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# THE INTRODUCTION OF ZINC AND *LINTAS DIARE* FOR IMPROVED DIARRHEA CASE MANAGEMENT IN INDONESIA MONITORING REPORT



# **THE INTRODUCTION OF ZINC AND *LINTAS DIARE* FOR IMPROVED DIARRHEA CASE MANAGEMENT IN INDONESIA MONITORING REPORT**

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## **ABBREVIATIONS**

AED/POUZN	Academy for International Development/ Point-of-Use Water Disinfection and Zinc Treatment (project)
USAID/BASICS	Basic Support for Institutionalizing Child Survival (project)
DHO	district health office
HKI	Helen Keller International
HSP	Health Services Project
INGO	international nongovernmental organization
MOH	Ministry of Health
ORS	Oral rehydration salts/solution
PATH	Program for Appropriate Technology in Health
PHO	provincial health office
USAID	U.S. Agency for International Development
WHO	World Health Organization

## INTRODUCTION

### Background

The implementation of zinc therapy in the management of childhood diarrhea is expected to have three main benefits in Indonesia, as follows:

1. Child mortality and morbidity from diarrhea will be significantly reduced.
2. Zinc therapy can diminish the routine use of antibiotics and anti-diarrheals prescribed by health professionals for young children with diarrhea.
3. The economic benefits resulting from reduced morbidity, hospitalization, and antibiotic use make the introduction of zinc part of standard treatment for diarrhea, as recommended by the World Health Organization (WHO), an important matter for the country.

In 2007, with support from the U.S. Agency for International Development (USAID), the Basic Support for Institutionalizing Child Survival (USAID/BASICS) project worked with the Ministry of Health (MOH) and the Zinc Task Force to conduct a national assessment for the introduction of zinc as part of diarrhea case management in Indonesia. One of the assessment's key recommendations was the strategic importance of first engaging general practitioners and doctors in public health facilities and private practice on the significance of zinc therapy for children with diarrhea before beginning more general promotion efforts. By gaining acceptance of zinc treatment for diarrhea case management in these influential circles—as well as oral rehydration salts/solution (ORS) and continued feeding and breastfeeding—it was expected that standard treatment practice for diarrhea with children less than 5 years old would be significantly strengthened and become the treatment norm for health practitioners across the board.

In early 2008, work started with the MOH and its partners to support updating the national standard treatment guidelines for diarrhea case management for young children. Zinc therapy was an important part of this update. Based on WHO international recommendations, other core elements for the updated protocol included low osmolarity ORS, continued breastfeeding/feeding, selective use of antibiotics, as well as appropriate counseling to the mother/caregiver on danger signs and when to return for care.

To facilitate the promotion of the updated protocol, the term “LINTAS DIARE” or “Lima Langkah Tuntaskan Diare” (Five Steps to Overcome Diarrhea) was coined and a national slogan and logo developed. Activities that followed included the development of various print media including a poster for caregivers on the five elements of “LINTAS DIARE”, a poster for service providers on the new diarrhea case management algorithm, a frequently asked questions (FAQ) pocket book for health providers, and a colorful plastic fan to popularize “LINTAS DIARE” and the MOH's new approach to diarrhea case management for children under five years of age.

The piloting of LINTAS DIARE among health providers at the *puskesmas* (health center) level began in November 2008. The USAID-supported Health Services Project (HSP) worked with the MOH and the international nongovernmental organization (INGO), Americares, to ensure that an initial stock of locally manufactured zinc blisters was procured. Another USAID-supported project and partner for this activity, the Academy for International Development/Point-of-Use Water Disinfection and Zinc Treatment (AED/POUZN) project, facilitated the contacts between local manufacturers and Americares to ensure that the correct type of blisters were obtained for the pilot. *Puskesmas* in three districts close to Jakarta were selected for participation in the initial awareness-building seminars that USAID/BASICS, HSP, and the MOH organized. Attending the two awareness-building seminars were heads of *puskesmas* from three

districts, including 101 puskesmas from Bogor District and 92 puskesmas from the Bandung and Bandung Barat districts. Stocks of zinc blisters were distributed during the events as well as the new LINTAS DIARE print media. One month after the awareness-building meetings, a monitoring visit was organized to assess the response of health providers and caretakers to the new diarrhea treatment protocol and to identify barriers and propose solutions for its strengthening. USAID/BASICS, HSP, and the MOH conducted the assessment.

