FINAL REPORT

TECHNICAL AND MANAGEMENT REVIEW

Vitamin A Program
HKI-USAID Cooperative Agreement No. 497-A-00-00033-00

April 30 – May 7, 2003

Submitted to

USAID/Indonesia
on

June 26th, 2003

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List of Acronyms

BAPPENAS	*Badan Perencanaan Pembangunan Nasional* (The State Ministry of National Development Planning/National Development Planning Agency)
CIDA	Canadian International Development Agency
DPT	Diptheria, Pertussis, Tetanus
GOI	Government of Indonesia
HepB	Hepatitis B
HKI	Helen Keller International
IU	International Unit
IVACG	International Vitamin A Consultative Group
JICA	Japan International Cooperation Agency
MHN	Maternal and Neonatal Health Program
MOH	Ministry of Health
MOU	Memorandum of Understanding
MSH	Management Sciences for Health
NGO	Non-Governmental Organization
NSS	Nutrition and Health Surveillance System
PATH	Program for Appropriate Technology in Health
PIN	*Pekan Imunisasi Nasional* (National Immunization Days – NIDS)
SEAMEO-TROPMED RCCN-UI	South East Asia Minister of Education Organization Tropical Medicine and Public Health Regional Center for Community Nutrition University of Indonesia
TOR	Terms of Reference
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VA	Vitamin A
VAC	Vitamin A Capsule
VAD	Vitamin A Deficiency
WHO	World Health Organization

Executive Summary

In 1997 Indonesia experienced an economic crisis, along with most of the rest of South East Asia. Although the Indonesian government was awarded the 'Spirit of Helen Keller Award' in 1994 for progress in controlling vitamin A deficiency over the past two decades, the threat of micronutrient deficiencies, especially vitamin A deficiency (VAD) and iron deficiency anemia, was re-emerging in the late 1990s. Data collected by the Helen Keller International (HKI)/Government of Indonesia (GOI)Nutrition and Health Surveillance System (NSS) from late 1998 to mid 1999 showed that VAD among mothers and children was increasing again. In order to prevent a further re-emergence of VAD and related morbidity and mortality, HKI proposed to immediately expand their support to the ongoing Vitamin A Capsule (VAC) program.

In 1999, the United States Agency for International Development (USAID) awarded 3-years of program funds to HKI, under cooperative agreement number 497-A-00-99-00033-00, to provide technical assistance to the VAC program and to expand the NSS. In 2002, a one-year extension was provided through September 2003. This Vitamin A Program Review was conducted in April-May 2003 to allow the USAID mission and implementing partners to make programmatic adjustments and consider recommendations for future activities, starting in October 2003. This report summarizes the findings of the Vitamin A review and provides general recommendations for the Indonesia Vitamin A Program.

This review was conducted by a four-person team: Ms. Dora Panagides (Team Leader/Country Director HKI Bangladesh), Ir. Titin Hartini (Directorate of Community Nutrition/Ministry of Health), Dr. Sri Durjati Boedihardjo (USAID/Indonesia) and Dr. Elvina Karyadi (SEAMEO-TROPMED RCCN, University of Indonesia) and took place between April 30 to May 7, 2003, by reviewing program documents and interviewing key stakeholders.

The overall summary and recommendations of the individuals/groups interviewed by the review team are described below:

Summary and recommendations of the individuals/groups interviewed

- The overall consensus was that the Vitamin A Program has achieved it's main objective of increasing high-dose vitamin A capsule coverage rates during the national vitamin A distribution months of February and August among: a) all eligible children 6-11 months of age, and b) all eligible children 12-59 months of age between August 1999 and August 2002.

- Media campaigns, materials and related activities were considered to be appropriate and effective. The posters, banners, brochures, etc. were thought to be colorful and 'eye-catching'. However, many persons interviewed thought that new materials may need to be locally-specific – local languages need to be used as well as local characteristics. Some people interviewed thought that such materials should come from local budgets.

- Missed opportunities were believed to be: postpartum women, children who do not attend the *posyandu* and unregistered populations in urban areas.

- Most agencies thought that it would be good to convene a conference in Indonesia with domestic and international experts to discuss the new International Vitamin A Consultative Group (IVACG) guidelines.

- Efforts to improve knowledge of health workers about vitamin A could include incorporating main program and technical-related issues into pre-service training curricula for paramedics, nurses and midwives. Others thought that it is also important for children to learn about the benefits of good nutrition on health and one way to do this is to include lessons into the school curriculum.

- Potential partners to forge or strengthen existing collaborations with include: international NGOs such as Program for Appropriate Technology in Health (PATH) and Program for Appropriate Technology in Health (MSH), and local NGOs such as the Koalisi Untuk Indonesia Sehat, Religious Organizations, Child Feeding Network, Maternal and Neonatal Health Program (MNH), Universities, United Nations Children's Fund (UNICEF), and United Nations Population Fund (UNFPA), among others.

- Some organizations felt that a national xerophthalmia mapping activity should be carried out in order to facilitate improved program targeting.

- The team found it very difficult to assess levels of financial support that may be expected. The Directorate of Community Nutrition/Ministry of Health (MOH) clearly is concerned about financing of the VAC program. This was raised especially in reference to new target groups and new supplementation guidelines for postpartum women.

Recommendations by team members

Based on discussions with various stakeholders, international recommendations related to vitamin A programs and general knowledge of team members of the situation in Indonesia, the following recommendations are made by the Vitamin A Program Review Team. These recommendations are general recommendations and are not meant to be all inclusive or specific to HKI. They are meant to be viewed as a whole, for any agency to address and represent what the team feels the current needs in Indonesia are.

1. Support to the national vitamin A program should continue for children 6-59 months of age. Mass media campaigns, as currently being conducted, should be continued. However, efforts should be made to explore whether all of the different types of mass media channels used in the past (television ads, radio ads, newspaper ads, banners, posters, flyers, wall calendars, brochures, etc) should continue to be intensively used throughout Indonesia or whether future campaign activities should focus on certain types of information channels or be concentrated on specific geographic areas.

2. Analysis of NSS data should be conducted to determine, where possible:
   - reasons why the 20-30% of children not receiving a VAC are not receiving a VAC. Is this because of lack of knowledge, poor access to health services or is it a lack of VACs at the *posyandu*;
   - reasons why postpartum VAC coverage is low.

3. Efforts should be made to understand what is happening with respect to VAC coverage among women and children in those areas where the NSS does not collect data. A representative survey could be conducted in those areas or the NSS, funding permitted, should consider expanding geographic coverage. Night blindness rates among women should be assessed in order to help identify areas where this problem exists.

4. A conference of domestic and international experts needs to be convened to review and discuss the new IVACG recommendation for VAC supplementation for postpartum women and infants 0-5 months of age.

5. Efforts should focus on trying to improve postpartum VAC coverage. The issue of one or two doses postpartum needs to be further discussed (see also point 4 above) with the Directorate of Nutrition and other stakeholders before launching on materials development (for mass media or pre-service curricula).

6. A national meeting should be held to provide a forum for discussing new scientific developments in the field of vitamin A, particularly recent results about the benefits and interactions of vitamin A with certain infectious diseases, such as tuberculosis and malaria. This could also be a good forum to discuss linking vitamin A supplementation with deworming efforts.

7. VAC guidelines should be updated for case-management of measles, diarrhea and severe malnutrition. Health workers should receive training on these guidelines.

8. Efforts need to be made to ensure that vitamin A program activities are part of district-health plans. Advocacy at both high- and lower-levels needs to be conducted.

9. The VAC program of the MOH/Indonesia is a good "model" of success. The experiences in Indonesia need to be shared with other countries through cross-country exchanges, publications, and through presentations at international conferences.

I. Introduction

A. Background

In 1997 Indonesia experienced an economic crisis, along with most of the rest of South East Asia. In Indonesia, the value of the rupiah dropped, unemployment began to rise, and household purchasing power declined. Although the Indonesian government was awarded the 'Spirit of Helen Keller Award' in 1994 for progress in controlling vitamin A deficiency over the past two decades, the threat of micronutrient deficiencies, especially vitamin A deficiency (VAD) and iron deficiency anemia, was re-emerging in the late 1990s. Data collected by the Helen Keller International (HKI)/Government of Indonesia (GOI) Nutrition and Health Surveillance System (NSS) in rural Central Java and in slum areas of the cities of Jakarta, Surabaya and Semarang in the period July 1998 – February 1999 showed that VAD among mothers and children was increasing again. Deficiencies in these essential micronutrients cause increased morbidity and mortality, reduce productivity and slow mental development.

1999 NSS data also showed that VAC coverage among children more than 12 months of age was not dramatically affected by the economic crisis. However, the data also suggested that less than one-third of infants aged 6-11 months (previously not included in the GOI VAC policy) and postpartum women receive vitamin A capsules. Given the decline of intake of vitamin A and iron-rich foods following the economic crisis, it was essential that the VAC program target these high-risk groups. In addition, coverage of the VAC program in urban slum areas was low among all three target groups (infants, preschool children and postpartum women). In order to prevent a further re-emergence of VAD and related morbidity and mortality, HKI proposed to immediately expand their support to the ongoing VAC program.

In 1999, the United States Agency for International Development (USAID) awarded 3-years of program funds to HKI, under cooperative agreement number 497-A-00-99-00033-00, to provide technical assistance to the national VAC program and to expand the NSS. In 2002, a one-year extension was provided through September 2003. The USAID mission, HKI, Litbangkes (NSS counterpart organization) and the Directorate of Community Nutrition (Vitamin A counterpart organization) agreed that this (April/May 2003) was an opportune time to conduct participatory and forward thinking reviews of the Vitamin A and NSS programs. These technical and management reviews will allow the mission and implementing partners to make programmatic adjustments and consider recommendations for future activities. The recommendations of the reviews will be considered during the development of proposals for the next two years of the NSS and Vitamin A program activities starting in October 2003.

This report summarizes the findings of the Vitamin A review and provides general recommendations for the Indonesia Vitamin A Program. The terms of reference for the review can be found in Appendix 1. Team members included Ms. Dora Panagides (Team Leader/Country Director HKI Bangladesh), Ir. Titin Hartini (Directorate of Community Nutrition/Ministry of Health), Ms. Sri Durjati Boedihardjo (USAID/Indonesia) and Dr. Elvina Karyadi (SEAMO-TROPMED RCCN, University of Indonesia).

B. Project Objectives and Goals

The main objective of the current HKI Vitamin A Program is to support the Ministry of Health (MOH) in the implementation of the existing national vitamin A supplementation program for children in communities across Indonesia. The HKI program has an overall goal and specific objectives.

The overall goal is to increase high-dose vitamin A capsule coverage rates during the national vitamin A distribution months of February and August among: a) all eligible children 6-11 months of age, and b) all eligible children 12-59 months of age.

Specific objectives

- To support the national vitamin A supplementation program for children being implemented by the Ministry of Health

- To implement national mass media campaigns aimed at increasing community demand for vitamin A and increasing participation in the *posyandu*-based capsule distribution program (every February and August) for all preschool age children (6-59 months of age)

- To explore alternative distribution mechanisms to increase vitamin A capsule coverage among high-risk groups in areas that do not regularly use the *posyandu* system

- To update educational and training materials that will assist district and provincial level staff in the planning and implementation of the routine vitamin A program and the use of vitamin A for case management of disease

- To raise awareness (at all levels) about the continuing need and current constraints to maintaining an adequate and timely supply of capsules to support the national vitamin A program

To achieve these objectives, HKI provides technical assistance and conducts mass media campaigns and advocacy activities. In addition, the national policy on vitamin A supplementation changed in 1999 to include 6-11 month old children as a new target group for supplementation. At that point in time HKI began working in collaboration with the MOH and other groups to conduct specific activities that were focused on: (1) increasing vitamin A capsule coverage among the new target group of 6-11 month-old children (across Indonesia); (2) increasing vitamin A capsule coverage among the existing target group of 12-59 month-old children above pre-crisis levels (across Indonesia), and (3) implementing more intensive program activities in the urban poor areas where the risk of vitamin A deficiency appeared to be at the most immediate risk of increasing

II. Methods

Preparation for the Vitamin A Program Review took place in April 2003 by HKI and USAID representatives. Team members were agreed upon by the two parties. Relevant documents were sent to the respective team members (Appendix 2). A schedule of meetings was also prepared jointly by HKI and USAID. Team members were not involved in the selection of the interviewees, except in the selection of HKI staff.

In-country review activities took place from April 30 to May 7, 2003 (six working days). A debriefing was given by the review team to USAID representatives on May 8, 2003. USAID requested that the draft report be submitted on or before May 19th. The report was sent on the 19th to USAID and the team leader requested that comments be sent by May 22nd. Comments were received by USAID on June 5th, 2003.

The planned schedule for the VA Management and Technical Program Review can be found in Appendix 3. Team members met on day one to review the Terms of Reference (TOR), and

to define team member roles and responsibilities. During this one-day meeting the team also reviewed the key questions to be answered and developed additional questions to guide discussions. Dr. Amy Rice, Vitamin A Program Director/HKI Indonesia, was only invited to participate in selected meetings. She was present during the one day of preparation, in the meeting with Dr. Bloem, HKI-Indonesia Country Director, and at the stakeholders meeting where she was invited to give a presentation to the group. In addition, she was invited to attend the debriefing given to USAID.

The review was done by interviewing key partners and stakeholders, including the Directorate of Nutrition/MOH, Directorate of Health Promotion/MOH, Sub-directorate of Immunization/MOH, the World Health Organization (WHO), Bappenas (The State Ministry of National Development Planning/National Development Planning Agency), UNICEF, Japan International Cooperation Agency (JICA), and Canadian International Development Agency (CIDA). In addition, a stakeholders meeting was conducted with representatives from NGOs, UN agencies, donors and district health offices. Interviews were also conducted with HKI and USAID personnel. A short telephone call was also made to an MSH representative. Besides conducting interviews, team members also reviewed vitamin A program documents, including *Crisis Bulletins* and mass media materials.

All interviews were done at the respective persons offices, except the stakeholders meeting which was held in a hotel meeting room. The team leader was responsible for giving a background of the review and for initiating the discussion, which was focused on trying to answer the questions set forth in the TOR. Each team member was responsible for attempting to obtain responses for certain questions. It was clear that some questions were not necessarily relevant to certain agencies/departments (e.g. questions about mass media were not asked to Bappenas representative). The interviews were conducted in a semi-structured way with all team members participating. It was not possible, however, to get direct responses to all questions. The stakeholders' meeting was conducted in a different manner. This consisted of a large group of persons from different agencies. An open discussion format was used with guiding questions posed to the participants. Finally, the meeting with Dr. Rice was also conducted differently. Dr. Rice gave a presentation to team members in order to give them a background about HKI support to the National VA Program. Following her presentation, team members had the opportunity to interview her.

Between meetings or at the end of each day, time permissible, the team entered meeting highlights into the computer. A summary of each meeting was prepared and reviewed by team members. On the 'wrap-up' day, team members compiled information from all the meetings and summarized the main findings by agency.

III. Findings/Recommendations of Stakeholders

Included in this section of the report is a summary of key findings for each meeting and then a summary of general/overall findings and recommendations that stakeholders have suggested. A list of all people the team met with, and the start and end time of each meeting (final schedule), can be found in Appendix 4.

A. Summary of Meetings Conducted During the Review

A summary of each one of the meetings that took place during the review period is presented below. These are described in the order in which the meetings took place. Each team member took notes on the opinions/perceptions of the various people who were interviewed, to the best of the team's ability. Issues raised in this report should not be taken as necessarily factual, but should serve as a platform for future discussions.

April 30, 2003

Helen Keller International

Participants: Two separate meetings were conducted with HKI-Indonesia staff. One was with Dr. Amy Rice and the other was with Dr. Martin Bloem, Country Director. The team did not specifically request an individual or small group meeting with other HKI staff. Those present in the meeting with Dr. Rice were all VA review team members. With Dr. Bloem, the VA review team members participated as did Dr. Rice.

Dr. Rice gave a brief presentation to team members. This was meant to give the team an overview of the National VA program and how HKI has been assisting the program. The team then had the opportunity to ask Dr. Rice about constraints to program implementation and ask for her ideas about future programming. The main constraint that HKI faces with respect to the VA Program is the fact that HKI is not responsible for VAC supply. Since coverage is dependent on supply, the system must be in place in order for coverage rates to have the possibility to increase. Also, HKI is not directly involved with the *posyandu* system which is the only channel of distribution of VACs. This also can be considered a constraint to achieving higher coverage. At the same time there are geographic constraints related to access to a *posyandu* and this can have an effect on coverage rates. HKI cannot influence this. The process of decentralization has been difficult in the sense that roles and responsibilities of persons at different levels of the health system were not clearly defined. Also, district personnel do not necessarily always know what their VAC requirements are and this is a constraint. HKI has also had a difficult time getting people together at the same time for relevant program discussions and decision-making. This sometimes slows the process down. Finally, Dr. Rice mentioned that more could be done if there was more funding for the VAC program.

