmaceutical management operations of the two States.

- **Conduct a structured follow-up of interventions implemented.** It is recommended that the A2Z project carry out a broader, more detailed review of the various approaches and tools, and use this information to identify promising practices to disseminate and potential tools for the proposed toolkit. Information such as how many storekeepers were trained in the use of a tool and how many continue to use it, feedback on the usefulness of a tool, challenges encountered, and were there any changes in outcomes, for example, in good record keeping practices, as a result of the intervention should be collected, if possible. Important lessons can also be learned from interventions that did not succeed or were not taken up.
- **Prepare for hand over.** As A2Z has a year or less before the project ends, a detailed plan and timeline should be developed for transitioning advocacy efforts, approaches, and tools to government counterparts or other technical assistance projects where appropriate, and for institutionalizing them, ideally at state level, where possible. Some suggested steps are set out below.
  - Ensure that the approach or intervention is yielding the expected results by conducting a structured follow-up as discussed above before rolling it out. Solicit feedback on suggested changes that can improve the tool or procedure, or make it more feasible to scale up or sustain.
  - In consultation with the government and partners, decide which approaches and tools will be handed over and prioritize the interventions selected.
  - Share the tools or proposed procedures with other program managers, partners, and technical assistance projects to see if they can be integrated with activities or consolidated with tools that are in place for other health programs or other medicines.
  - Review and simplify procedures as far as possible. Streamline and simplify tools; omit nonessential components, for example, the recording and reporting data that is not used. Consider adding concise summaries at the end of each report that make it easier for managers to identify what needs to be addressed.
  - Prepare written instructions for tools and develop SOPs for activities, where appropriate. Pilot the revised tool and SOP and revise as needed before hand over.
  - Provide training or one-on-one mentoring to tool users or staff tasked with implementing the activity or rolling it out.
  - Work with the government to develop a plan for how a tool will be updated or maintained. For example, if the tool needs to be updated annually with population data, who will be responsible for doing this and how will the updated tool be disseminated to users?
  - Consider how to institutionalize the tool, where appropriate.

Ideally, the tool or activity should be handed over to government counterparts six months prior to the end of the A2Z project to allow time for addressing problems, resolving challenges, and training or mentoring as needed. Regular follow-up should be provided during this period.

Given that the MSH consultant was only able to conduct a rapid review of the tools and approaches during this field visit and the absence of information from structured follow-up of interventions, it is difficult to specify which tools should be institutionalized (after discussion with the state government) in this report. Some potential options could include the excel-based spreadsheet for distribution planning for the biannual BSPM/JMSSPM rounds, the training modules for maternal and child anemia reduction, and the posters and job cards. However, the feedback from current users on the usefulness of these tools, adaptations needed, and commitment to use them would be the key determinants for selection. The *Routine Immunization Observation Checklist* also has the potential to be a useful monitoring tool, particularly as it generates important program performance indicators. However, in addition to the above determinants, overcoming other obstacles such as the lack of transportation to attend the immunization sessions and allocating responsibility and capacitating local officials to produce and disseminate the report would need to be considered.

- **Collect information on State government experiences in procuring kits A and B from 2005 to 2009.** Given the comment by one key informant that the kit procurement may be decentralized back to State governments in the not too distant future, it may be valuable to document some of the specific difficulties experienced by Jharkhand and U.P. State and contributing factors and use them to sensitize decision makers and partners to the range of issues that make kit procurement at State level so challenging. Additional capacity building of the State procurement wing before kit procurement is fully decentralized, and later providing ongoing support to help them address specific procurement challenges will be useful and important steps to ensure uninterrupted supply across the state.
- **Identify a partner or technical assistance project that can take over A2Z's advocacy and monitoring role on availability of micronutrients and anemia-reducing medicines.** Given the important role that the A2Z project has played in this regard, an organization or partners that have the resources, motivation, and standing need to be identified to take this on. USAID-funded projects or other technical assistance agencies that support programs that depend on medicines included in either kit A or B would be an ideal choice. Otherwise, a project that supports maternal and child health, for example, MCHIP could be an alternative. Sharing the lessons learned by A2Z about monitoring one or two availability indicators at a few facilities to inform advocacy efforts will also be valuable.
- The current NRHM form submitted monthly by the ANM does not report on the stock position of pharmaceuticals supplied in kits A and B. As a result, the information system does not generate any information to alert managers at block, district, state, and national levels about problems with the supply of medicines. Asking ANMs to report the stock on hand of every medicine held at the sub-center will only be feasible if ANMs keep stock records; even then, the records may not necessarily be accurate. However, it is relatively easy for an ANM to identify if a medicine is out of stock and