### **Main Assessment Objectives**

1. Monitor how LINTAS DIARE is being implemented in the three pilot areas
2. Identify barriers and propose solutions for strengthening LINTAS DIARE practices at the puskesmas level
3. Identify ways to broaden professional and public awareness about LINTAS DIARE for improving overall diarrhea case management practices

### **Methodology**

Monitoring was conducted one month after the introduction of LINTAS DIARE in the three pilot areas. Methods used included in-depth interviews, record reviews, and observation. The district health office (DHO) for each area compiled a list of puskesmas that were considered to have the highest case loads for diarrhea; from this list, the assessment team randomly selected eight puskesmas. Two puskesmas were selected in both Bandung Barat and Bandung districts and four in Bogor District.

The data collection process was as follows:

#### **1. At the puskesmas level, the team conducted:**

- A record review of 20 diarrhea cases in children less than 5 years old occurring since November 12, using the MOH monitoring tool for diarrhea case management
- A record review of the number of diarrhea cases in children less than 5 years old against the amount of zinc stock
- In-depth interviews with the head of puskesmas and at least two health providers who provide health care services for children less than 5 years old on a regular basis
- Observation on the use and display of educational media

#### **2. At the household level, the team held:**

- Interviews with two to three mothers/caregivers from each puskesmas who had obtained diarrhea treatment for a child less than 5 years old within the last 10 days

#### **3. At the stakeholder level, the team conducted:**

- Interviews with partner agencies such as AED/POUZN, Helen Keller International (HKI), HSP, and the Program for Appropriate Technology in Health (PATH) to explore ideas for strengthening LINTAS DIARE practices in Indonesia and identify strategies for the future

### **Duration of Monitoring**

Four teams conducted the monitoring exercise over three consecutive days, from December 15 -17, 2008. Because of distance and driving time between the different locations, team activities were conducted concurrently in Bandung (day one) and in Bandung Barat and Bogor (day two and day three), as described below:

Date	Bandung District	Bandung Barat District	Bogor District
Dec. 15	Team A : Puskesmas 1 Team B : Puskesmas 2		
Dec. 16		Team A : Puskesmas 3 Team B : Puskesmas 4	Team C : Puskesmas 5 Team D : Puskesmas 6
Dec. 17			Team C : Puskesmas 7 Team D : Puskesmas 8

### Monitoring Team

The monitoring team included these organizations and numbers of individuals:

- MOH : 4 people
- Provincial health office (PHO) : 2 people
- DHO : 6 people (2/district)
- USAID/BASICS : 1 person
- HSP : 1 person
- Puskesmas : 8 people (1/team)

The puskesmas staff guided each team to the caregiver's/mother's house for the household interview.

Team configuration was as follows:

Team A	Team B	Team C	Team D
<ul style="list-style-type: none"> <li>• 1 MOH</li> <li>• 1 PHO</li> <li>• 1 DHO</li> <li>• 1 Puskesmas</li> </ul>	<ul style="list-style-type: none"> <li>• 1 MOH</li> <li>• 1 DHO of Bogor</li> <li>• 1 HSP</li> <li>• 1 Puskesmas</li> </ul>	<ul style="list-style-type: none"> <li>• 1 MOH</li> <li>• 1 PHO</li> <li>• 1 DHO</li> <li>• 1 Puskesmas</li> </ul>	<ul style="list-style-type: none"> <li>• 1 MOH</li> <li>• 1 DHO</li> <li>• 1 USAID/BASICS</li> <li>• 1 Puskesmas</li> </ul>

### FINDINGS

During monitoring activities, the team visited eight puskesmas including two each in the Bandung Barat and Bandung districts and four in Bogor District. The team conducted interviews with 8 heads of puskesmas, 13 health providers who provided regular health care treatment to young children, and 12 mothers who had brought a child with diarrhea to the puskesmas within the last 10 days. Poor medical record management in most of the puskesmas visited became an important challenge for the monitoring team. Problems encountered included incomplete recording of diarrhea cases for young children and inaccurate addresses.