When asked about the future, Dr. Rice mentioned that it is important for Indonesia to review the International Vitamin A Consultative Group (IVACG) recommendations. In order to do this, she suggested that a technical review meeting should take place. This group would review the recommendation for increasing the dose for postpartum women from one to two 200,000 IU dose capsules as well as reviewing the international recommendations for the new target group of 0-5 month old children. Priorities should be well defined before new target groups are added. Dr. Rice also mentioned that is it important to place efforts on reaching postpartum women but prior to this, the policy should be clear. She also felt that mass media campaigns should continue and that more work should be done with television talk shows. It was also felt that the press needs to get more involved so that they can do more with advocacy at the district-level. Partnerships should include more involvement of WHO and the Sub-directorate of Immunization – especially on case management of diseases, such as measles. It was also felt that there could be collaborations with groups working in the maternal and child health field and with NGOs that HKI has not yet worked with. For example those NGOs working with internally displaced persons and refugees. Another idea is to work more intensively with the Gizi Net website (www.gizi.net) managed by the MOH. Finally, Dr. Rice mentioned that the NSS has been very useful in terms of providing important information about the vitamin A program that has helped HKI target mass media campaigns and monitor coverage rates. Over the past several years, NSS data about VAC rates have been routinely reported on and distributed as part of the key indicators being monitored by the NSS.

Dr. Bloem emphasized that the Indonesia Vitamin A Program is important for the rest of the world. The program has a long history and is one of the most successful programs in the world. "Indonesia should spend time to market the program", he emphasized. Dr. Bloem feels this because many countries have integrated VAC distribution with National

Immunization Days (NIDs) and now are now faced with difficulties as the NIDs phase out. Whereas, the Indonesia program was, historically, not a part of NIDs. It shows how a regular health system can deliver VACs and be successful at it. Dr. Bloem also expressed that it is important to target postpartum women but that it should be integrated with other maternal and child health programs, using an integrated approach like the SUMMIT (Maternal Supplementation with Multiple Micronutrients Intervention) being implemented in Lombok, Indonesia.

Dr. Bloem mentioned that the current program targeting children 6-59 months is fine as it is and it would not be good to do too many different strategies since this could threaten sustainability. When asked about the new target group of 0-5 months, Dr. Bloem said that "he would do it". But, he agreed that the national VAC policy needed to first be reviewed and suggested that Indonesia re-convene "Vitamin A Meetings" which used to be held every three to four years. He recommended that domestic and international experts convene to discuss the new IVACG guidelines as well as discuss the major problems facing Indonesia such as tuberculosis and malaria and the relationship of vitamin A with these diseases. Dr. Bloem also emphasized that the fact the GOI purchases the VACs is a sign of sustainability – this is not the case in many countries.

Provincial Representatives

Members of the vitamin A technical review team were not present at this meeting since they were involved in the vitamin A review. But, it was felt by USAID that these persons should be asked a few vitamin A program-related questions. The answers to these questions were provided by Ms. Ame Stormer, NSS Program Director/HKI.

The NSS technical review team held a meeting with the representatives of the nine provinces where the NSS system has been active as part of their own review process. Each of the nine provinces was represented by the NSS provincial coordinator (1 person) and district level health officers (2 people). The NSS review team asked the following questions of this group of 27 participants. Q1) Had they heard of the vitamin A program? Answer: Yes. Q2) Had they seen promotional materials in their areas? Answer: Yes. Q3) Any suggestions for how to improve media materials? Answer: Media materials are appropriate. Q4) What did they currently see as the most limiting factor in implementing the vitamin A program in their area (given that the Vitamin A Program at HKI has been actively working to support the national program activities in their areas)? Primary answer: Secure supply of adequate vitamin A capsules.

<u>May 1, 2003</u>

Directorate of Community Nutrition/MOH

The Directorate of Community Nutrition/MOH is the official counterpart organization for the Vitamin A Program at HKI. Ibu Rachmi and her staff were appointed to the Directorate in February 2002. Prior to that time Dr. Dini Latief and her staff were the primary counterparts for the Vitamin A program. They were not interviewed during the Vitamin A Program review.

Participants: Dr. Rachmi, Dr. Sunarko and Dr. Minarto, Dr. Ray Yip (NSS Team Leader was present for 45 min.) VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration). Dr. Atmarita (Directorate of Community Nutrition/MOH) was scheduled to attend this meeting, but was not present. Atmarita worked with HKI Vitamin A Program staff to create a presentation for the February 2003 IVACG meeting in Morocco which included NSS data about the vitamin A program.

The meeting with the Directorate of Community Nutrition/MOH was not specifically focused on the VA Program and HKI's involvement with that program. Even though the team tried

many times to 'steer' the direction towards vitamin A issues, it was rather difficult. For about half of the time, the discussion focused on issues specific to the NSS. This may have been raised since Dr. Ray Yip, Team Leader for the NSS Review, was also in the meeting for part of the time. After he left, a good part of the discussion focused on the Memorandum of Understanding (MOU) between HKI and the Ministry of Health. The MOU is general and covers all activities that HKI is conducting under the auspices of the MOH. Dr. Rachmi mentioned that HKI needs to "stick to the MOU". This means that HKI needs to conduct all activities outlined in the MOU (including cataract programs) and needs to provide reports as per the reporting schedule.

When the team tried to obtain information about the VAC program, Dr. Rachmi mentioned that the Directorate does not necessarily feel a part of the program. She said that, "activities are done in isolation", and therefore, they really do not even feel part of the 'successes' that the program is seeing with respect to capsule coverage. It is unclear whether this was just specific to the VAC program or whether they feel this way for all activities that HKI is conducting. Dr. Rachmi also mentioned that the Directorate of Community Nutrition does not feel that they are involved in the production of the *Crisis Bulletins* and that these bulletins are not being used effectively, since the Directorate only received coverage data in the January 2003 edition.

Despite these issues, the persons in this meeting mentioned that HKI should be more involved with the VA program, not just with mass media, but also with policy development (standards and guidelines), systems development and capacity building. And, HKI should ensure that a participatory approach is used, they should be transparent (with data) and more collaborative.

Various program-specific issues were raised and included:
- The expressed need for new materials, especially in local languages;
- The need to develop the capacity of district personnel to develop information, education and communications materials;
- The need to reach children who do not go to the *posyandu* (which they think are the children over two years of age), and women. These groups are considered missed opportunities.

Besides these, the Directorate of Community Nutrition mentioned that they need assistance from HKI to strengthen monitoring and evaluation of VAC coverage; since decentralization, the Directorate has a difficult time to collect data from the districts. They also think it is important that, in future activities, HKI focus on improving postpartum supplementation coverage.

Cost of program implementation was viewed as a concern to the Directorate. In fact, they do not feel that the new IVACG guidelines for postpartum women (two high dose capsules postpartum instead of one) should be considered until coverage of the one capsule is high, and until the supply is secured. The cost of adding one extra dose also needs to be considered. Related to this, they expressed the need for a national xerophthalmia mapping, such as the mappings that were done previously, looking at severe signs of VAD. They believe this mapping exercise would help the GOI to better target high-risk areas for VAD and that efforts would then focus on specific geographic areas. However, staff from the Directorate of Community Nutrition did not clarify what they would do to support ongoing program activities in the areas not considered to be at high-risk. They also suggested that the GOI could then be able to supply VACs to poor people and high-risk areas. The idea that people who could afford VACs should pay for them, was raised. And, since there is a shortage of capsules, a market for them should be created and people should have the opportunity to purchase them.

A lot of the discussion also focused on the interest of the Directorate for Community Nutrition to move away from supplementation to food-based programs including fortification and homestead food production. They feel that Indonesia should start to do more in that direction as well as implement more strategies to address the problem of vitamin A deficiency and malnutrition in general.

Directorate of Health Promotion/MOH
This is the section of the MOH responsible for conducting health promotion campaigns in Indonesia. HKI collaborated with this group on the vitamin A and national polio immunization day campaigns.

Participants: Drs. Dachroni, Ismoyowati, SKM, M.Kes, Dra. Ruflina Rauf, VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration).

Persons met at the Directorate of Health Promotion Center/MOH think that the mass media campaign supported by HKI has "adequately reached the target group". However, they feel that materials need to be adapted to the local culture and language. Prototypes should be developed and then adapted locally. It was also felt that local leaders and traditional media should be explored and used as a means to better reach the target audience. This should all be part of local capacity-building.

Regarding postpartum VAC program – they felt it was important to first have a meeting to discuss the strategy. When asked about whether it would be useful to go ahead with the one dose postpartum, rather than wait for a possible change in policy to two doses, Health Promotion personnel thought that this would not be a good idea since it could lead to 'mistrust' – people would get mixed messages and then not trust the MOH. Therefore, it is important to first agree on whether the new IVACG policy for postpartum women will be adapted in Indonesia and then work together on a strategy.

They felt that there should be more involvement of the Directorate of Health Promotion in development of a communications strategy; there should be an integrated comprehensive program following a community-based approach with regular monitoring and evaluation. They also suggested that the VAC program should be integrated with other maternal and child health programs, including immunization, and efforts should focus on high-risk areas, which should be determined after a national xerophthalmia mapping.

People interviewed also mentioned that the *Crisis Bulletins* should be more attractive (colorful), and there should be clear messages, translated into Bahasa Indonesia.

May 2, 2003

Sub-directorate of Immunization /MOH
This is the section of the MOH responsible for overseeing the implementation of immunization program activities. HKI collaborated with this group to implement mass measles immunization and vitamin A campaigns in selected areas and on the national polio immunization day campaign.

Participants: Hariadi Wibisono, Dr. Totok Hariyanto, Dr. Jane Soepardi, Kartini Herawati, SKM, VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration).

Staff from the Sub-directorate of Immunization/MOH feel that the collaboration with HKI has been successful. They see many more opportunities for integration of VAC activities with immunization activities. For one, they think that it would be 'easy' to target postpartum women via the program reaching infants at birth for Hepatitis B (HepB) vaccination. Mothers

could be given one (or two capsules) at the time of the first dose of HepB (at birth). In addition, if the new target group for VAC, infants 0-5 months of age, is accepted by the MOH, then it would be 'easy' to integrate this with the diphtheria, pertussis, tetanus (DPT) vaccination schedule at 2, 3 and 4 months of age.

There was also discussion on treatment of diseases with vitamin A, and in particular measles. It was felt that health workers are not knowledgeable that VACs should be given to patients with measles. At the same time, there is not a good understanding of what to do in the event of a measles outbreak. Health workers should be trained on this. They suggested that a unit within the Department of Health be responsible for this.

Other suggestions discussed included that the Directorate of Nutrition should conduct a mapping of low vitamin A capsule coverage areas in order that these area are better targeted. In those areas, a "Crash Program" integrating measles with VAC should be conducted. And, immunization persons at this meeting also thought it would be good for HKI to participate in the Inter-agency Coordination Committee (ICC) on immunization.

WHO – Child Health and Immunization

HKI collaborated with WHO as part of the central level coordinating group for the national polio immunization day. Francisco Averhoff and Philip Mann were the primary contacts for that project. Both of these individuals left Indonesia by the end of 2002 and were not interviewed during the Vitamin A Program review.

Participants: Dr. Frits Reijsenbach de Haan, Dr. Hein van Fliet, VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration). (Note: Dr. van Fliet is new to the program and was not able to provide specific information.)

The main issues raised by WHO representatives included xerophthalmia mapping to determine high-risk areas, and the need for disease treatment guidelines and pre-service training. It was felt that a national xerophthalmia mapping should be conducted in order that it become clear where the problems of vitamin A deficiency are most prevalent, so that resources can be better targeted to those areas, resulting in more of a geographic focus. It was also mentioned that the current strategy of delivery of VACs should be continued, rather than explore other possibilities, such as through the PIN (*Pekan Imunisasi Nasional* or National Immunization Days), since the PINs are not long-term strategy.

It was also mentioned that health workers are not aware of case management for measles, with VACs. This, combined with the fact that midwives and other health professionals need to know about the importance of vitamin A, means that possibilities of including vitamin A into pre-service training for midwives, nurses and other health professionals needs to be explored. In this way, they would also be more knowledgeable about the importance of VACs for postpartum women. It was also mentioned that it is important to raise awareness of children about vitamin A and this information could be provided through the school system.

The WHO persons also feel that there is a need for a child health policy in Indonesia, and this is something WHO is working on. At the same time, efforts should focus on preparing district planning guides for advocacy.

Bappenas

The Vitamin A Program at HKI has not worked closely with Bappenas (The State Ministry of National Development Planning/National Development Planning Agency).

Participants: Ir. Yosi Diani Tresna, Dr. Taufik Hanafi, VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration).

This meeting was mostly an overview of different funds that districts can have access to. These funds include (1) the sectoral budget, (2) special allocation funds (education, health and infrastructure), (3) general allocation funds, (4) revenue sharing and (5) special autonomy funds. It was suggested that advocacy for vitamin A programs (including VACs) should be done from the general allocation, revenue sharing and the special autonomy funds. However, the special autonomy funds are currently only available for Papua, Maluku and Aceh.

May 5, 2003

Stakeholders meeting
This group was comprised of representatives from NGOs, donor agencies, UN agencies, and selected district health departments. The HKI Vitamin A Program has collaborated with some, but not all of these groups in the past on vitamin A promotion activities.

Participants: The stakeholders meeting followed a different format. It was a large group of approximately 30 persons from NGOs, donor agencies, UN agencies, district health departments and HKI. A complete list of the participants can be found in Appendix 4.

The general consensus was that the Vitamin A program should continue. It is a good program but decentralization could have an influence on it and therefore it is important to continue to monitor it.

There was a lot of discussion about postpartum women. It was felt that this target group was a missed opportunity and there is now a need to address this group. It was suggested that prior to launching a large-scale program targeting postpartum women, a workshop should be conducted amongst key stakeholders to discuss how to reach this target. Then, a pilot project should be conducted; an analysis of budgetary needs; training for cadres and then extension of the program nationally. An examination of why postpartum coverage is low also needs to be done. Another suggestion was that women could be reached through the Hepatitis B vaccination at birth. Participants also mentioned that the vitamin A program should make linkages with village midwives, private doctors, traditional birth attendants as well as the formal education system (universities and primary schools). And, the program should be integrated with other maternal and child health programs such as the USAID-supported Maternal and Neonatal Health program. At the same time the concept of a 'package of services' for maternal and child care was raised. Various participants expressed a need for the 'package'. There was some discussion about the unregistered urban populations being a missed opportunity.

Some participants also mentioned that it is important to do a national xerophthalmia mapping, and advocacy, about the importance of vitamin A, at higher-levels. At the same time there was some discussion about how knowledge of local leaders needs to be improved.

UNICEF/JICA (meeting held jointly, at the UNICEF office)
UNICEF and JICA currently support a variety of health program activities in Indonesia. HKI has collaborated with UNICEF on past vitamin A promotional activities, including the national immunization day. The HKI Vitamin A Program has not worked closely with JICA.

Participants: Abdulaziz Adish (UNICEF), Anna Winoto (UNICEF), Dr. Akiko Matsuyama (JICA), Yoshiko Fujiwara (JICA), VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration).

Mr. Adish felt that the vitamin A promotion campaigns should continued since the 80% target set by the MOH for VAC coverage has not yet been met and besides, there are always new mothers that need to be targeted. However, there was also the general feeling, of UNICEF, that caretakers in Java already know about the vitamin A campaign months and thus perhaps

campaigns should focus in remote areas, such as Papua and Maluku, where the coverage is very low. It was felt that there needs to be an effort to reach the 20-30% of children who do not attend the *posyandu*. Materials need to be culturally appropriate, and, more advocacy is needed at the local level. In order to improve postpartum coverage it was suggested that the vitamin A program collaborate with PATH, MNH and other maternal and neo-natal health programs. UNICEF could get involved with piloting postpartum strategies, since there will be sufficient VACs in the districts where they work. They also felt that opportunities with immunization are good. It was mentioned that health staff do not know about the treatment guidelines for vitamin A and that this needs to be addressed.

JICA mentioned their involvement with the development of the Maternal and Child Health Handbook. Every pregnant woman will get a handbook. The purpose of the handbook is to provide health education to community members and for the card owner to have an essential health record. This could be a tool for providing education about VACs and for recording VAC receipt, since the new MCH Handbook has VAC for postpartum women included. JICA support to this program will end in September 2003; but, the MOH has already started to implement this as a national program. JICA is also involved in training district health officers and paramedics in rational drugs use and how to plan for procurement, based on epidemiological data. Currently this is operational in 100 districts and the plan is to expand the program to approximately 350 districts. JICA representatives felt that there needs to be more advocacy at the district-level.

May 6, 2003

USAID
USAID has funded the Vitamin A Program at HKI since 1999.

Participants: The VA team, met with Molly Gingerich and Lynn Krueger Adrian on May 6th, and then with Jonathan Ross (at the HKI-Indonesia office) separately on May 7th. Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration) were present for the meeting on May 6th at the USAID office.