to report on stock outs monthly, even if she does not keep a stock register. It is therefore suggested that the A2Z project advocate to GOI to include reporting stock-outs of individual kits A and B medicines and supplies at the ANM level on the NRHM form and to roll the reporting up to the national level. Managers at each level will then be aware of which supplies are out of stock and how widespread the problems are.

- During the field visit, one ANM reported issuing IFA syrup to pregnant women because it was better tolerated and preferred by clients. The guidance note prepared by A2Z (or a summary thereof) did not apparently reach her. It may be worth checking if this is wide-spread practice as it could potentially jeopardize the availability of supplies for children and ensuring that the guidance note on IFA syrup is widely circulated and ANMs sensitized to appropriate use of this product.



## **ANNEX 1. LIST OF PERSONS INTERVIEWED (MAY 1-16, 2010)**

Special gratitude is offered to the staff from the sites visited for their tireless and exceptional cooperation during the visit.

### **A2Z staff**

#### ***In Delhi***

Dr. Prakash Kotecha, Senior Technical Advisor  
Mr. Suneel Muttoo, former Resident Advisor for the A2Z project

#### ***Jharkhand State***

Dr. Syed Iqbal Hussain, State Coordinator  
Mr. Chandranath Mishra, State Program Manager  
Alok Bharti, A2Z Program Support Officer for Ramgarh district  
Ashit Kumar, A2Z Program Support Officer for Latehar district  
Sangay Kumar Singh, A2Z Program Support Officer for Dumka district

#### ***U.P. State***

Dr. A.K. Gupta, State Coordinator  
Mr. Praveen Kumar, State Program Manager  
Amit Kumar Sarkar, A2Z Consultant, Cholapur Block, Varanasi  
Niranjan Singh, A2Z Consultant, Bhadoni Block, SR Nagar  
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Ravi Shankar, A2Z Consultant, Muratganj Block, Kaushambi  
Anuj Srivastava, A2Z Consultant, Siradhu Block, Kaushambi  
Shailesh Srivastava, A2Z Consultant, Suriyawan Block, SR Nagar  
Prabhat Srivastava, A2Z Consultant, Sarsawan Block, Kaushambi

#### ***In Delhi***

##### ***MOHFW***

Dr. Santosh K. Talwar, Pharmaceuticals Consultant, Empowered Procurement Wing, RCH Programme

#### ***In U.P. State/Lucknow***

##### ***Medical Health and Family Welfare, Lucknow***

O.P. Kureel, Administrative Officer, Amausi Warehouse  
Satish Kumar, Upper Division Assistant, Amausi Warehouse

##### ***Micronutrient Initiative***

Dr. Amita Jain, State Programme Representative (VAS and Other Programmes) – formerly Scale up Manager, U.P. State for the A2Z project