Despite these difficulties, the team was able to complete the work as planned. The findings are summarized below.

#### LINTAS DIARE in Practice

Based on the record review of children less than five years old who had been brought to the puskesmas with diarrhea, many—but not all—had been given Oralit (ORS) and zinc. Among those children prescribed Oralit and zinc, many were also treated with antibiotics and anti-diarrheals. Antibiotic use was still the norm for treating unspecific diarrhea cases at all of the puskesmas sampled. It was also found that some cases were given less than the recommended 10 tablets for zinc treatment.

Although the LINTAS DIARE sensitization meetings were attended by almost every puskesmas head in the three pilot districts who shared the information and educational materials about the new policy with their staff, there appeared to be some resistance to changing prescription behaviors for diarrhea. During in-depth discussions with health providers it was revealed that, although they are prepared to prescribe zinc and Oralit, most are not convinced that they should discontinue prescribing antibiotics and anti-diarrheals since, “they are proven to give good effects.” In some instances, health providers explained that zinc, Oralit, and antibiotics were prescribed because a child was suffering from both diarrhea and respiratory infection and needed treatment for both.

Health providers agreed that the majority of caretakers who come to them seeking treatment for a child with diarrhea expect to receive a prescription for antibiotics. Without antibiotics, many believe that caretakers will go elsewhere for treatment if they do not get the prescription they want at the puskesmas. Surprisingly, another major complaint revealed by some caregivers to health providers was that after taking the zinc, their children suffered from vomiting and gas. Because of this reported side effect, many discontinued administering zinc for the full 10 days.

Several health providers indicated that because they receive so many patients, finding the time to speak individually with caretakers about LINTAS DIARE and covering the five key components were not easy to do. Because caretakers were not familiar with the new diarrhea treatment policy and were comfortable with the antibiotics and anti-diarrheals, they were frustrated by this change in prescription practices.

### **Health Provider Comments on LINTAS DIARE**

Although health providers were having difficulty putting LINTAS DIARE into practice, surprisingly, most of those interviewed reported to be favorable about the updated policy. Many pointed out that LINTAS DIARE made it simple and easy to remember the five components of good diarrhea case management. Some indicated that LINTAS DIARE was a good strategy to reduce diarrheal disease particularly since zinc has a protective effect against future diarrhea episodes that can last several months. Still others stated that an important element of LINTAS DIARE was the reduced dependence on the use of antibiotics and other unnecessary drugs to treat diarrhea even though they admitted caregivers were not always satisfied or convinced that their child would get better with fewer drugs. Several indicated that LINTAS DIARE was a good reminder for the health provider to counsel the caretaker on how to care for a child with diarrhea.

That said, many health providers also complained that the limited time per patient and heavy workload made the extra one-on-one time to counsel caretakers unrealistic. Caretakers that insist on receiving antibiotics for treatment also posed a problem when time per patient was limited. Several health providers indicated that public awareness-building and promotion for zinc and Oralit as the new standard diarrhea treatment were needed. Without such efforts, many health providers believe that there will continue to be caretaker and health provider resistance to LINTAS DIARE and the application of the new MOH policy.

### **Acceptance and Use of Educational Materials**

Most health providers interviewed indicated that the various educational materials—including the new diarrhea case management algorithm or flowchart, the LINTAS DIARE poster for caretakers, and the LINTAS DIARE FAQ pocket book—were extremely useful. The flowchart was described to be useful for diagnosing and providing appropriate treatment, and the LINTAS DIARE poster was helpful for explaining the new treatment protocols with caregivers and other puskesmas visitors. The FAQ pocket book on LINTAS DIARE provided useful background information about zinc, Oralit, and the new

treatment standards for health providers and was presented in a simple and easy-to-carry format.

Most of the puskesmas sampled had distributed and/or displayed the educational materials at their own facility as well as at the smaller unit of the puskesmas (*puskesmas pembantu*) and village midwives' post (*pos bidan desa*). In general, the monitoring team observed that the flowchart had been correctly displayed in the puskesmas examination room and the LINTAS DIARE poster was visible in both the examination and waiting rooms. Only one puskesmas had not yet distributed or displayed the materials since, as staff explained, the materials had been misplaced during building renovations.