USAID representatives mentioned that there is little disagreement that the program has been successful. Coverage rates have increased; technical assistance has been provided to the National Vitamin A program; "Yes, we have enjoyed success". However, there was a concern about what to do next. Various questions were raised and these included:

- Concern for what is happening in those areas where data is not available (where NSS does not collect data). Should there be an effort to find out what is happening in those areas, even though it is not a densely populated area?
- Are VAC coverage rates more affected by supply than by *posyandu* attendance? What are the obstacles to increasing coverage?
- When should efforts focused on mass media be reduced, especially since the VAC program in Indonesia is "mature"? Would there be a similar turnout if mass media were to stop?
- At what point do we spend money to see a small additional increase in coverage vs. spending money on advocacy at the district-level to ensure VAC supply? What is the strongest investment?
- Should we look at other strategies such as those being implemented by the Coalition for a Healthy Indonesia?

Regarding postpartum supplementation, USAID representatives mentioned that they were surprised that this was not a part of the original program. There was discussion that maternal health is important for child health – the lifecycle approach – and therefore it is important to also address maternal health issues. To reach this target group, the VA program could make

linkages with other maternal and newborn care programs. And, VACs should be included as part of a "package of services" for postpartum women. Other possibilities could be to work with the Healthy Indonesia 2010 Coalition and to explore various opportunities to move more to private sector and local level coalitions.

There was then some discussion about having certain program components institutionalized such as integrating health/nutrition messages into school curricula so that children learn about the importance of nutrition for health at an early age. Also, there was mention of integrating nutrition into the curricula of health professionals, such as midwives. This should include the importance of vitamin A for overall health and not just in relation to night blindness and other signs of xerophthalmia. It was emphasized that many people do not understand the many benefits of VA for maternal and child survival. USAID representatives also felt that it is important for the VA program to make linkages with other agencies working on decentralization (such as MSH) so that VACs are integrated into the decentralization process.

During the discussion, USAID representatives mentioned that HKI has been key to the success of the vitamin A program. It was felt that the GOI should identify a 'champion' or advocate within their own ranks to ensure the support HKI provides is continued. This was raised in the context of the amount of actual programmatic funding support currently provided by USAID ~$500,000/year with the remainder being spent on staff. Thus the financial contribution from HKI is not unattainable by the GOI, it's the management/technical/'champion' capacity that needs developed.

The topics of other micronutrients (such as iron) and on the relationship of micronutrients and diseases (especially malaria and tuberculosis) were raised as was the issue of deworming and vitamin A supplementation. Since the TOR did not specify that the team look into this, in-depth discussion on these topics did not occur. It is just important to note, however, that malnutrition plays a role in infectious diseases.

CIDA

Globally, CIDA is one of the largest donors of vitamin A capsules in the world. In Indonesia, CIDA supports a variety of health program activities. The HKI Vitamin A Program has not worked closely with CIDA.

Participants: Peggy Thorpe, VA Review Team Members, Dr. Herqutanto (Interpreter), and Rieri Rahmadifi (Administration).

Ms. Thorpe emphasized that tuberculosis is an important health problem and should be viewed "with the same importance as the economy", and that health/nutrition need to be viewed as an important part of poverty alleviation and making progress towards the Millennium Development Goals (MDGs). She also mentioned that advocacy is needed at high levels because districts should not be required, or put in a position to, choose a "priority amongst priorities". A package of health interventions such as immunization and vitamin A should form part of an overall health package that all districts must implement. Central level needs to provide guidance to districts on a 'core' set of services (such as VA and immunization). This should be a directive from the Minister of Health and should not be negotiable. It was also felt by the interviewee that monitoring and evaluation systems need to be strengthened; this includes survey data as well as service statistics.

World Bank

World Bank representatives were not available due to an off-site meeting the week of the Vitamin A review. Janet Hohnen of the World Bank requested that HKI and USAID meet with the World Bank Team being fielded to do a Nutrition Sector Assessment in the near future. The Assessment will look at: 1) micronutrients, 2) nutrition surveillance, and 3) institutional capacity.

B. Overall Summary and Recommendations of the Individuals/Groups Interviewed by the Review Team

Presented below are the main findings, per question in the TOR, based on interviews and the larger group stakeholders meetings (does not include meetings with HKI and USAID personnel). Each question from the TOR is underlined and the findings are described below each question.

1. To assess the extent to which the Vitamin A Program has achieved its stated objectives for the time period of 1999-2003. What are the major technical and programmatic achievements to date?

   The overall consensus was that the Vitamin A Program has achieved it's main objective of increasing high-dose vitamin A capsule coverage rates during the national vitamin A distribution months of February and August among: a) all eligible children 6-11 months of age, and b) all eligible children 12-59 months of age. This was determined by looking at data on coverage rates, presented in *Crisis Bulletin*, Year 5, Issue 1. *Vitamin A capsule coverage improves between the August 1999 and February 2002 vitamin A distribution months* (Appendix 5). Stakeholders also mentioned that they thought the program had achieved its stated objectives and that it should be continued.

   The major achievements include an increase in VAC coverage among children 6-11 months of age and an increase in coverage among children 12-59 months of age. VAC coverage rates among infants 6-11 months in four urban poor sites and eight rural provinces increased from 41% in August 1999 to 83% in August 2002. Among children 12-59 months in four urban poor sites and eight rural provinces increased from 65% in August 1999 to 87% in August 2002. Coverage rates also increased significantly among infants 6-11 months in four urban poor sites – from 29% to 86% in August 1999 and 2002 respectively (Appendix 6). This significant increase in VAC coverage shows that the strategy employed by HKI, to use a national mass media campaign, was successful in increasing *posyandu* attendance for receiving VAC which occurred in September/October 2002.

   One of the specific objectives of the program was to explore alternative distribution mechanisms to increase vitamin A capsule coverage among high-risk groups in areas that do not regularly use the *posyandu* system. One strategy used to reach this target group was to integrate vitamin A capsule distribution with the *Pekan Imunisasi Nasional* (PIN), or National Immunization Day which occurred in September/October 2002. The PIN + vitamin A campaign was conducted as a one day event all across the country. Polio immunizations were distributed at POS PIN (Immunization Posts) which were located in all different kinds of places, including train stations, McDonald's, and other locations. These sites were used only during the PIN, and continued to be 'managed' by the *posyandu* and village teams. This specific campaign (PIN + vitamin A) only took place during the August/September 2002 vitamin A distribution round.

   HKI initially sponsored several smaller projects among high-risk populations in the urban poor areas of Jakarta, Semarang, Surabaya, and Makassar (Aug 2000), in selected villages of Lombok (Aug 2001), and selected districts of West Sumatra (Feb 2002) to combine targeted mass measles immunization campaigns with vitamin A supplementation in conjunction with the vitamin A distribution months. The initial pilot project in the urban poor areas is described in the *Crisis Bulletin*, Year 2, Issue

18. Special series on infectious disease and vitamin A. *Mass measles immunization campaign successfully linked to vitamin A supplementation month in urban areas* (Appendix 7). These joint programs were effective in raising awareness about the need for the child survival interventions and in increasing the delivery of vitamin A supplements and measles immunizations, both of which help protect children from unnecessary illness and death.

Other achievements include the development and publication of a booklet for health workers on how to treat xerophthalmia, including night blindness. More than 50,000 copies of this booklet have been distributed across the country to a variety of different types of health workers. Copies were sent to pediatricians, ophthalmologists, nutrition academies and other groups in addition to health workers in all *puskesmas* [government health clinics] (> 7500) in Indonesia. Other materials that still need to be developed include the use of vitamin A for case management of diseases (measles, malnutrition and diarrhea). Various groups felt that it is important to develop these materials.

HKI has also been successful at advocacy. While this is difficult to measure, HKI has been told by their colleagues at the MOH that the mass media VA campaigns and the *Horison* show influenced the Ministry of Finance to allocate funds to purchase VAC for the national buffer stock.

2. <u>To examine whether the media campaigns, materials, and activities have been appropriate and effective. Should other types of strategies or materials be considered in the future?</u>

All persons who commented on this thought that the media campaigns, materials and related activities were appropriate and effective. The posters, banners, brochures, etc. were thought to be colorful and 'eye-catching'. However, many persons interviewed thought that the materials need to be locally-specific – local languages need to be used as well as local characteristics. Some people interviewed thought that such materials should come from local budgets.

The Health Promotion Directorate thought that efforts should focus on more community participation in social mobilization through involvement of religious leaders and other community members as well as the use of traditional media. It was felt that a national prototype-media should be developed and then adapted locally. While interviewees thought 'other' materials needed to be developed, no specific ideas were given. The Directorate of Health Promotion would like to be involved in all phases of program planning. In this way, they can assist with data and information on other NGOs, collaboration with other health campaigns, and be more involved with program activities. They also felt it was important to have an overall campaign strategy.

Other possibilities could be to work with the Healthy Indonesia 2010 Coalition and to explore various opportunities to move more to private sector and local level coalitions.

3. <u>To identify the missed opportunities, gaps, or limitations of the current program.</u>

In terms of 'missed opportunities, gaps, or limitations', the main issue raised was the fact that the program did not target postpartum women. There was a strong opinion among all interviewed that this is an important target group and they should be considered in any follow-on activities. Many groups also mentioned 'children who do not attend the *posyandu*' as a group that is being missed, especially in remote provinces. Other groups being missed are those children who go to private clinics

and hospitals. It was felt that some exploration needs to be done to determine why these children did/do not attend the *posyandu* or did not receive a VAC. Is it because they did not attend the *posyandu*, they did not know about VAC or because the *posyandu* did not have VACs. In the stakeholders meeting there was discussion of the unregistered urban populations as being a missed opportunity. Recent rounds of the NSS have collected data to address some of these issues, particularly reasons why mothers do not bring their children to the *posyandu* or why children did not receive a capsule. Preliminary results indicate that some reasons for not attending the *posyandu* include: inactive *posyandus*, mother reports being too busy, or that the child is routinely taken to visit other health service providers, etc. However, the results vary by province and over time. A more detailed exploration of these issues will be conducted for individual provinces and written up in a short report format or as Crisis Bulletins. The findings will be used to help plan future program activities.

4. To consider, after taking into account the current program status, the way the health care system in Indonesia is functioning and the ongoing challenges facing the GOI with respect to decentralization, if there are:

- new technical or programmatic issues
- new working partners (for example, other divisions of the MOH or other NGOS)
- new target groups for vitamin A supplementation (for example, women of reproductive age)

that are not currently being addressed/accessed that should be considered in future activities.

The current VAC policy in Indonesia includes children 6-59 months of age. The dosing for children 6-11 months is one 100,000 IU dose capsule twice a year and for children 12-59 months of age, the dosing is one 200,000 IU dose capsule twice a year. For postpartum women the policy is that one 200,000 IU dose be given within 30 days postpartum. The new IVACG guidelines on vitamin A supplementation, but not yet endorsed by WHO, recommend two 200,000 IU dose capsules postpartum and three 50,000 IU dose capsules for infants 0-5 months of age. Thus, there was some discussion about whether Indonesia should accept the new policy for postpartum children and infants 0-5 months of age.

Most agencies thought that it would be good to convene a conference in Indonesia with domestic and international experts to discuss the new IVACG guidelines. UNICEF representatives mentioned that they are in the process of organizing such a meeting. The purpose of this would be to decide whether it is feasible for Indonesia to proceed with the new recommendations and if so, to agree upon a strategy for piloting and financing these activities. Most agencies were open to exploring implementation of the new recommendations except the Directorate of Nutrition. Persons there were more reluctant to include new target groups and a new dosing schedule, especially because of cost implications. They also felt that it was first important to increase postpartum VAC coverage using the current policy and then later it could be changed. This differs from the idea of the Directorate of Health Promotion – they felt that it's better to wait until the policy is finalized rather than do a mass media campaign using one dose and then a few years later change it as this would result in 'mistrust' of the population.

There was a lot of discussion about how to potentially better reach postpartum women and the potentially new target group of infants 0-5 months of age. For postpartum women, there was discussion at the stakeholders meeting that it is first important to determine what the barriers are to low coverage (i.e. is it lack of supply, lack of knowledge, or lack of access?). Existing NSS data can be used to examine

some of these issues and key questions about programmatic constraints to participating in the postpartum dosing program could be added to future rounds of the NSS. Once this information is gathered a program strategy to target this group can be developed. Many agencies felt that it was important that the Vitamin A Program work with other programs such as the Maternal and Neonatal Health Program and Immunization. The Immunization Sub-directorate felt that it would be possible to train health workers who give Hepatitis B at birth to give the mother one 200,000 IU dose capsule (or two doses if the policy changes) of vitamin A. However, coverage rates for HepB at birth are currently low and this will have to be addressed. This Sub-directorate also thought that infants (0-5 months) can be targeted through the DPT immunization schedule.

Efforts to improve knowledge of health workers about vitamin A could include incorporating main program and technical-related issues into pre-service training curricula. Various interviewees thought that it would be good to explore the possibilities of including nutrition (including the importance of vitamin A) into pre-service training for paramedics, nurses and midwives. This way, they will already be aware of the National Vitamin A Program and the benefits of vitamin A on maternal and infant/child health. Others thought that it is also important for children to learn about the benefits of good nutrition on health and one way to do this is to include lessons into the school curriculum.

Potential partners to forge collaborations with include international NGOs such as PATH and MSH, and local NGOs such as the Koalisi Untuk Indonesia Sehat, Religious Organizations, Child Feeding Network[1], Universities, and UNFPA, among others.

The Directorate of Community Nutrition, Directorate of Health Promotion, and WHO felt that it was important for a national xerophthalmia mapping to be carried out. This mapping would be of severe clinical signs of VAD, and not just the first sign, night blindness, which is being collected by the NSS. This mapping, according to them, would assist with better program targeting. The Sub-Directorate of Immunization, however, thought that a mapping of low VAC coverage areas should be done and that resources could be targeted to those areas.

5. To consider what level of financial support may be expected from the different levels of the GOI and donor agencies in the near future for implementing various components of the national vitamin A supplementation program for children including: capsule procurement, promotional activities, operational costs, training activities, etc.

The team found it very difficult to assess levels of financial support that may be expected. UNICEF mentioned that they will continue to support the 40 districts that they are currently supporting. This support also includes the provision of VACs through a bi-lateral agreement with CIDA. The extent to which that support will continue is contingent upon an external evaluation of UNICEF.

The Directorate of Community Nutrition/MOH clearly is concerned about financing of the VAC program. This was raised especially in reference to new target groups and new supplementation guidelines for postpartum women. There was a general feeling

[1] The Child Feeding Network was established around mid-2002. It consists of a network of local and international NGOs and associations of professionals working in the area of infant and young child feeding. Network members meet every 2-3 months to share experiences/issues related to program policy and implementation.

amongst the Directorate personnel that it may be time for Indonesia to implement a system whereby those who can afford VACs pay for them and that the GOI only provides capsules to those at high-risk and who cannot afford them. They felt that the private sector could get involved in the implementation of such a strategy. To cut costs there was also a discussion at the Directorate on focusing efforts only in high-risk areas.

The Immunization Sub-directorate thought that cost sharing, by combining VACs with immunization, could be effective.

There was overall concern that the VAC program could be in jeopardy with the process of decentralization. Much discussion focused on advocating at the district-level so that local authorities/decision-makers include a line for VA program activities in their budget. Since VACs are considered a "very very essential drug", they are, technically, the responsibility of the central-level to provide. The problem is that drugs sent to the districts can be too little or too many and therefore some districts prefer to purchase drugs themselves.

IV. Recommendations by Team Members

Based on discussions with various stakeholders, international recommendations related to vitamin A programs and general knowledge of team members of the situation in Indonesia, the following recommendations are made by the Vitamin A Program Review Team. These recommendations are general recommendations and are not meant to be all inclusive or specific to HKI. They are meant to be viewed as a whole, for any agency to address and represent what the team feels the current needs in Indonesia are.

1. Support to the national vitamin A program should continue for children 6-59 months of age. Mass media campaigns, as currently being conducted, should be continued. However, efforts should be made to explore whether all of the different types of mass media channels used in the past (television ads, radio ads, newspaper ads, banners, posters, flyers, wall calendars, brochures, etc) should continue to be intensively used throughout Indonesia or whether future campaign activities should focus on certain types of information channels or be concentrated on specific geographic areas.

2. Analysis of NSS data should be conducted to determine, where possible:
   - reasons why the 20-30% of children not receiving a VAC are not receiving a VAC. Is this because of lack of knowledge, poor access to health services or is it a lack of VACs at the *posyandu*;
   - reasons why postpartum VAC coverage is low.

3. Efforts should be made to understand what is happening with respect to VAC coverage among women and children in those areas where the NSS does not collect data. A representative survey could be conducted in those areas or the NSS, funding permitted, should consider expanding geographic coverage. Night blindness rates among women should be assessed in order to help identify areas where this problem exists.

4. A conference of domestic and international experts needs to be convened to review and discuss the new IVACG recommendation for VAC supplementation for postpartum women and infants 0-5 months of age.