##### ***State Institute of Health and Family Welfare***

Dr. Usha Saxena, Assistant Professor

**In U.P. State/Allahabad District**

***Allahabad District Headquarters***

K. Kumar, ACO (Assistant Medical Officer) District Store

Mr. Pal, Pharmacist, District Store

Dr. V.K. Srivastava, ACO

***Handia CHC***

B.B. Pandey, Chief Pharmacist

***Handia Sub-Centre***

Sarog Tripathi, ANM

***Bhiti Sub-Centre***

Reena, ASHA

Vajyanti, ASHA

**In U.P. State/Kaushambi District**

***Kaushambi District Headquarters***

Dr. D.R. Verma, CMO Kaushambi

Dr. Prasad, ADO, Store

***Muratganj PHC***

Mr. R.R. Dwivedi, Immunization Officer

***Bharwari Sub-Centre***

Sri Devi, ANM

**In U.P. State/S.R. Nagar District**

***Gyanpur CHC***

Dr. M.K. Sinha, Superintendent

Chief Pharmacist

***Jauharpur Sub-Centre***

Rita Chowdhury, ANM

**In Jharkhand State/Ranchi**

Dr. Anjali Das, Director in Chief of Health and Family Affairs

State RCH Officer

***State Drug Store, Ranchi***

Shri Dharmandra Kr. Singh, Chief Storekeeper

Chandra Udai, Vaccine and Logistics Manager

***Ranchi District Drug Store***

Dr. B.K. Singh, CMO

Mr. Ranjon, Store in-Charge

Mr. Pradip, Previous Store in-Charge

***Namkum PHC***

Dr. D.N. Singh, MOIC

***Rampur Sub-Centre***

Shantiekko, ANM

Ashit, ASHA

***In Jharkhand State/Hazaribagh District***

***Hazaribagh District Store***

Dr. B.P. Sinha, District RCH Officer

***In Jharkhand State/ Ramgarh District***

***Ramgarh District Store***

Dr. Suneel Oraon, CMO

Mr. Pradeep Sinha, Program Officer

ASHA Coordinator

***Mandu PHC***

Dr. S.K. Gupta, MOIC

Divashi Kumar, storekeeper

***Jorakaram Sub-Centre***

Gita Kumari, ANM

Pinky Kumari, AWW

***Kundrukla Angwari Centre***

Kumari Mina Sinha, ANM Baralong Sub-Centre

Shama Begam, AWW

Leela Devi, Assistant AWW



## **ANNEX 2. LIST OF HEALTH FACILITIES VISITED (MAY 1-16, 2010)**

### **State of Uttar Pradesh**

- Amausi Warehouse, Lucknow
  
- Allahabad District
  - District Store
  - Handia CHC
  - Handia Sub-Centre
  - Bhati Sub-Centre
  
- Kaushambi District
  - District Store
  - Muratganj PHC
  - Bharwari Sub-Centre
  
- S.R. Nagar District
  - Gyanpur CHC
  - Jauharpur Sub-Centre

### **State of Jharkhand**

- State Drug Store, Ranchi
  
- Ranchi District
  - District Store
  - Namkum PHC
  - Rampur Sub-Centre
  
- Hazaribagh District
  - District Store
  
- Ramgarh District
  - District Store
  - Mandu PHC
  - Jorakoram Sub-Centre
  - Kundrukla Angwari Centre



### ANNEX 3. PHARMACEUTICAL MANAGEMENT TOOLS USED BY THE A2Z PROJECT IN INDIA

The tools listed below focus on or have a component that supports pharmaceutical management operations.

- Quantification formulas for vitamin A liquid included in U.P. State’s PIP
- Excel-based spreadsheet for distribution planning for micronutrients and anemia-reducing medicines for the biannual BSPM/JMSSPM rounds
- Maternal anemia reduction program—training module for ANMs that includes medication counseling
- Child anemia reduction program—training module for ANMs that includes medication counseling
- Poster for VAS program
- Poster for maternal anemia reduction program
- Poster for child anemia reduction program
- ANM job card for VAS program
- ANM job card for maternal anemia reduction program
- ANM job card for child anemia reduction program
- MOIC job card for maternal anemia reduction program
- MOIC job card for maternal anemia reduction program
- MOIC job card for child anemia reduction program
- *Routine Immunization Observation Checklist*
- *Home Visit Tool*
- *IFA Status Report*
- Set of indicators for pharmaceutical management