**Photo 1:** Caregivers awaiting treatment at the CibulanPuskesmas (Bogor district).  
Photo by: Erlyn Sulistyaningsih

## **Obstacles that Health Providers Faced in Practicing LINTAS DIARE**

### ***Caregiver Complaints***

Although some health providers indicated a few problems with putting LINTAS DIARE into practice, they did admit that a lot depended on being able to convince caretakers that zinc was the new diarrhea treatment. An obstacle that almost all health providers frequently mentioned was that the perceived caregiver insisted on treating the child's diarrhea with an antibiotic. Even when it was explained to the caretaker that zinc and Oralit were the best and most appropriate treatment for the child, if an antibiotic was not prescribed, the dissatisfied caretaker would seek treatment elsewhere—often a private clinic or private practice—and not return to the puskesmas. For this reason, many health providers felt pressured to prescribe an antibiotic along with the zinc and Oralit.

Another important finding from the monitoring visits was that many caretakers complained about the 10-day zinc treatment. Many say that 10 days was too long to keep giving the medicine, particularly if the diarrhea has already stopped. Another common complaint was that some children experienced vomiting and gas after taking zinc and because of this reaction, refused to take it. Some health providers explained that when faced with this problem, they advised the caregiver that because zinc was a new substance for child's digestive system, the body's reaction was vomiting, gas, and sometimes even diarrhea. Other health providers recommended that caretakers give the zinc at night, while other health providers prescribed adding vitamin B6 to the zinc as a way to offset digestive upsets.

### ***Doubts about the Oralit and Zinc Treatment Effectiveness among Health Providers***

One puskesmas head who attended one of the LINTAS DIARE awareness-building seminars in November indicated that, although she had briefed colleagues at work and shared materials, she believed that many were still unconvinced about the effectiveness of the Oralit and zinc treatment. She explained to the monitoring team that she is addressing the problem by continuing to mentor her staff on LINTAS DIARE and assisting them with treating young children for diarrhea. Other health providers interviewed who were familiar with zinc but who did not attend the LINTAS DIARE seminars reported to the monitoring team that although they prescribed zinc and Oralit, they still "relied" on antibiotics to treat the diarrhea cases they managed for young

children.

Still another important finding was that some health providers were confused about the term “new Oralit,” which was used during the LINTAS DIARE meetings to refer to the low osmolarity Oralit. The providers assumed that the “new Oralit” was still not yet available and that current stock would need to be replaced. The monitoring team members representing the MOH clarified that the “new Oralit” was the same low osmolarity Oralit currently available on the market and which had been available through the puskesmas for the past one to two years. During the LINTAS DIARE meetings, it was called “new Oralit” to emphasize the lower osmolarity composition of the product over those available in earlier years.

### ***Limited Time to Explain LINTAS DIARE to Caregivers***

A number of health providers indicated that because of long waiting lines and pressing schedules, there was often limited time to talk with caregivers individually about LINTAS DIARE. Compliance with administering zinc to the child as indicated for 10 days, offering Oralit, continued breastfeeding/feeding, giving antibiotics only under particular circumstances, and explaining danger signs and when the child needs to be brought back for care are dependent on effective communication between the health provider and caretaker. Many health providers added that because LINTAS DIARE is new and caretakers are not yet “convinced” that zinc works, it makes the task even harder. Some health providers said that they have found the LINTAS DIARE poster helpful for talking with caretakers about the five components of good diarrhea case management even with limited time.

### ***Limited Oralit and Zinc Stock***

For some health providers, a key obstacle to LINTAS DIARE implementation was limited Oralit and zinc stock. In Bandung Barat District, the monitoring team discovered that for some puskesmas, there had been no Oralit available since February 2008. It merits noting that up until 2007, Bandung Barat was part of Bandung District. The new district is currently establishing its own health system and some administrative links continue to exist with Bandung. The MOH purchases Oralit and zinc to cover about 10 percent of the estimated annual need for all districts. Although commodities were distributed to every puskesmas in the Bogor District, this has not yet happened for the puskesmas in the Bandung and Bandung Barat districts. Both districts have had to rely on the zinc distributed at the LINTAS DIARE awareness workshops, which was calculated to cover only two to three months of the estimated stock requirement. Limited access to stock was an important determinant for health workers giving fewer zinc doses than recommended for children with diarrhea and/or offering other drugs for treatment.