5. Efforts should focus on trying to improve postpartum VAC coverage. The issue of one or two doses postpartum needs to be further discussed (see also point 4 above) with the

Directorate of Nutrition and other stakeholders before launching on materials development (for mass media or pre-service curricula).

6. A national meeting should be held to provide a forum for discussing new scientific developments in the field of vitamin A, particularly recent results about the benefits and interactions of vitamin A with certain infectious diseases, such as tuberculosis and malaria. This could also be a good forum to discuss linking vitamin A supplementation with deworming efforts.

7. VAC guidelines should be updated for case-management of measles, diarrhea and severe malnutrition. Health workers should receive training on these guidelines.

8. Efforts need to be made to ensure that vitamin A program activities are part of district-health plans. Advocacy at both high- and lower-levels needs to be conducted.

9. The VAC program of the MOH/Indonesia is a good "model" of success. The experiences in Indonesia need to be shared with other countries through cross-country exchanges, publications, and through presentations at international conferences.

List of Appendices

Appendix 1: TOR

TECHNICAL AND MANAGEMENT REVIEWS

Nutrition and Health Surveillance System (NSS) & Vitamin A Program

Cooperative Agreement No. 497-A-00-00033-00

April 29, 2003

I. Overview

In the wake of the economic crisis in 1998, the Nutrition and Health Surveillance System (NSS) was expanded from a monitoring of a Vitamin A social marketing campaign in Central Java into a surveillance system that was expanded to eight other provinces over the next three years. It now covers eight predominantly rural provinces and urban poor areas in four cities (Jakarta, Surabaya in East Java, Semarang in Central Java, and Makasar in South Sulawesi). The sample population of the NSS represents 70% of Indonesia's total population. The NSS is a collaborative effort between Helen Keller International (HKI) and the National Institute for Health Research and Development (Litbangkes).

USAID/Indonesia has extended the NSS and Vitamin A Cooperative Agreement until September 30, 2003. The USAID mission, HKI, Litbangkes (NSS counterpart organization) and the Directorate of Community Nutrition (Vitamin A counterpart organization) agree that this is an opportune time to conduct participatory and forward thinking reviews of the NSS and Vitamin A programs. These technical and management reviews will allow the mission and implementing partners to make corrections and appropriate recommendations for future activities. The recommendations of the reviews will be used and potentially included in the proposals for new two-year work plans for the NSS and Vitamin A programs starting in October 2003.

II. Background

NSS

The main objective of the NSS is to assess the impact of the economic crisis on nutritional and health status, and to monitor the country's recovery from the crisis. Cross-sectional data are collected four times a year (i.e. one round of data collection every three months) in all sites. The variables, or indicators, selected for the NSS are based on the conceptual framework of the causes of malnutrition developed by the United Nations Children's Fund (UNICEF). These variables provide information on the immediate, underlying and basic causes of malnutrition.

Many new changes in the external environment could have an impact on the NSS. Major issues facing the program include: 1) maintaining high quality data collection while improving turn-around time in data dissemination; 2) potential reductions in

allocations for project activities; 3) slow recovery from the economic crisis; and 4) the mandate to decentralize the health system.

The current objectives of the NSS are:

General

- To continue to provide nutrition and health information through the NSS for public health policy and decision-making, and for the monitoring and evaluation of intervention programs.

- To build local capacity to increase the use of and demand for nutrition and health information.

Specific

- To provide timely data on nutritional status and other health indicators for purposes of monitoring the health of the population and identifying at-risk groups for intervention programs.

- To assist the Government of Indonesia, donor groups and other organizations in the monitoring and evaluation of their programs.

- To assist the Government of Indonesia in obtaining baseline nutrition and health information in new provinces.

Vitamin A Program

The main objective of the current Vitamin A Program is to support the Ministry of Health in the implementation of the existing national vitamin A supplementation program for children in communities across Indonesia. To achieve this objective HKI provides technical assistance and conducts mass media campaigns and advocacy activities. Successful implementation of the supplementation program will increase vitamin A capsule coverage rates, prevent cases of severe morbidity, and improve child survival. Following the economic crisis in 1997 there were indications that the risk of vitamin A deficiency among women and children was increasing due to 1) a decline in dietary quality (particularly in the urban areas) and 2) the impact of the crisis on the implementation of routine health services, particularly preventive health services. In addition, the national policy on vitamin A supplementation changed in 1999 to include 6-11 month old children as a new target group for supplementation. At that point in time HKI began working in collaboration with the MOH and other groups to conduct specific activities that were focused on:

- Increasing vitamin A capsule coverage among the new target group of 6-11 month-old children (across Indonesia)
- Increasing vitamin A capsule coverage among the existing target group of 12-59 month-old children above pre-crisis levels (across Indonesia)

- Implementing more intensive program activities in the urban poor areas where the risk of vitamin A deficiency appeared to be at the most immediate risk of increasing

The current objectives of the Vitamin A Program are:

General

- To increase high-dose vitamin A capsule coverage rates during the national vitamin A distribution months of February and August among: a) all eligible children 6-11 months of age, and b) all eligible children 12-59 months of age.

Specific

- To support the national vitamin A supplementation program for children being implemented by the Ministry of Health

- To implement national mass media campaigns aimed at increasing community demand for vitamin A and increasing participation in the posyandu-based capsule distribution program (every February and August) for all preschool age children (6-59 months of age)

- To explore alternative distribution mechanisms to increase vitamin A capsule coverage among high-risk groups in areas that do not regularly use the posyandu system

- To update educational and training materials that will assist district and provincial level staff in the planning and implementation of the routine vitamin A program and the use of vitamin A for case management of disease

- To raise awareness (at all levels) about the continuing need and current constraints to maintaining an adequate and timely supply of capsules to support the national vitamin A program

III. Purpose of the Technical and Management Reviews

The primary goal of conducting these reviews is to provide practical guidance and to assist the NSS and Vitamin A Programs and USAID to make appropriate changes to these programs as they plan for future activities. The reviews should not focus too heavily on past issues, however, the review teams should identify and use information about past achievements, missed opportunities, and current needs to formulate recommendations about the future implementation of these programs.

NSS

The primary purpose of this review is to provide specific recommendations about future technical and programmatic directions, approaches, and strategies that can assist the current NSS program to maximize its impact by September 2005. This will be accomplished by reviewing the past and present working arrangements,

implementation methods, and achievements of the program to date. The resulting recommendations will be utilized and potentially incorporated into an upcoming two-year work plan covering the time period of October 2003-September 2005.

Specifically, the key issues that the technical and management review team should address are:

1. To assess the extent to which the NSS program has achieved the objectives and results of the program. To date, what are the major technical and programmatic achievements?

2. What are the missed opportunities, gaps or limitations of the current program?

3. Taking into account the current status of the health care system in Indonesia and the challenges facing the GOI, are there new technical or programmatic issues, strategies or approaches that were not included in the initial design that the NSS could undertake in order to be responsive to the GOI's need for monitoring data? Or, are there technical and programmatic issues that the NSS has been working on that need more attention, a new approach or increased level of effort given the current situation? Furthermore, are there technical or programmatic issues that the NSS has been focusing on that are less of a priority and should be eliminated? The following are key issues facing health, health care quality and access to services in a decentralized Indonesia:

    - Prevalence rates of micronutrient deficiencies in women and children
    - Coverage of Vitamin A supplementation and immunization for both women and children
    - Access to health services, both for prevention and treatment
    - Basic causes of malnutrition
    - Underlying and basic causes of malnutrition and poor health

4. In the area of data management and release. Is data distribution timely? Are the data relevant? How are the data used? This review will include a consideration of the topics included the data collection tool and their relevance to stakeholder needs.

5. What are the strengths and weakness in the current management structure of the partnership between GOI, HKI, USAID, and other stakeholders? What role does HKI currently play in facilitating program and policy debates based on NSS data?

6. Regarding the medium to long-term future of the NSS:
    - What are the prospects for financial support mechanisms from GOI at multiple levels and/or other donors?
    - What are prospects for capacity development (skills transfer) at the central/provincial/district levels in Indonesia to implement/manage the NSS and to collect, analyze, and utilize data?

Vitamin A Program

The primary purpose of this review is to provide specific recommendations about future technical and programmatic directions, approaches, and strategies that can assist the current Vitamin A Program to maximize its impact by September 2005. This will be accomplished by reviewing the past and present working arrangements, implementation methods, and achievements of the program to date. The resulting recommendations will be utilized and potentially incorporated into the upcoming two-year work plan covering the time period of October 2003-September 2005.

Specifically, the key areas that the technical and management review team should address are:

1. To assess the extent to which the Vitamin A Program has achieved its stated objectives for the time period of 1999-2003. What are the major technical and programmatic achievements to date?

2. To examine whether the media campaigns, materials, and activities been appropriate and effective. Should other types of strategies or materials be considered in the future?

3. To identify the missed opportunities, gaps, or limitations of the current program.

4. To consider, after taking into account the current program status, the way the health care system in Indonesia is functioning and the ongoing challenges facing the GOI with respect to decentralization, if there are:
    - new technical or programmatic issues
    - new working partners (for example, other divisions of the MOH or other NGOS)
    - new target groups for vitamin A supplementation (for example, women of reproductive age)

    that are not currently being addressed/accessed that should be considered in future activities.

5. To consider what level of financial support may be expected from the different levels of the GOI and donor agencies in the near future for implementing various components of the national vitamin A supplementation program for children including: capsule procurement, promotional activities, operational costs, training activities, etc.

IV. Expanded Technical and Management Review Reports

Two separate reports - one for the NSS and another for the Vitamin A Program - will be written to summarize the findings of the review process. These reports are intended for use as internal documents by HPN mission staff, Litbangkes, the Directorate of Community Nutrition, and HKI. They are NOT intended to be lengthy documents, but are intended to be user- friendly technical and management reviews with useful recommendations for mid-course corrections and adjustments to the current programs.

V. Team Composition

Two separate teams will be formed: one for the review of the NSS and another for the review of the Vitamin A Program. The following positions and personnel are recommended for the Technical and Management Review teams. Short biographical sketches are included for each individual.

NSS	Team leader:	Ray Yip
	HKI representative:	Ame Stormer
	Litkbangkes representative:	Soewarta Kosen
	USAID technical expert:	Imran Lubis
	Indonesian health professional:	Idrus Jus'at
Vitamin A	Team leader/HKI representative:	Dora Panagides
	Gizi representative:	Ibu Titin
	USAID technical expert:	Sri Durjati Boediharjo
	Indonesian health professional:	Elvina Karyadi

NSS Team

- **Team leader: Ray Yip**

Ray Yip currently works for UNICEF in Beijing, China. He is an international expert in the field of nutrition and previously worked in Indonesia. He has experience in program management and surveillance systems. He has published widely on micronutrient deficiencies.

- **HKI representative: Ame Stormer**

Ame Stormer is the new NSS Program Director (since December 1999) for Helen Keller International/Indonesia. Ame has experience designing, implementing, managing, and evaluating nutrition and health surveys.

- **Litbangkes representative: Soewarta Kosen**

Soewarta Kosen is the Litbangkes counterpart responsible for the implementation and analysis of the NSS. Dr. Kosen has been the counterpart since the expansion of the NSS in 1998. He has been involved in the design, implementation and decision making process as well as providing technical expertise to the program.

- **USAID technical expert: Imran Lubis**

USAID has identified Imran Lubis FP/Reproductive Health/decentralization activity manager to actively participate on the NSS team.

- **Indonesian health professional: Idrus Jus'at**

Idrus Jus'at is currently the Deputy Dean for Academic Affairs and Chairman for the Undergraduate Program in Nutritional Sciences at the School of Public Health at

Indonusa Esa Unggul University. He has experience working on a variety of nutrition and health research projects and surveys Indonesia.

Vitamin A Team

- **Team Leader/HKI representative: Dora Panagides**

Dora Panagides is the current HKI Country Director in Bangladesh. She has experience in nutrition program planning, implementation and evaluation. She also has served as a technical advisor to the Ministry of Health in Cambodia on Vitamin A issues.

- **Gizi Representative (Directorate of Community Nutrition): Titin Hartini**

Titin Hartini has been appointed to be the representative from the Directorate of Community Nutrition. She is currently on staff in that Directorate and has been involved in vitamin A program implementation and monitoring activities.

- **USAID technical expert: Sri Durjati Boediharjo**

USAID has identified Sri Durjati Boediharjo, Health and Nutrition Program Advisor, to participate on the Vitamin A team as the USAID representative. She has been involved in overseeing Vitamin A Program activities since 1999.

- **Indonesian health professional: Elvina Karyadi**

Elvina Karyadi is currently the Assistant Deputy Director of Research, Head Unit of Micronutrient at SEAMO-TROPMED, University of Indonesia. She has conducted a variety of micronutrient and health related research projects in Indonesia.

Each of these teams is responsible for organizing and delivering the final Technical and Management Review Reports, Executive Summaries, and PowerPoint Presentations that summarize the findings and recommendations of their respective review activities.

VI. Methodology

The technical and management reviews are intended to be a participatory process that engages Litbangkes, the Directorate of Community Nutrition, HKI implementing partners and staff, provincial level health officials, other stakeholders, and USAID personnel.

An important element of the review process is the need for all team members to be open to new ideas; to work evidence-based; and for all partners to be reflective and candid about the challenges that the programs face.

VII. Proposed Timeline

The following timeline is proposed:

April 2003: HKI will develop the participatory and data gathering process for the technical and management reviews with input from USAID and key representatives participating in the reviews. HKI will be responsible for:

1. Developing agendas and schedules for the technical and management reviews.

2. Scheduling interviews and meetings to gather information regarding the programs from:

    - HKI representatives
    - MOH implementing partners: Litbangkes (NSS) and the Directorate of Community Nutrition (Vitamin A program)
    - Provincial level health officials (NSS only)
    - NSS field staff (NSS only)
    - Key USAID representatives
    - Other important stakeholders

3. Establishing and maintaining communication with team members to facilitate coordination and planning.

NSS review

It is anticipated that this review will take place from April 21- May 2, 2003.

- **Week One: Off Site Preparation and Planning**

All team members review and become familiar with the critical documents provided (in print or on CDROM) by HKI staff before coming to Indonesia to work as a team.

- **Week Two: In-country review activities (Jakarta: April 28-May 2)**

The Team will conduct key informant interviews with HKI, USAID, Litbangkes staff and other stakeholders in Jakarta to begin to gather data and information regarding the technical, programming and management aspects of the program.

Provincial and District level health officials will be invited to Jakarta to participate in separate group discussions about the NSS and recommendations for future activities. The Team Leader should facilitate discussion and dialogue and keep the Team focused on responding to the key questions.

- **Report Writing and Presentations**

Time is reserved at the end of week two (May 2) for team members to coordinate their comments and prepare a presentation and report regarding the review. Each Team member should write draft points and provide it to the Team Leaders. A PowerPoint presentation summarizing the findings and recommendations should be presented to USAID/Indonesia HPN staff, Litbangkes representatives, and the HKI staff for input and discussion. A finalized Expanded Technical and Management Review report

should be completed by the team leader with input from the team. This report is NOT intended to be a lengthy document, and should be user friendly.

Vitamin A Program Review

It is anticipated that this review will take place from April 28-May 9, 2003.

- **Week One: Off-site Preparation and Planning**

All team members will individually review and become familiar with the critical documents they have been provided (in print or on CDROM) by HKI staff before coming to Indonesia to work as a team.

- **Week Two: In-country review activities (Jakarta: May 1-9)**

The Team will conduct key informant interviews and group discussions with HKI, USAID, Directorate of Community Nutrition staff and other stakeholders in Jakarta to gather data and information regarding the technical, programming and management aspects of the program. The stakeholders will be asked propose recommendations for future Vitamin A Program activities. The Team Leader should facilitate the discussions and keep the Team focused on responding to the key questions.

- **Report Writing and Presentations**

Time is reserved during week two for team members to coordinate their comments and prepare a presentation and report regarding the review. Each Team member should write draft points and provide it to the Team Leaders. A PowerPoint presentation summarizing the findings and recommendations should be presented to USAID/Indonesia HPN staff, Directorate of Community Nutrition representatives, and the HKI staff for input and discussion. A finalized Expanded Technical and Management Review report should be completed by the team leader with input from the team. This report is NOT intended to be a lengthy document, and should be user friendly.

IX. Deliverables

At the end of the process the USAID mission requests the following:

1. Two Final Reports with Executive Summaries responding to the questions to be addressed. The reports should NOT be lengthy documents, but user friendly in order for USAID and the NSS and Vitamin A teams to use the recommendations to guide and strengthen future programming.

2. Two PowerPoint presentations used to summarize the findings and recommendations of each review. Team members should conduct a PowerPoint presentation and discussion for key stakeholders. It is possible that the presentation could take place as a conference call with team members out of country. The availability and location of suitable conference facilities are currently being investigated.

Appendix 2: Background documents provided to team members

Example materials produced by the Vitamin A Program

- Vitamin A sticker
- Brochure about Vitamin A and National Immunization Day campaign
- Xerophthalmia detection booklet

Bulletins about vitamin A deficiency and program activities

- Helen Keller International/Indonesia (1998). Re-emergence of the threat of vitamin A deficiency. Year 1, Issue 2. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (1999). Why and how to prevent vitamin A deficiency in times of crisis. Year 1, Issue 6. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (1999). Increasing coverage of high-dose vitamin A capsules to prevent crisis-induced re-emergence of vitamin A deficiency. Year 1, Issue 8. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (2000). Vitamin A capsules: Red and blue – what's the difference? Year 2, Issue 5. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (2000). Mass measles immunization campaign successfully linked to vitamin A supplementation month in urban areas. Special series on infectious disease and vitamin A. Year 2, Issue 18. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (2001). Promoting the national vitamin A supplementation program for children in August 2001. Year 3, Issue 2. Jakarta: Helen Keller Worldwide.

Bulletins about NSS data

- Helen Keller International/Indonesia (2000). Nutrition Surveillance: How does it work? HKI Technical Programs Series. Year 2, Issue 2. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (2001). Decision-making during decentralization: New role of the nutrition and health surveillance system (NSS). Year 3, Issue 1. Jakarta: Helen Keller Worldwide.

- Helen Keller International/Indonesia (2002). Nutrition and health surveillance system in urban slums of Semarang – Key results for the period: Feb 1999-Aug 2001. Year 4, Issue 3. Jakarta: Helen Keller Worldwide.

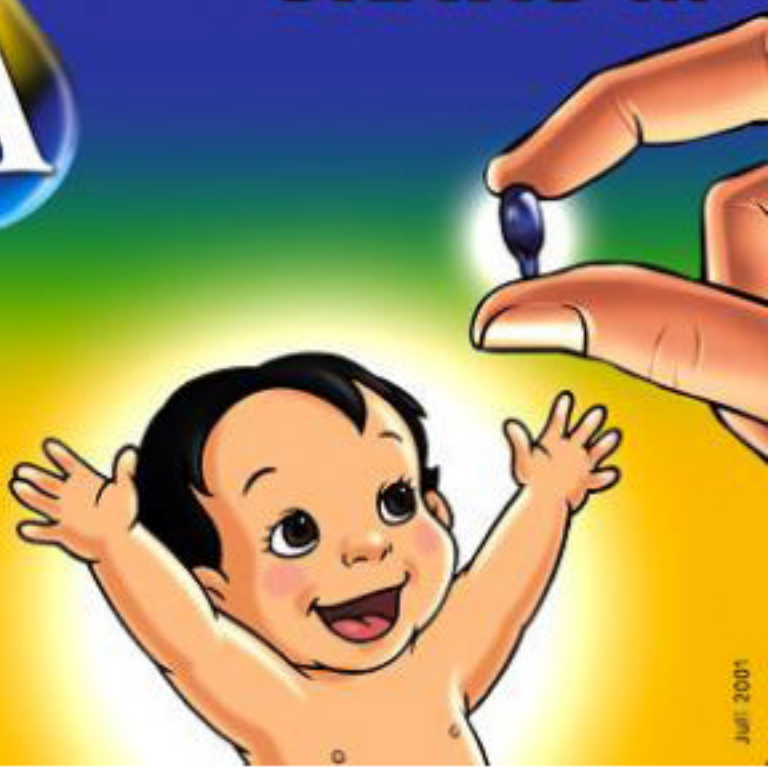
- Helen Keller International/Indonesia (2002). Nutrition and health surveillance system in rural Central Java – Key results for the period: Nov 1998-Aug 2001. Year 4, Issue 10. Jakarta: Helen Keller Worldwide.

Mataku Sehat, Tubuhku Kuat
karena Kapsul

vitamin A

GRATIS !!!

Dapatkan Kapsul Vitamin A
untuk Bayi dan Balita Anda
pada bulan Februari dan Agustus
di **Posyandu** atau **Puskesmas**



Helen Keller WORLDWIDE

unicef

Juli 2001

Cara mendapatkan kapsul vitamin A dan imunisasi Polio

Vitamin A

Satu bayi dan balita (6 bulan - 5 tahun) hanya boleh mendapat 1 kapsul vitamin A pada bulan Agustus **atau** 12 September.

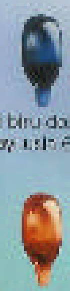
Imunisasi Polio

Setiap bayi dan balita (0 - 59 bulan) harus mendapatkan 2 tetes vaksin polio pada tanggal 12 September 2002, **dan** juga 2 tetes vaksin Polio pada tanggal 9 Oktober 2002 di Pos PIN terdekat.

Untuk menghindari 1 balita mendapat 2 X kapsul vitamin A, maka semua anak yang pada tanggal 12 September 2002 ke Posyandu yang bulan [illegible] **JANGAN** diberi kapsul vitamin A, tetapi tetap mendapatkan Imunisasi Polio.

Dapatkan di Posyandu

Bulan Agustus **atau** 12 September 2002



Satu kapsul biru dosis 100.000 SI untuk bayi usia 6-11 bulan.

Satu kapsul merah dosis 200.000 SI untuk anak Balita usia 1-5 tahun

Tanggal 12 September **dan** 9 Oktober 2002

Imunisasi Polio pada PIN diberikan 2X kepada bayi dan balita (usia 0 - 59 bulan)

Program Vitamin A dan Imunisasi Polio [illegible]

unicef

Kegiatan Posyandu bulan Agustus, September, dan Oktober 2002

Pemberian kapsul vitamin A dan imunisasi Polio (PIN)

vitamin A

Apakah itu vitamin A ?

Vitamin A adalah salah satu zat gizi yang sangat diperlukan oleh tubuh yang berguna untuk kesehatan mata agar dapat melihat dengan baik, dan meningkatkan daya tahan tubuh untuk melawan penyakit.

[illegible]

[illegible]

Apakah itu Imunisasi Polio?

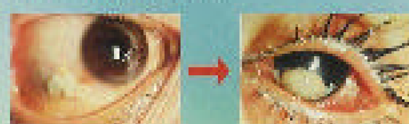
Imunisasi polio adalah pemberian vaksin polio dengan cara **diteteskan** langsung ke dalam mulut anak dengan tujuan agar tubuh anak menjadi kebal terhadap penyakit polio.

[illegible]

Akibat kekurangan vitamin A dan penyakit Polio

Kekurangan vitamin A

Anak yang kekurangan vitamin A akan mengalami gangguan pada mata, dan bila tidak dapat mendapatkan vitamin A akan mengakibatkan kebutaan. Anak yang kurang vitamin A bila terserang campak, diare atau infeksi lain, penyakitnya akan lebih parah dan dapat mengakibatkan kematian.



[illegible]

Penyakit Polio

Anak yang tidak mendapatkan Imunisasi Polio mempunyai risiko lebih tinggi untuk terserang penyakit Polio yang dapat mengakibatkan kelumpuhan, terutama menyerang otot bagian tungkai kaki yang dapat menyebabkan kecacatan.

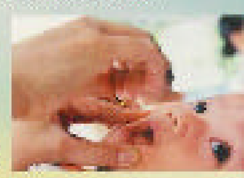
[illegible]

Cara Pencegahan

Kekurangan vitamin A

Kekurangan vitamin A dapat dicegah melalui:

- Pemberian kapsul vitamin A setiap Februari dan Agustus. Kapsul biru 100.000 SI untuk bayi 6 - 11 bulan, kapsul merah 200.000 SI untuk anak balita usia 1 - 5 tahun.
- Pemberian ASI (Air Susu Ibu) hingga anak berusia 2 tahun.
- Pemberian makanan yang banyak mengandung vitamin A, baik berasal dari makanan hewani (susu, daging, hati, telur, dll) maupun berasal dari sayuran hijau serta buah berwarna merah atau kuning (mangga, pepaya, dll).



[illegible]

Penyakit Polio

Penyakit ini dapat dicegah dengan:

- Pemberian imunisasi polio lengkap pada semua bayi (0 - 11 bulan) melalui program imunisasi rutin.
- Pemberian imunisasi tambahan berupa imunisasi massal (Pekan Imunisasi Nasional - PIN) pada tanggal 12 September dan 9 Oktober 2002, sebanyak 2 tetes pada setiap putaran.

[illegible]

DETEKSI DINI
XEROFTALMIA

Buku Pegangan
Bagi Tenaga Kesehatan

Kerjasama
DEPARTEMEN KESEHATAN RI
DIREKTORAT JENDERAL BINA KESEHATAN MASYARAKAT
DIREKTORAT GIZI MASYARAKAT
dengan
HELEN KELLER INDONESIA
JAKARTA, 2002

DAFTAR ISI

KATA PENGANTAR

Sejak 10 tahun terakhir kasus xeroftalmia di Indonesia sudah jarang ditemukan, sehingga ketika muncul kembali kasus-kasus xeroftalmia di berbagai daerah, tidak dapat segera terdeteksi karena keterbatasan kemampuan para tenaga kesehatan.

Berdasarkan hasil kunjungan di beberapa propinsi, menunjukkan munculnya kasus xeroftalmia pada penderita gizi buruk. Kasus xeroftalmia ditemukan mulai dari tingkat ringan sampai berat yang dapat menyebabkan kebutaan. Mengingat kasus gizi buruk masih terdapat hampir diseluruh propinsi, dikhawatirkan akan terjadi ledakan kasus xeroftalmia di Indonesia.

Dengan adanya Buku Deteksi Dini Xeroftalmia diharapkan tenaga kesehatan mampu mendeteksi secara dini kasus xeroftalmia dan melakukan upaya pennanggulangan secara tepat sesuai kondisi daerah masing-masing.

KATA PENGANTAR

Kami menyadari bahwa buku ini masih banyak kekurangannya, untuk itu sumbang saran utamanya dari pengguna buku ini sangat kami harapkan.

Jakarta, Nopember 2002

Driektur Gizi Masyarakat
Departemen Kesehtan RI.

Dr. RACHMI UNTORO

APA YANG DISEBUT XEROFTALMIA ?

- Xeroftalmia adalah kelainan pada mata akibat Kurang Vitamin A (KVA).
- Kata xeroftalmia berarti "mata kering", karena terjadi kekeringan pada selaput lendir (konjungtiva) dan selaput bening (kornea) mata.

Untuk dapat mengenal mata yang mengalami xeroftalmia, perlu mengenal mata yang sehat terlebih dahulu.

Tanda-tanda mata sehat :

- Kornea (selaput bening) benar-benar jernih.
- Bagian putih mata benar-benar putih.
- Pupil (orang-orangan mata) benar-benar hitam.
- Kelopak mata dapat membuka dan menutup dengan baik.
- Bulu mata teratur dan mengarah keluar

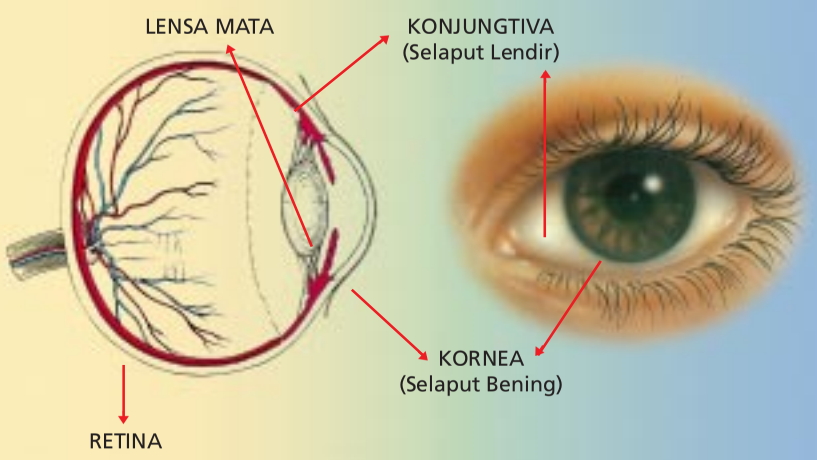
APA BAHAYA XEROFTALMIA ?

Bila xeroftalmia tidak segera diobati dapat menyebabkan kebutaan

FUNGSI ORGAN MATA

- **Kornea**
  Adalah *selaput bening atau bagian hitam mata.* berguna sebagai jalan masuknya cahaya kedalam bola mata (Retina) sehingga kita dapat melihat.
- **Lensa Mata**
  adalah bagian mata yang bening dan tembus cahaya. Berguna untuk memusatkan cahaya yang masuk melalui kornea sehingga kita dapat melihat benda dengan jelas.
- **Konjungtiva**
  Adalah *selaput lendir mata atau bagian putih mata*. Berguna untuk melindungi bola mata.
- **Retina**
  Adalah lapisan paling dalam mata, sebagai lapisan penerima cahaya. Berguna untuk menangkap cahaya yang masuk sehingga kita dapat melihat dalam keadaan terang maupun kurang cahaya.

PENAMPANG BAGIAN MATA YANG BISA TERKENA XEROFTALMIA



KELOMPOK UMUR MANA YANG MUDAH MENDERITA XEROFTALMIA ?

Bayi
usia 6 – 11 bulan

Anak balita
usia 12 – 59 bulan
(1-5 tahun)

SIAPA YANG LEBIH BERISIKO MENDERITA XEROFTALMIA ?

1. Bayi Berat Lahir Rendah (BBLR) (Berat Lahir < 2,5 kg).
2. Anak yang tidak mendapat ASI eksklusif dan tidak diberi ASI sampai usia 2 tahun.
3. Anak tidak mendapat MP–ASI yang cukup, baik mutu maupun jumlahnya.
4. Anak kurang gizi atau di bawah garis merah (BGM) pada KMS.
5. Anak yang menderita penyakit infeksi (campak, diare, TBC, pnemonia) dan kecacingan.

SIAPA YANG LEBIH BERISIKO MENDERITA XEROFTALMIA ?

6. Anak dari keluarga miskin.
7. Anak yang tinggal di daerah pengungsian
8. Anak yang tinggal di daerah dengan sumber vitamin A yang kurang, dan adanya pantangan terhadap makanan sumber vitamin A.
9. Anak yang tidak pernah mendapat kapsul vitamin A dan imunisasi di Posyandu naupun Puskesmas
10. Anak yang kurang / jarang makan makanan sumber vitamin A.

Anak yang kurang makan makanan sumber Vitamin A akan berisiko menderita Xeroftalmia

BAGAIMANA MENGENAL XEROFTALMIA ?

Tahapan xeroftalmia (Penggolongan WHO, 1996), sebagai berikut :

1. **(XN)** = **Buta senja**
   (istilah lain lihat halaman 24)
2. **(X1A)** = **Xerosis konjungtiva**
3. **(X1B)** = **Xerosis konjungtiva dan bercak Bitot**
4. **(X2)** = **Xerosis kornea**
5. **(X3A/X3B)** = **Keratomalasia dan ulserasi kornea**
6. **(XS)** = **Xeroftalmia scars/sikatriks (jaringan parut) kornea**

MATA SEHAT

XEROFTALMIA SCAR (XS)

BAGAIMANA MENGENAL XEROFTALMIA ?

1. BUTA SENJA (XN) = Rabun Senja = Rabun Ayam

Penglihatan penderita buta senja menurun pada senja hari bahkan tidak dapat melihat dilingkungan yang kurang cahaya.

Bila anak sudah dapat berjalan, anak tersebut sering terlihat membentur atau menabrak benda didepannya.

Bila anak belum dapat berjalan, agak sulit untuk mengatakan anak tersebut buta senja. Dalam keadaan ini biasanya anak diam memojok dan tidak melihat barang atau makanan di depannya.

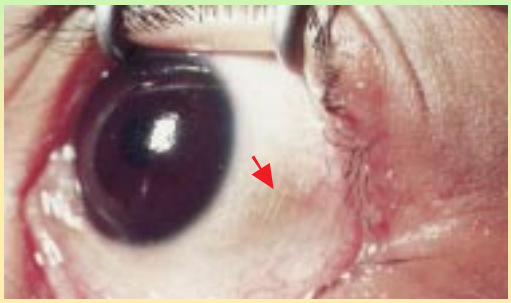
Jika dilakukan pemeriksaan pada mata, tidak akan dijumpai kelainan atau perubahan pada mata (mata terlihat normal).

Dengan pemberian kapsul vitamin A yang benar, penglihatan akan membaik dalam waktu 2 - 4 hari. Bila dibiarkan dapat berkembang ke tahap yang lebih berat.

Gunakan senter atau kaca pembesar (bila tersedia) untuk melihat kelainan tahap selanjutnya

2. XEROSIS KONJUNGTIVA (X1A)

- Selaput lendir atau bagian putih bola mata tampak kering, berkeriput, dan berpigmentasi dengan permukaan terlihat kasar dan kusam.
- Orang tua sering mengeluh mata anak tampak kering atau berubah warna menjadi kecoklatan.



Dengan pemberian kapsul vitamin A yang benar, X1A akan membaik dalam 2 - 3 hari dan kelainan pada mata akan menghilang dalam waktu 2 minggu.