During interviews, a number of health providers insisted that only with a reliable Oralit and zinc stock could LINTAS DIARE become the norm for diarrhea case management. If not, even with the best promotional efforts, LINTAS DIARE would not be accepted, and both service providers and caretakers will resort back to the old behavior of antibiotics being the drug of choice for young children with diarrhea. District health offices are expected to supply about 90 percent of the drugs required for their area with the remaining 10 percent coming from the MOH.

### ***Caregivers / Mothers***

The monitoring team also conducted interviews and household visits with caretakers who had brought a child for diarrhea treatment at the puskesmas within the past 10 days. A number of caretakers reported that the first place they go to seek treatment when a child has diarrhea is the local drug seller to purchase anti-diarrheal drugs or to the *apotik* (drugstore), where they can purchase both antibiotics and anti-diarrheals. If the child’s condition has not improved over the next two to three days with the medicine purchased, they then go to the puskesmas for help. Other, but fewer, caretakers

interviewed said that they brought their child to the puskesmas for treatment when there was diarrhea, while still others reported asking for Oralit from the *posyandu* (health post) health volunteers.

Most of the caretakers interviewed reported that their sick child was prescribed zinc for 10 days at the puskesmas, sometimes along with anti-diarrheals and antibiotics, but not always. One of the caretakers interviewed described giving zinc for 3 days only. In another instance, a caretaker was told to give her sick child antibiotics and anti-diarrheals, but not zinc or Oralit.

Among those caretakers who received zinc, all of them were able to correctly demonstrate how to give the zinc tablet to their child. Most said that they did not get any explanation about the medicines they were to bring home or other guidance from the health providers on how to care for their sick children. The only exception was contact with the drug officer at the puskesmas who instructed the caretakers on how to prepare and give the medicines at home. Many said that it was the drug officer at the puskesmas who instructed them to complete giving the zinc tablets for 10 days even if the diarrhea stopped.

Some mothers who were given zinc explained that although they had been told that the treatment was to be continued for 10 days, they stopped the medicine when there was no more diarrhea. Some said that they stopped giving their child zinc because of vomiting or gas, which, ironically in certain instances, required a follow-up visit to the puskesmas to obtain additional drugs to treat these conditions. Despite this, there were caretakers who were able to complete giving the zinc to their child for the full 10 days without any problem.

Caretakers who gave their child zinc for diarrhea observed that it stopped the diarrhea faster than the usual drugs given, often within two to three days. On the other hand, they were concerned that the 10-day course of treatment was too long, and once the child was better, it was “boring” to continue giving medicine. Others that had children who appeared to develop gas and vomiting from the zinc also tended to interrupt treatment. Although health providers often neglected to give advice on continued breastfeeding and feeding for children with diarrhea, most of the mothers interviewed reported that they kept feeding their child during diarrhea even though the child sometimes refused to eat.

## CONCLUSIONS

This monitoring exercise raised a number of important issues that the MOH needs to address for LINTAS DIARE and the overall revitalization of diarrhea case management to succeed in Indonesia.

The main issues are as follows:

1. Currently, health providers have limited knowledge about zinc therapy and, as a result, they are not convinced that the new treatment is effective enough to replace the more familiar treatments using anti-diarrheals and antibiotics. In addition, because they are not convinced about zinc treatment themselves, they do not insist on caretaker compliance with the full 10-day treatment.



**Photo 2:** Caregiver and child with a DHO officer at Cibulan Puskesmas.  
Photo by: Eryln Sulistyarningsih

2. Health provider reaction to LINTAS DIARE and the new educational materials is generally quite positive. It is possible, however, that without a vigorous strategy to promote the new treatment guidelines with health providers, including zinc therapy, that little headway will be made to improve diarrhea case management in country.
3. Because zinc therapy is still relatively new, health workers believe that caretakers still expect and insist on being prescribed antibiotics and anti-diarrheals when their children are sick with diarrhea. If they do not receive their treatment of choice at the puskesmas, they go elsewhere for services. Because of this, many health providers who may be convinced that LINTAS DIARE is the best treatment option for the child, feel obliged to prescribe what the caretaker wants.
4. There is limited time available per patient at the puskesmas. Health providers are challenged to find enough time to explain the five elements of LINTAS DIARE to caretakers and, in particular, to convince them to continue giving zinc for 10 days even once the diarrhea has stopped. More information needs to be shared with caretakers on the significant health benefits to the child when the full 10-day course of zinc treatment is given. Given that most caretakers receive instructions on how to give the medicine they have been prescribed from the drug officer at the puskesmas, it merits considering how to more actively involve these officers in the promotion of LINTAS DIARE and the importance of completing the full 10-day course of zinc treatment.
5. A mass media strategy is needed to engage and build community awareness on the significance of the MOH's new LINTAS DIARE policy for diarrhea case management and what it means in terms of improved child health. With this strategy, health providers would face fewer challenges trying to convince caretakers to accept the new treatment protocol.
6. It appears that when a child has diarrhea, many caretakers seek treatment first at local drug sellers or the apotik. As a result, by the time they make it to the puskesmas, the child has already been ill for two to three days. A targeted marketing effort to influence the practices of drug sellers is required to influence the rational treatment of diarrhea at its onset. A campaign to encourage prompt treatment with Oralit and zinc available at the puskesmas for young children with diarrhea should be considered as part of the LINTAS DIARE awareness-building strategy.
7. A constant and reliable Oralit and zinc supply will be of paramount importance to the success of LINTAS DIARE. Without consistent access to these products, it is almost certain that anti-diarrheals and antibiotics will continue to be among the most popular drugs used for treating childhood diarrhea in Indonesia.

## RECOMMENDATIONS

### Strengthen Health Providers' Ability to Practice LINTAS DIARE

Although LINTAS DIARE information was shared with health providers throughout the three pilot districts, more needs to be done to convince them that the new national policy is based on sound public health policy and will have a strong positive impact on child health. Because health providers are an important and trusted local reference for child care, their support is critical for building public confidence in the new treatment protocols. Additional recommendations that could build health provider confidence in and support for LINTAS DIARE include the following:

1. Organize on-site sensitization/refresher meetings on LINTAS DIARE to be facilitated by puskesmas heads with their staff, including drug officers and other health providers at the village level (puskesmas pembantu and bidan desa). These events could be organized on a regular basis as part of monthly staff meetings or other regular meetings. Problem-sharing and problem-solving sessions with peers for making LINTAS DIARE operational at the puskesmas level should be a core activity for these meetings.
2. Sensitize a broad range of public and private health providers through national professional organizations such as *Ikatan Dokter Indonesia/IDI* (General Practitioner Association), *Ikatan Bidan Indonesia/IBI* (Midwives Association), and others, to significantly broaden exposure to the MOH's new LINTAS DIARE approach to diarrhea case management. These activities could be organized in collaboration with the MOH, donor/organization agencies, and pharmaceutical companies. Because caretakers often have a choice on where they decide to go to get medicine, it is important that a wide range of health care providers—both public and private—believe in and contribute to the MOH's vision of LINTAS DIARE for significantly improving child health.
3. The awareness-building meeting model used to launch LINTAS DIARE in the three target districts implemented by USAID/BASICS, HSP, and the MOH is seen by partners such as HKI and PATH as a good strategy. Critical to this model's effectiveness is the involvement of competent experts from Indonesia who can convince the heads of puskesmas on the soundness of the new treatment protocol and show proof of its effectiveness based on studies conducted in Indonesia. On the other hand, because of geographic constraints or budget limitations, this may not be the most appropriate model for all situations and other sensitization strategies might need to be employed.
4. The print media for LINTAS DIARE developed by USAID/BASICS, the MOH, and other partners are considered to be informative, attractive, and helpful tools for guiding and convincing health providers to put LINTAS DIARE into practice. It has been agreed by HKI, HSP, PATH, POUZN, and two national pharmaceutical companies to use the same LINTAS DIARE logo, slogan, and print media for promoting zinc and improved diarrhea case management. It is important that all actors promoting zinc in Indonesia support the MOH's efforts to reduce mortality and morbidity among young children by using "one common language" for diarrhea care and treatment in young children.
5. Also, and in relation to #4, above, broad distribution of the new educational materials to health facilities, health providers, and even to *posyandu* (community health posts) will be useful for helping health providers to better understand and practice LINTAS DIARE when caring for young children with diarrhea.