3. XEROSIS KONJUNGTIVA DAN BERCAK BITOT (X1B)

- X1B adalah tanda-tanda xerosis konjungtiva (X1A) ditambah bercak putih seperti busa sabun atau keju (bercak Bitot) terutama di daerah celah mata sisi luar.
- Orangtua biasanya mengeluh mata anak tampak bersisik atau timbul busa.
- Dalam keadaan berat :
  - Tampak kekeringan meliputi seluruh permukaan konjungtiva (bagian putih mata)
  - Konjungtiva tampak menebal, berlipat-lipat dan berkerut-kerut.

Segera beri Vitamin A, anak bisa menjadi buta dalam waktu yang sangat cepat (gawat darurat).

Dengan pemberian kapsul vitamin A yang benar dan dengan pengobatan yang benar, bercak Bitot akan membaik dalam 2 – 3 hari dan kelainan pada mata akan menghilang dalam 2 minggu.

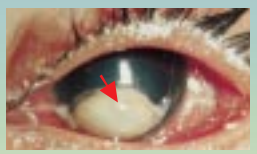
4. XEROSIS KORNEA (X2)

- Kekeringan pada konjungtiva berlanjut sampai kornea (bagian hitam mata).
- Kornea tampak menjadi suram dan kering dan permukaan kornea tampak kasar.
- Keadaan umum anak biasanya buruk (gizi buruk, menderita penyakit campak, ISPA, diare)

Dengan pemberian kapsul vitamin A yang benar dan dengan pengobatan yang benar, kornea akan membaik setelah 2 - 5 hari dan kelainan pada mata akan sembuh setelah 2 - 3 minggu.

5. KERATOMALASIA DAN ULSERASI KORNEA (X3A/X3B)

- Kornea melunak seperti bubur dan dapat terjadi ulkus kornea atau perlukaan.
- Tahap X3A :
  - bila kelainan mengenai kurang dari 1/3 permukaan kornea.



- Tahap X3B :
  - bila kelainan mengenai sama atau lebih dari 1/3 permukaan kornea.

- Keadaan umum penderita sangat buruk.
- Pada tahap ini dapat terjadi perforasi kornea (kornea pecah)

Bila ditemukan pada tahap ini, akan terjadi kebutaan yang TIDAK BISA DISEMBUHKAN.

6. XEROFTALMIA SCARS (XS) = SIKATRIKS (JARINGAN PARUT) KORNEA

Kornea mata tampak menjadi putih atau bola mata tampak mengempis.

Bila ditemukan pada tahap ini, akan terjadi kebutaan yang TIDAK BISA DISEMBUHKAN.

BAGAIMANA MENCEGAH DAN MENGOBATI XEROFTALMIA ?

A. YANG DAPAT DILAKUKAN KADER :

- Mencari anak yang jarang atau tidak pernah datang ke Posyandu maupun Puskesmas dengan melakukan kunjungan rumah (sweeping atau door to door) untuk diberi kapsul vitamin A.
- Setiap bayi usia 6 - 11 bulan, harus mendapat 1 kapsul vitamin A warna biru. (pada bulan Februari **atau** Agustus)
- Setiap anak balita usia 12 – 59 bulan mendapat kapsul vitamin A warna merah 2 x setahun (setiap Februari **dan** Agustus) dan ibu nifas (sampai 30 hari setelah melahirkan) mendapat 1 kapsul vitamin A warna merah.

Beberapa fungsi vitamin A :

- Menjaga kelembaban dan kejernihan selaput lendir serta selaput bening mata.
- Memungkinkan mata dapat melihat dengan baik dalam keadaan kurang cahaya (sore atau senja hari).
- Pada ibu nifas akan meningkatkan mutu vitamin A dalam ASI, sehingga bayi akan mendapatkan vitamin A yang cukup dari ASI.

BAGAIMANA MENCEGAH DAN MENGOBATI XEROFTALMIA ?

- Kader memberi perhatian khusus kepada :
  - Balita kurang gizi atau BGM (bawah garis merah)
  - Balita yang tidak pernah datang ke Posyandu maupun Puskesmas
  - Anak yang diasuh bukan oleh ibunya.
  - Anak dari keluarga miskin.
- Kader segera memberitahu petugas kesehatan apabila menjumpai anak yang sakit karena Campak, Diare, TBC, Pnemonia atau penyakit infeksi berat lain.
- Kader segera memberitahu kepada petugas kesehatan, apabila menjumpai anak dengan keluhan dan tanda/kelainan mata seperti gambar pada halaman 12-17 pada buku ini dan segera merujuk ke Puskesmas untuk berobat.
- Kader memberi penyuluhan kepada orang tua dan keluarga tentang manfaat kapsul vitamin A dan bahan makanan sumber vitamin A seperti : hati, telur, daging, susu, sayur hijau, buah berwarna kuning atau merah.
- Memasak sayur hendaknya menggunakan minyak goreng atau ditumis.

B. YANG HARUS DILAKUKAN TENAGA KESEHATAN

- Mengetahui jumlah sasaran dan menghitung kebutuhan kapsul vitamin A, hitung sisa (stok) dan mengusulkan ke Dinas Kesehatan Kabupaten/Kota.
- Mengupayakan cakupan distribusi kapsul vitamin A 100 %.
  - Melakukan promosi di bulan pemberian kapsul vitamin A (Februari dan Agustus).
  - Sweeping atau kunjungan rumah untuk mencari anak yang tidak datang ke Posyandu pada bulan pemberian kapsul vitamin A
- Melaporkan kasus xeroftalmia kepada kepala Puskesmas untuk koordinasi lintas program dan lintas sector

BAGAIMANA MENCEGAH DAN MENGOBATI XEROFTALMIA ?

- Melakukan pelacakan ke daerah yang dilaporkan terdapat kasus xeroftalmia.
- Menindaklanjuti laporan kader tentang ditemukannya kasus :
  - Balita kurang gizi atau BGM.
  - Penyakit infeksi, seperti campak, diare, TBC, pnemonia, dan infeksi lainnya.
  - Kelainan mata yang dicurigai sebagai tanda-tanda xeroftalmia.
- Semua anak yang ditemukan dengan kasus BGM dan atau penyakit infeksi tersebut diatas harus dilakukan :
  - Anamnesis pola makan.
  - Anamnesis gejala awal kurang Vitamin A (buta senja).
  - Periksa matanya !!!
- Memberikan perhatian khusus kepada balita yang :
  - Tinggal di keluarga miskin.
  - Diasuh bukan oleh ibunya.
  - Tingga di daerah pengungsian.
  - Jarang atau tidak pernah datang ke Posyandu maupun Puskesmas.

BAGAIMANA MENCEGAH DAN MENGOBATI XEROFTALMIA ?

C. PENGOBATAN

- Dosis kapsul vitamin A :

  Hari Pertama (saat ditemukan)
  Berikan 1 kapsul vitamin A sesuai umur.

  - bayi < 5 bulan :
    1/2 kapsul biru (50.000 SI)
  - bayi 6-11 bulan :
    1 kapsul biru (100.000 SI)
  - anak 12 – 59 bulan :
    1 kapsul merah (200.000 SI)

  Hari Kedua (keesokan harinya)
  Berikan 1 kapsul vitamin A (sesuai umur).

  2 minggu kemudian
  berikan 1 kapsul vitamin A (sesuai umur).

- Pemberian obat tetes mata/ tetes mata antibiotik (tanpa kortikosteroid) pada penderita X2, X3A, X3B, dengan cara diteteskan di bagian dalam kelopak mata (dilakukan oleh dokter).
- Pengobatan vitamin A harus diberikan secara bersamaan dengan perbaikan gizi, pengobatan infeksi, dan penyakit lain disertai dengan penyuluhan bagi keluarga.

D. RUJUKAN

- Pada tahap XN, X1A, X1B, X2 segera dirujuk ke Puskesmas, pada tahap ini mata masih dapat disembuhkan.
- Pada tahap X3A, X3B, XS segera dirujuk ke dokter spesialis mata/RS/BKMM (Balai Kesehatan Mata Masyarakat).

KAPSUL BIRU
UNTUK BAYI USIA
6-11 BULAN

KAPSUL MERAH
UNTUK ANAK BALITA USIA
12-59 BULAN

ISTILAH SETEMPAT UNTUK BUTA SENJA

	PROVINSI	BAHASA	ISTILAH
		Indonesia	Rabun senja Rabun ayam
1.	Aceh	Aceh	Sapau manok
2.	Sumatera Utara	Batak toba	Rambonon
3.	Sumatera Barat	Minang Mandailing	Rabun sanjo Rabun ayam Rabun ayam
4.	Riau	Riau	Buta senja
5.	Jambi	Jambi	Rabun ayam
6.	Sumatera Selatan	Palembang	Buto ayaman
7.	Bangka Belitung	Melayu Bangka	Bute ayam
8.	Bengkulu	Bengkulu	Rabun malam Buta senja
9.	Lampung	Melayu Lampung	Buta senja Rabun manuk
10.	DKI Jakarta	Indonesia	Rabun senja Rabun ayam
11.	Banten	Sunda	Kotokeun
12.	Jawa Barat	Sunda Cirebon	Kotokeun Sisikeun Kotok ayam
13.	Jawa Tengah	Jawa	Kotok ayam Cado
14.	Yogyakarta	Jawa	Rabun ayam
15.	Jawa Timur	Jawa Madura	Rabun ayam Rabun ajem

ISTILAH SETEMPAT UNTUK BUTA SENJA

	PROVINSI	BAHASA	ISTILAH
16.	Kalimantan Barat	Melayu	Buta ayam Rabun ayam
17.	Kalimantan Tengah	Dayak Kapuas	Haur manuk
18.	Kalimantan Selatan	Banjar	Buta ayaman
19.	Kalimantan Timur	Dayak Kutai	Buta ayam Buta manok
20.	Sulawesi Utara	Manado	Rabun senja
21.	Gorontalo	Indonesia	Buta senja
22.	Sulawesi Tengah	Kaili	Navundo
23.	Sulawesi Selatan	Bugis Makassar Mandar Toraja	Buta-butamanu Buta-buta jangang
24.	Sulawesi Tenggara	Tolaki Buton Muna	Pedole manu Morawu Mata manu
25.	Bali	Bali	Bute siap
26.	NTB	Sasak Bima Samawa	Rundam manuk Rundam kebian-bian Buta janga Buta rarang
27.	NTT	*(terbanyak dipakai)*	Buta ayam
28.	Maluku	Indonesia	Buta ayam
29.	Maluku Utara	Indonesia	Buta ayam
30.	Papua	Melayu	Buta senja

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3.	**BKMM Provinsi Jawa Timur**	Jl.Indrapura No. 17, Surabaya Tel : 031 - 3541915 E-mail: toto@mitra.net.id
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3.	**RS. MATA (BKMM) Provinsi Sumatera Selatan**	Jl. Merdeka No. 10 A, Palembang Telp : 0711 - 363480 Fax : 0711- 363480 / 10738
3.	**BKMM Provinsi Sulawesi Selatan**	Komplek Kesehatan Banta Bantaeng, Ujung Pandang Telp : 0411 - 855643 Fax : 0411 - 328553 (Wartel)
3.	**BKMM Provinsi Sulawesi Utara**	Jl. Pattimura No. 5, Manado Telp : 0431 - 51309 Fax : 0431 - 869717 (Wartel Setia)

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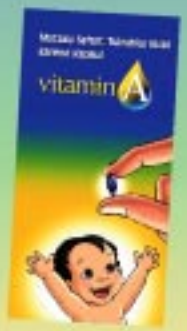
BEBERAPA MEDIA PROMOSI VITAMIN A

POSTER



BROSUR

SPANDUK


Matakku Sehat, Tubuhku Kuat
karena Kapsul
vitamin A
GRATIS !!!
GRATIS !!!
STIKER
SELEBARAN
RADIO SPOT &
TV SPOT
GRATIS !!!
Matakku Sehat, Tubuhku Kuat
karena Kapsul Vitamin A
vitamin A
STIKER PANJANG

Cara Mendapatkan Kapsul Vitamin A, hubungi :

1. Puskesmas terdekat

2. Dinas Kesehatan Kabupaten/Kota terdekat

Untuk informasi lebih lanjut dapat hubungi :

1. **Direktorat Gizi Masyarakat, Depkes RI.**
   Telp. : (021) 527 7382
   Fax. : (021) 521 0176
   E-mail : jipg@centrin.net.id
   Web. : www.gizi.net

2. **Helen Keller International**
   Telp. : Khusus Program Vitamin A
   (021) 718 0402
   (021) 719 9163, 719 8147
   Fax. : (021) 719 8148
   E-mail : vitamina@hki-indonesia.org

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Sommer, A. *Vitamin A deficiency and its consequences: a field guide to detection and control*, 3rd edition. Geneva : World Health Organization, 1995. Diproduksi dengan izin WHO.

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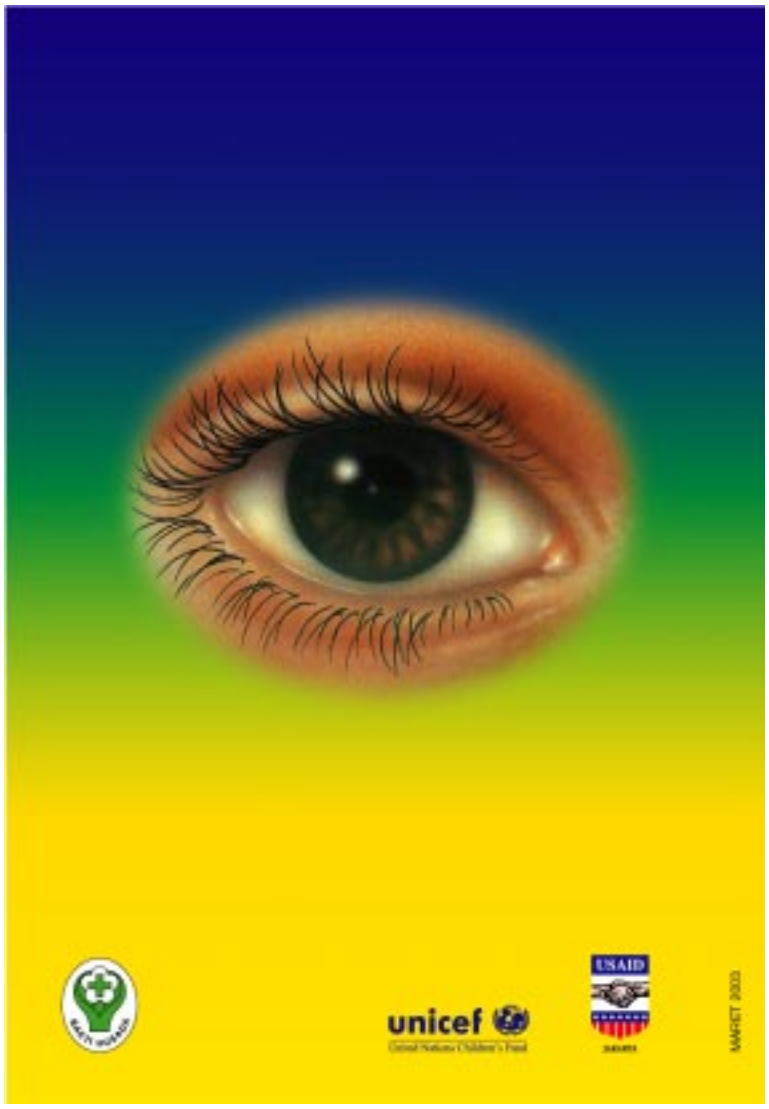

unicef
USAID

I N D O N E S I A

Year 1, Issue 2
October 1998

CRISIS BULLETIN

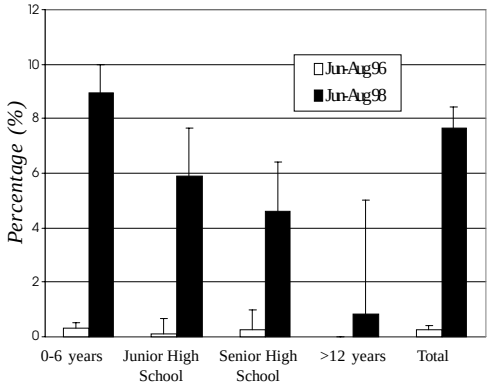
Re-emergence of the threat of vitamin A deficiency

The economic crisis which has gripped Indonesia since mid-1997 is fast turning into a crisis of health and nutrition. The ravaged economy now bares the sinister – and potentially tragic – consequences of a sharply devaluated currency, high inflation, massive unemployment and the resulting decrease in consumer spending power.

One particular micronutrient deficiency – vitamin A deficiency (VAD) – is beginning to re-emerge as a threat to public health in Indonesia. VAD can cause blindness and damage the immune system, resulting in increased risk of illness and death.

Recent data collected in a joint collaborative effort by Helen Keller International (HKI)-Indonesia, the University of Diponegoro, and the Indonesian Department of Health, compared with similar data obtained prior to the start of the crisis, has revealed a dramatically reduced intake of micronutrient-rich foods (e.g. eggs, meat and milk) due to the increase in the prices of basic commodities and reduced purchasing power of the population (see figure 1 and 2).

Figure 1.
Proportion of mothers who did not consume eggs in the last week before and after the beginning of the crisis by maternal education



This decrease in the dietary intake of vitamin A has been correlated with an increase in the prevalence of nightblindness among children aged 0-35 months (see figure 3) and an increase in the prevalence of nightblindness among women of reproductive age (see figure 4).

What was the vitamin A situation in Indonesia before the crisis?

Indonesia was one of the first developing countries to identify that its high levels of severe vitamin A deficiency (VAD) constituted a serious public health problem, and to begin implementing programs to eliminate this problem. Over the last 30 years, the country has come a long way in reducing the level of severe VAD and, prior to the crisis, it was no longer considered a public health problem, except in three provinces.

The success of the government program lay in its implementation of both short-term and long-term strategies to reduce VAD. The introduction of vitamin A capsule supplementation to children aged one to five years reduced deficiency levels dramatically, within a relatively short period of time. Vitamin A supplementation, according to a 1993 World Bank report, is the most cost-effective health intervention in the world.

As a long-term measure against VAD, the government has focused on food-based strategies aimed at improving vitamin A

(continued on page 2)

The Indonesia Crisis Bulletin is published by Helen Keller International Indonesia

HELEN KELLER INTERNATIONAL

What are micronutrients?

The term 'micronutrients' refers to vitamins, trace elements (such as iron) and essential fatty acids that are integral to the proper functioning of the human body. Micronutrient deficiencies rarely occur alone; a deficiency of one micronutrient contributes to the deficiency of another. Deficiencies of micronutrients are also collectively known as 'Hidden Hunger' as this form of malnutrition is largely invisible, by all appearances.

Victims of micronutrient deficiencies need not necessarily look malnourished. Yet, the consequences of micronutrient deficiencies are dramatically far-reaching and they constitute a problem that is widespread throughout the world, having both major health and economic repercussions.

At the World Summit for Children held in New York in September 1990, political leaders from around the world endorsed the 'Declaration on Children' and targeted the year 2000 for the virtual elimination of the major micronutrient deficiencies. This goal was unanimously confirmed by 159 countries (including Indonesia) at the International Conference on Nutrition held in Rome in December 1992.

Spotlight: Vitamin A

Reprinted from *The State Of The World's Children 1998*, UNICEF, Oxford University Press, 1998, p76

Impact of vitamin A deficiency

Vitamin A deficiency makes children especially vulnerable to infection and worsens the course of many infections. Supplementation with vitamin A is estimated to lower a child's risk of dying by approximately 23 per cent. The deficiency is also the single most important cause of blindness among children in developing countries. [Vitamin A supplementation among pregnant women also reduces the risk of mortality by 40% to 50% — Editor]

What vitamin A does

Vitamin A, stored normally in the liver, is crucial for effective immune-system functioning, protecting the integrity of epithelial cells lining the skin, the surface of the eyes, the inside of the mouth and the alimentary and respiratory tracts. When this defence breaks down in a vitamin A-deficient child, the child is more likely to develop infections, and the severity of an infection is likely to be greater.

Depending on the degree of the deficiency, a range of abnormalities also appears in the eyes of vitamin A-deficient children. In the mildest form, nightblindness occurs because the rods in the eye no longer produce rhodopsin, a pigment essential for seeing in the dark. In more severe forms, lesions occur on the conjunctiva and cornea that if left untreated can cause irreversible damage, including partial or total blindness.

(continued from page 1)

status by increasing the consumption of vitamin A-rich foods. Vitamin A is naturally found as retinol in breastmilk and foods from animal sources (such as eggs, meat and milk), and carotene in foods from plant sources (such as dark-green leafy vegetables, and orange and yellow fruits). Recent studies in Indonesia have shown that plant sources of vitamin A are less effective than animal sources in improving vitamin A status.

'Eating eggs at least three times a week, and colored vegetables and fruits every day, makes children healthy and smart, and mothers healthy and strong', proclaim banners, radio spots and public minibus announcements in the Gowa district of South Sulawesi, Indonesia. Messages such as this have been circulated through various media forms as part of the SUVITAL social marketing campaign aimed at promoting the increased consumption of locally-available vitamin A-rich foods to improve child survival and maternal health.

The success of such social marketing strategies have resulted in increased dietary intake of vitamin A in project sites across Indonesia, particularly Central Java, improving vitamin A status among their populations. In reference to the Central Java project, the United Nations Children's Fund (UNICEF) annual report, The State of the World's Children 1998, states:

'Within three months of the start of the social marketing campaign, egg consumption by both children and mothers had increased, correlated with higher vitamin A levels'

Yet, the situation appears to be deteriorating as the economic crisis bites deeper into the pockets of the large majority of the population, as high inflation sends food prices skyrocketing and mass lay-offs due to the economic collapse pushes greater numbers of families below the poverty line.

Figure 2.
The proportion of children aged 12-23 months who did not consume eggs in the last week by ecological zone of Central Java

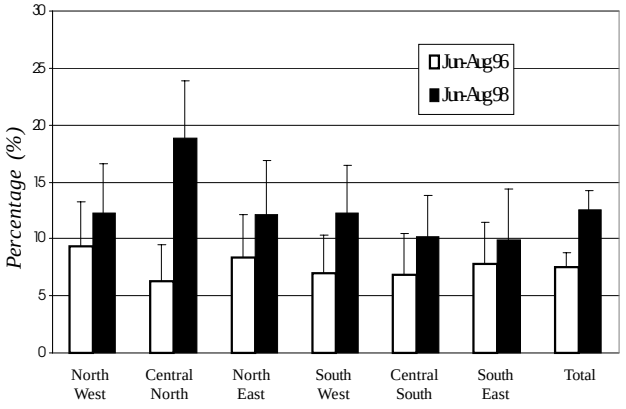
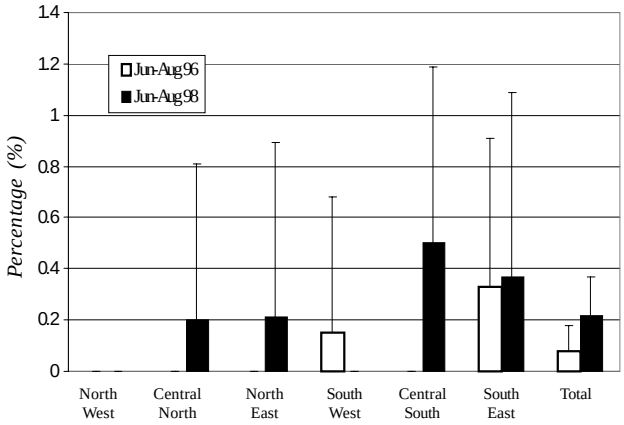


Figure 3.
The prevalence of childhood nightblindness before and after the beginning of the crisis in six ecological zones of Central Java



What is being done about the problem?

There is currently a great emphasis, within the government and international aid agencies, to establish and enhance a social safety net system in order to alleviate the effects of the crisis on families who have been pushed into poverty. The government's own social safety net program focuses on health and educational assistance, through supplementary feeding and scholastic grants components.

However, there is a lack of reliable information on the state of nutrition in the country relevant to the crisis. One of the most effective indicators of a re-emergence of VAD is nightblindness among both children and women.

Mild VAD causes nightblindness; an increase in the prevalence of nightblindness is a precursor of a possible rise in the prevalence of severe VAD. Maternal nightblindness is also an effective indicator of dietary vitamin A intake, while childhood nightblindness is a composite indicator of both dietary vitamin A intake and the effectiveness of existing vitamin A supplementation programs.

Food intake and food expenditure are also intermediate indicators of vitamin A intake among the population. A reduction in the intake of micronutrient-rich foods due to soaring costs indicates that long-term measures for ensuring adequate vitamin A status have been sabotaged by the economic crisis.

What should be done?

- There is a great need for inter-agency cooperation in urban areas to develop and implement innovative approaches toward tackling food insecurity and lack of reliable information
- There is a need for more emphasis on micronutrient deficiencies since deficiencies of these nutrients may have major impacts on maternal and childhood mortality

Monitoring and surveillance:

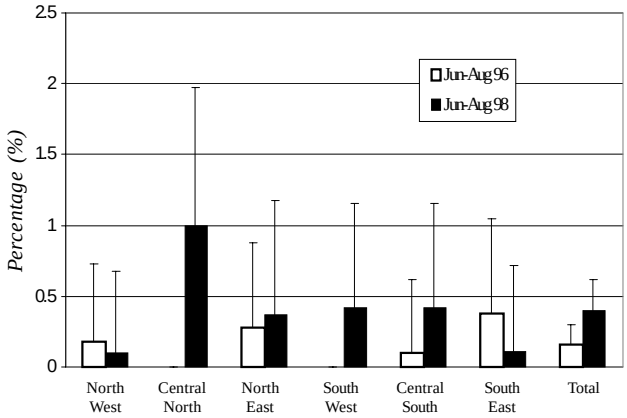
- Nightblindness among children and women should be assessed as an indicator of VAD
- Food intake and expenditure should be assessed as an intermediate indicator of VAD

Interventions:

- As there has been a decrease in the consumption of foods of animal origin, it can be expected that there will be an even higher prevalence of micronutrient deficiencies among the already-deficient women and children:
- There is a need for multi-micronutrient supplementation projects targeting pregnant and lactating women in those areas with the highest rates of maternal mortality
- There is a need for micronutrient supplementation for female factory workers in the urban areas
- There is a need for improving vitamin A capsule coverage to children aged 6-23 months of age nationwide (WHO/UNICEF recommends vitamin A capsules to all children aged 6-71 months, twice yearly)
- There is a need for supplementary feeding (fortified food) for children aged 6-23 months both in urban and rural areas; there is a need for social marketing and nutrition education to make the supplementary feeding program more effective and safe

According to a World Bank report in 1993, vitamin A supplementation is the single most cost-effective health intervention in the world.

Figure 4.
The prevalence of maternal nightblindness before and after the beginning of the crisis in six ecological zones of Central Java



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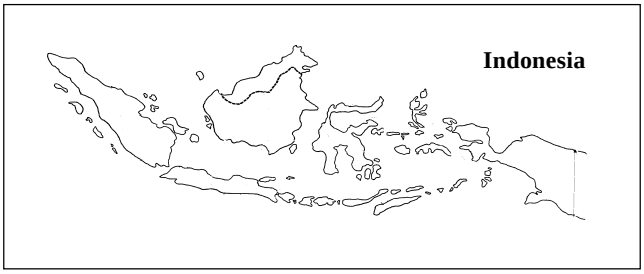
Projects carried out by HKI Indonesia in collaboration with the above organizations are funded by United States Agency for International Development (USAID)



I N D O N E S I A

Year 1, Issue 6
September 1999

CRISIS BULLETIN

— Special Edition —

Why and How to prevent Vitamin A Deficiency in times of crisis

With the prevalence of Vitamin A Deficiency (VAD) increasing as a result of reduced micronutrient-rich food intake, Vitamin A supplementation has become even more important to protect vulnerable groups against infections and diseases resulting from reduced immuno-competence.

Communicable diseases, such as measles, diarrhea, and acute respiratory infections (ARI) are some of the threats to the health and survival of individuals, especially children and women, among the poorer segments of the population (as the GOI/HKI NSS has shown), particularly those living in urban slums and other such overcrowded conditions, such as in refugee camps.

These diseases spread best in situations of overcrowding, where sanitary conditions are inadequate and access to food is limited. These circumstances are given a) among the poor and, in particular, among those individuals who live in urban slums, b) in camps for refugees or displaced people who had to flee their homes due to natural catastrophes (i.e. floods or droughts) or political unrest. In both situations, access to adequate food proves difficult, either due to lack of financial means, non-availability of food or other impairing factors.

In the case of refugees and/or displaced people, additional circumstances need to be considered. Refugees and displaced people are prone to be highly susceptible to infection and diseases as their health and nutritional status are most often far from satisfactory.

There are a number of reasons for this: a) Displaced people often belong to the poor segments of a population and have mostly consumed, in the Indonesian context for example, an unsatisfactory diet due to limited/ reduced purchasing power (impact of economic crisis); b) therefore, on arriving at camps or shelters, they are already deprived and have little bodily stores left (i.e. the time to reach new shelter can take days or weeks) and; c) their coping mechanism is diminished and any hazardous effect in terms of unsanitory conditions, imbalanced diets, etc., will lead to a higher susceptibility to illness, particularly in the manifestation of micronutrient deficiencies (VAD, Iron Deficiency Anemia, and others).

Some micronutrients, such as Vitamin A, play an important role for the maintenance of the immune system. A lack of an appropriate diet containing these much-needed micronutrients will ultimately lead to reduced immuno-competence. This is when the 'vicious cycle' begins between reduced immuno-competence (due to the lack of micronutrients) and higher susceptibility to communicable diseases (due to reduced immuno-competence, lack of micronutrients and adequate food supply and intake). Ultimately, deaths will occur and children, due to their vulnerability, will be the first to die.

Vitamin A and its relationship to childhood mortality and morbidity has been clearly recognized over the past years and some of the pioneering research has been conducted in Indonesia by a consultant working for HKI together with the Government of Indonesia (see footnote 1 in box, *History of GOI/HKI collaboration*, p2, col. 1).

However, the implications of VAD vary according to the group at risk. In pre-school children and pregnant women, VAD can lead to increased risk of mortality and morbidity.

(Continued on p2, col. 2)

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History of GOI/HKI collaboration

In 1915, McCollum called the factor that was essential for the survival of animals 'fat soluble A'. By 1920, it was known that a lack of vitamin A caused growth retardation, xerophthalmia and a reduced resistance to infection. The VAD problem disappeared from Europe once butter and margarine fortified with vitamin A were consumed. In developing countries, the full magnitude of the problem only became known in the 1960s-70s.

The first international meeting on VAD, held in Hyderabad, India, in 1972 was attended by an Indonesian delegation consisting of Dr Darwin Karyadi, Dr Katari N, Dalip Singh and Dr Slamet Santosa Soegianto. That same year, HKI's (then known as the American Foundation for the Overseas Blind) services were augmented with a new component, the prevention of blindness, of which the first focus was xerophthalmia. The first country to work on this was Indonesia.

The Government of Indonesia (GOI) developed a prevention program to which HKI provided technical assistance and personnel for evaluation. Based on the so-called Nutritional Blindness Prevention Project, coordinated by Dr. Ignatius Tarwotjo of the Indonesian Government and Dr. Alfred Sommer of the Johns Hopkins University (JHU) in the US,

- efforts to introduce VA capsule distribution nationwide were increased;
- the prevalence and consequences of VAD became better known;
- and the Aceh (North Sumatra) study, which was the first to detect a mortality reduction (by 34%) by distributing high-dose VA capsules[i], was initiated.

Since this historical undertaking and over the next 20 years, HKI has been involved in

- the development of social marketing approaches for the distribution of high-dose VA capsules,
- scaling up to a national VA-capsule distribution program,
- MSG-fortification trials[ii,iii],
- supporting the development of nutrition laboratory facilities,
- improving the micronutrient status of female adolescents through schools,
- and the social marketing of vitamin A-rich foods.

HKI's work in Indonesia has been supported by the US Agency for International Development (USAID), Opportunities for Micronutrient Interventions (OMNI), the Micronutrient Initiative (MI), the United Nations Children's Fund (UNICEF), and private donors.

[i] Sommer A, Tarwotjo I, Djunaedi E et al. *Impact of vitamin A supplementation on childhood mortality: a randomised controlled community trial.* Lancet 1986; 8491: 1169-1173.

[ii] Muhilal, Permaesih D, Idjradinata R, Muherdiyantiningsih, Karyadi D. *Vitamin A-fortified monosodium glutamate and health, growth and survival of children: a controlled field trial.* Am J Clin Nutr 1988; 48: 1271-1276.

[iii] Muhilal, Murdiana A, Azis I, Saidin S, Jahari AB, Karyadi D. *Vitamin A-fortified monosodium glutamate and vitamin A status: a controled field trial*. Am J Clin Nutr 1988; 48: 1265-1270.

Benefits of improved Vitamin A Status[1]

- **The survival chances of children aged 6 months to 6 years are dramatically increased by improving Vitamin A status, as their risk of mortality from measles is reduced by about 50%, from diarrhea by about 40%, and overall mortality by 25-35%.**
- **Improved Vitamin A status among deficient children reduces the severity of infectious illnesses, particularly measles and chronic diarrhea, and is associated with a reduced rate of hospital admissions and reduced need for out-patient services, therefore lowering the overall cost of health services.**

[1] Source: *Vitamin A Global Initiative – A Strategy for Acceleration of Progress in Combating Vitamin A Deficiency.* (Consensus of an Informal Technical Consultation convened by UNICEF/MI/ WHO/CIDA/USAID)

(Continued from p1)

Supplementation with Vitamin A has shown a 35% reduction in childhood mortality (Asia), and 40-50% reduction in maternal mortality.