## **Build Community-Level Awareness of LINTAS DIARE**

As mentioned throughout this report, caretakers and health providers in the pilot areas are reluctant to use Oralit and zinc for 10 days of therapy without antibiotics and anti-diarrheals as “backup” treatment. Another important problem is caretaker compliance with giving the full 10-day treatment. It is important that communities be advised to expect the “new and updated” diarrhea treatment when they go for health services and that they understand the clear advantages of zinc therapy for their child’s health. Community awareness about zinc and better diarrhea case management are also concerns of partner organizations, HKI, and PATH. Based on the experiences introducing zinc for child diarrhea in emergency settings, some partners suggested that part of community awareness-building include the involvement of community health volunteers at the posyandu level so that they can also apply LINTAS DIARE in their work settings and sensitize communities. Similar strategies on building community awareness for LINTAS DIARE were also described by most of the health providers interviewed. Other ideas to build community awareness include the following:

1. Promote LINTAS DIARE using mass media such as radio and television
2. Disseminate the current LINTAS DIARE educational media to staff at all levels including hospitals, puskesmas, posyandus, and so on. Develop a simple leaflet that can be given to caregivers.
3. Sensitize and build the capacity of posyandu cadres by puskesmas staff on LINTAS DIARE during regular quarterly meetings. Because the posyandu cadres are key people in the community with regular contact with caretakers and their children, they have the potential to play an important role in gaining local acceptance for zinc and LINTAS DIARE.

## **Ensure Oralit and Zinc Availability at All Times**

It is well understood that if Oralit and zinc are inaccessible or not available on a regular basis that there will be significant problems with getting LINTAS DIARE mainstreamed as the way to care for children with diarrhea.

The MOH has a system in place for the regular procurement of drugs, some of which is supported by the district (90%) and the rest (10%) by the MOH at the national level. Pharmaceutical companies in Indonesia are expected to play an important role for increasing access to zinc. The USAID-supported project AED/POUZN is working in collaboration with the MOH and various national professional organizations to improve the private sector’s ability to produce a range of quality zinc products in country and in the quantities needed to meet the demands of the MOH as well as those of private sector outlets.

## **Encourage Collaboration and Coordination for LINTAS DIARE Promotion and Acceptance**

Since the first assessment for the introduction of zinc in 2007, the MOH Diarrhea Sub Directorate (Depkes) has made important progress strengthening national policy for the improvement of diarrhea case management and zinc therapy in Indonesia. Understanding that MOH will continue to refine the approach for promoting and implementing LINTAS DIARE, it is important to note that all MOH divisions that address child health such as Directorate of Child Health, Directorate General of Pharmacy and Medical Devices Services, Centre of Promotion Health and others will need to forge a united front for for the unwavering LINTAS DIARE acceptance and promotion. It is important to actively seek out and nurture opportunities to work with multilateral (WHO, UNICEF) and bilateral organizations, NGOs, and professional health associations that are willing to work with Depkes to strengthen and expand the innovative work started to

revitalize interest in optimal diarrhea case management through LINTAS DIARE. Clearly, there are also opportunities for the private sector and, in particular, the pharmaceutical manufacturers of zinc/ORS to contribute to this important public health initiative for Indonesia by ensuring the availability of products and creating demand at the level of health providers and drug sellers.

The process for building awareness and coordination among multiple partners and MOH directorates for LINTAS DIARE is off to a promising start. On December 19, 2008, MOH-Depkes held a LINTAS DIARE coordination meeting; in attendance were representatives from partner agencies, the private sector, and other related directorates within MOH such as Directorate of Child Health, Directorate General of Pharmacy and Medical Devices Services, Centre of Promotion Health and others. Topics covered during the meeting included MOH updates on diarrhea and policy, POUZN's work to engage the private sector, and the USAID/BASICS project's preliminary findings from this assessment in the three pilot districts. Opportunities and next steps were also included in the agenda. Identifying funding sources that will enable Depkes to continue their work in this area and at scale continues to be a work in progress.