It is obvious that immediate action to provide Vitamin A is needed and highly recommended. In the case of measles, i.e. it has been shown that the improvement of Vitamin A status in deficienct children leads to a 50% reduction of measles-related mortality, morbidity and blindness.

The current situation in Indonesia requires a close monitoring of possible VAD and other micronutrient deficiency outbreaks as well as close monitoring of increased micronutrient needs due to more frequent cases of infectious diseases.

On the next page is a summary that presents the latest guidelines issued by the WHO/UNICEF/IVACG Task Force for the case management of VAD. In situations of crisis, Table 2 is of particular importance, as it describes the case-management for children at high risk, who are actually children with a history of chronically inadequate food intake, poor health and acute diseases, i.e. diarrhea, measles, severe malnutrition, and others.

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1. Bloem MW, S Farooq, A. Kuttab. *Vitamin A deficiency and malnutrition in southern Iraq: rapid assessment report, 14-26 May 1991*. Helen Keller International/Save the Children/UNICEF.
2. Wijnroks M, Bloem MW, Islam N, Rahman H, Das SK, Hye A, Hall G. *Surveillance of the Health and Nutritional Status of Rohingya Refugees in Bangladesh*. Disasters 17(4):348-56, 1993.
3. Berry-Koch A, Moench R, Hakewill P, Dualeh M. *Alleviation of nutritional deficiency diseases in refugees*. Food and Nutrition Bulletin 12(2):106-12, 1990.
4. Marion Kelly. *Infant Feeding in Emergencies*. Disasters, 17(2):110-21, 1993.

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Universal distribution. (Table 1) Periodic distribution for prevention of VAD to:

- All preschool-age children, especially children 6 months to 5 years of age and children in high-risk regions
- All mothers in high-risk regions within 8 weeks of delivery (In the Indonesian context, within 30 days of delivery)
- High-risk groups, such as refugees

The timing of the distribution depends on the dosage, season, logistic constraints and available resources. The mode of distribution should make Vitamin A available before a season of special risk.

Targeted distribution to high-risk children. (Table 2) Distribution targeted at:

- Infants and children with measles, diarrhea, respiratory disease, chickenpox, other severe infections, or severe protein energy malnutrition
- Infants and children living in the vicinity of children with clinical VAD

Vitamin A supplementation in targeted distribution helps to re-establish bodily reserves depleted by chronic illness, protecting against VAD as well as the severity of infections. Measles morbidity and mortality is also reduced.

A child who has received a high-dose supplement within the last 30 days should not receive an additional targeted dose.

Targeted distribution to pregnant women. Pregnant women have an increased risk of VAD, especially in populations where VAD is endemic. A significant number of pregnant women develop night blindness, which is a sign of mild VAD. A daily dose of 10,000 IU or a weekly dose of 25,000 IU can be provided to improve the Vitamin A status of mother and fetus. If severe signs of active xerophthalmia occur, the treatment schedule in Table 3 can be administered, weighing the possible teratogenic effect or other risks of a high dose of Vitamin A to the fetus against the consequences of VAD on the woman and her fetus.

Treatment of xerophthalmia. (Table 3) Xerophthalmia is a clinical manifestation of severe VAD and occurs in several stages: night blindness, conjunctival xerosis with Bitot's spots, corneal xerosis, corneal ulceration, and keratomalacia. Oral doses of Vitamin A should be administered immediately upon diagnosis of xerophthalmia. The treatment schedule in Table 3 applies to individuals of all ages, except women of reproductive age. Women of reproductive age with night blindness or Bitot's spots should be treated with a daily oral dose of 5,000-10,000 IU (not exceeding 10,000 IU; may be substituted with a weekly dose of 25,000 IU) of Vitamin A for at least four weeks.

Treatment of children during measles. The treatment schedule in Table 3 is also recommended as the optimal therapy to treat children during episodes of measles. Children suffering from VAD and measles at the same time are at risk of serious and potentially fatal complications, hence immediate treatment with Vitamin A supplementation – which has been shown to reduce the risk of excessive measles case-fatality – should be provided upon diagnosis.

Sources: *Vitamin A supplements*. Prepared by a WHO/UNICEF/IVACG Task Force. World Health Organization, Geneva, 1997.
Pedoman Pemberian Kapsul Vitamin A Dosis Tinggi (High-dose Vitamin A Capsule Distribution Manual). Ministry of Health, Republic of Indonesia/UNICEF/HKI, 1993.

Table 1. High-dose universal-distribution schedule for prevention of VAD

Target group	Dosage
Infants < 6 months of age [a] – Non-breastfed infants – Breastfed infants whose mothers have not received supplemental vitamin A	50,000 IU orally (not yet a program in Indonesia)
Infants 6-12 months of age	100,000 IU orally, every 4-6 months [b]
Children > 12 months of age	200,000 IU orally, every 4-6 months [b]
Mothers	200,000 IU orally, within 8 weeks of delivery (within 30 days of delivery in the Indonesian context)

a. Programmes should ensure that infants < 6 months of age do not receive the larger dose intended for mothers. It may therefore be preferable to dose infants with a liquid dispenser to avoid possible confusion between capsules of different dosages.
b. Evidence suggests Vitamin A reserves in deficient individuals can fall below optimal levels 3-6 months following a high dose; however, dosing at 4-6 month intervals should be sufficient to prevent serious consequences of VAD.

Table 2. High-dose prevention schedule for children at high-risk of VAD

Target group	Dosage
Infants < 6 months of age	50,000 IU orally [a]
Infants 6-12 months of age	100,000 IU orally [a]
Children > 12 months of age	200,000 IU orally [a]

a. Those known to have received a routine high-dose Vitamin A supplement within the last 30 days should not receive an additional dose.

Table 3. Treatment schedule for xerophthalmia for all age groups except women of reproductive age

Timing	Dosage [b]
Immediately on diagnosis	
– Infants < 6 months of age	50,000 IU
– Infants 6-12 months of age	100,000 IU
– Children > 12 months of age [a]	200,000 IU
Next day	Same age-specific dose [c]
At least 2 weeks later	Same age-specific dose [d]

a. Caution: Women of reproductive age with night blindness or Bitot's spots should receive daily doses ≤ 10,000 IU, or weekly doses of 25,000 IU. However, all women of childbearing age, whether or not pregnant, who exhibit severe signs of active xerophthalmia (i.e. acute corneal lesions) should be treated as above.
b. For oral administration, preferably in an oil-based preparation.
c. The mother or other responsible person can administer the next-day dose at home.
d. To be administered at a subsequent health service contact with the individual

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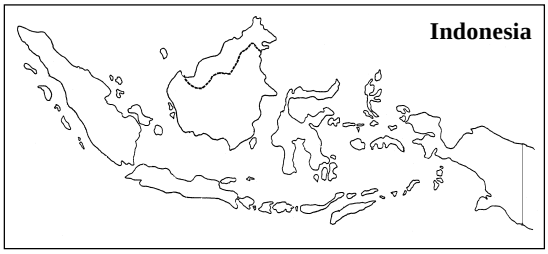
Projects carried out by HKI-Indonesia in collaboration with the above institutions are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.



I N D O N E S I A

Year 1, Issue 8
December 1999

CRISIS BULLETIN

Increasing coverage of high-dose vitamin A capsules to prevent crisis-induced re-emergence of vitamin A deficiency

With the transition to the new government in Indonesia, economic recovery looks set to be achieved within 3 to 5 years, according to analysts. However, the crisis has had a significant impact on the population's nutrition and health. This Bulletin reports on the high prevalence of vitamin A deficiency (VAD) found among children living in urban slums and women of reproductive age during the first half of 1999. Although the end of the economic crisis is now in sight, the threat of the re-emergence of VAD is still a problem that urgently needs to be addressed.

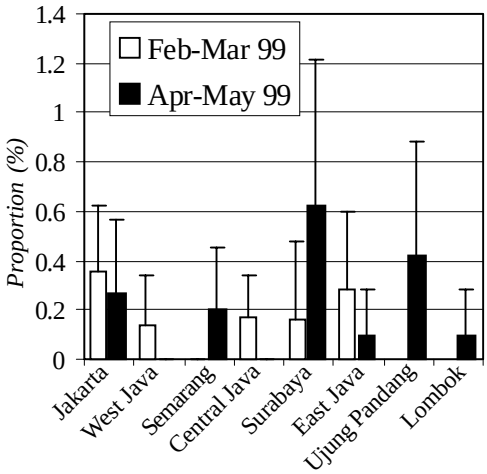
The increase of micronutrient deficiencies such as VAD is due to a lower consumption of micronutrient-rich foods, especially animal products and fortified foods, because these are also the most expensive foods that have now become almost unaffordable for those most vulnerable to the crisis.

Among children, the increase of VAD has been relatively limited, because high-dose vitamin A capsules are a major source of vitamin A and their distribution has been fairly well maintained during the crisis. The risk of VAD has particularly increased among groups who mainly depend on food sources of vitamin A, such as women of reproductive age and children who live in areas where the coverage of vitamin A capsule distribution has been relatively low.

The HKI/GOI-MOH Nutrition Surveillance System regularly collects data among 30,000-40,000 households in a variety of urban and rural areas of Indonesia to assess health and nutritional status of women and children and monitor health- and crisis-relief- programs. In Jan-Mar 99 and in Apr-May 99 data were collected on, among other information, VAD, and coverage of vitamin A capsule distribution among underfives and their mothers in four urban slum areas (Jakarta, Surabaya, Ujung Pandang and Semarang) and four rural areas (West Java, Central Java, East Java and Lombok).

(Cont'd on p2, col. 1)

Figure 1. Prevalence of night blindness in Jan-Mar 1999 and Apr-May 1999 among urban and rural children aged 12-23 mo old. Bars indicate 95% CI (Confidence Interval) corrected for design effect.



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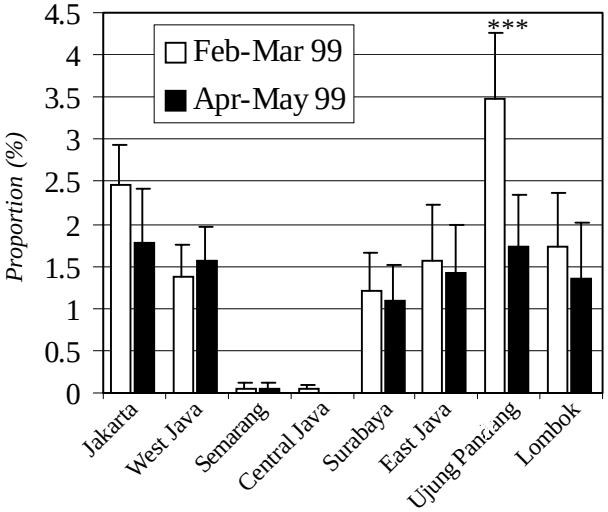
(Cont'd from p1, col. 2)

Figure 1 shows the prevalence of nightblindness, the first clinical sign of VAD, among children aged 12 – 23 mo old. The prevalence ranged between 0-0.6% and tended to be higher in urban areas (Surabaya, Ujung Pandang and Jakarta) than in rural areas. A comparison of data collected in Central Java before and after the onset of the crisis (reported in HKI/ GOI Crisis bulletin, Issue 2, October 1998) revealed an increase of the prevalence of nightblindness from <0.1% to >0.2%. The prevalences reported in this Crisis Bulletin indicate that in the first half of 1999, VAD may still have been increasing among children, but the overall prevalence was still relatively low.

Among non-pregnant women, the prevalence of nightblindness was much higher than among children. It ranged between 1-3.5% in all areas except in Central Java including Semarang (see figure 2). This is nearly as much as the prevalence found in the HKI/GOB national vitamin A survey in rural Bangladesh conducted in 1997, which found 1.7% among non-pregnant non-lactating women and 2.4% among lactating women. Among pregnant women, the prevalence of nightblindness ranged from 0-4% (data not shown because of the small number of cases).

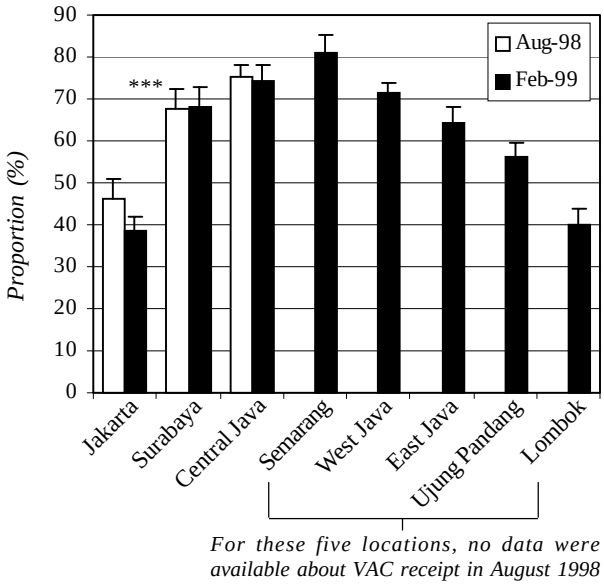
Figure 3 shows the coverage of the distribution of high-dose vitamin A capsules (VAC) among urban and rural children aged 12-59 mo in the two capsule distribution months that preceded the NSS data-collection rounds reported here: August 1998 and February 1999. Until early 1999, VACs were only distributed to children aged 12-59 mo. Among them,

Figure 2. Prevalence of nightblindness in Jan-Mar 1999 / Apr-May 1999 among non-pregnant urban and rural mothers. Bars indicate 95% CI corrected for design effect.



**** Significant difference between rounds in an area, p<0.001, Chi-square test corrected for design effect.*

Figure 3. Coverage of high-dose vitamin A capsule distribution in Aug 1998 / Feb 1999 among urban and rural children aged 12-59 mo old. Bars indicate 95% CI corrected for design effect.



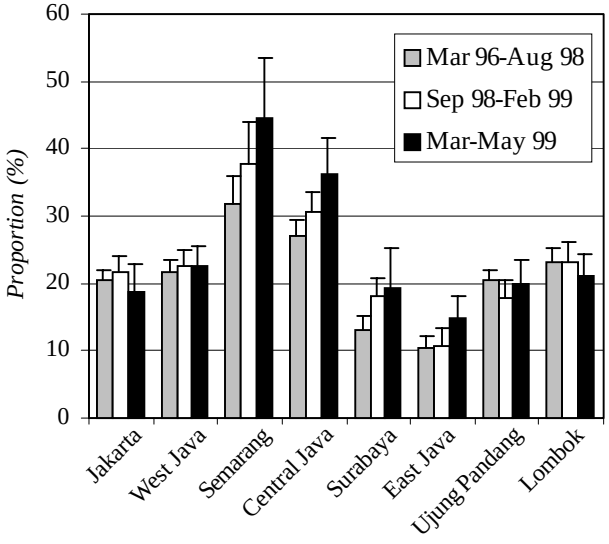
**** Significant difference between distribution months in an area, p<0.001, Chi-square test corrected for design effect.*

coverage was well-maintained between Aug 98 and Feb 99, except for a small decrease in Jakarta. In Feb 99, VAC coverage ranged from 64-81% in most areas, but was lower in Ujung Pandang (56%), Lombok (40%) and Jakarta (39%). Among children aged 6-11 mo coverage ranged from 10-35% (data not shown), which is regarded as a spill-over effect of the distribution to older children and as a consequence of inaccuracies of birth dates reported. A large design effect was found for VAC coverage among children aged 12-59 mo old (2.5-8), which indicates that program performance varies widely between villages within a provinces or between slums within a city.

Now, the challenge is to increase coverage of the vitamin A capsule distribution program in the urban areas, particularly in Jakarta, and in some outer islands, including Lombok, to soon achieve good coverage among the new target group of children aged 6-11 mo, and to reduce the large differences of coverage within areas.

The coverage of the distribution of high-dose vitamin A capsules to women within 30 days of delivery, which was introduced in Indonesia in 1991, is increasing in many areas (figure 4). By now, coverage ranges from 15-25% in most urban and rural areas to 35-45% in Central Java and Semarang. The higher coverage in Central Java, including the city of Semarang, is due to a special program to increase coverage of postpartum capsule distribution

Figure 4. Coverage of high-dose vitamin A capsule distribution to urban and rural women within 30 days of delivery between Mar 1996 and August 1999. Bars indicate 95% CI corrected for design effect.



in Central Java that started in 1996. Figure 2 shows that this is also the area where the prevalence of nightblindness was found to be the lowest.

While coverage of VAC distribution to women after delivery has increased, its design effect has decreased (between Mar 1996 and Aug 1999 from 6.9 to 2.9 in Central Java and from 2.2 to 1.2 in Jakarta). This indicates that coverage within a province or city has become more similar. Thus, findings with respect to coverage as well to design effect show that program performance has improved. However, because coverage is still relatively low (15-45%), because coverage has not increased everywhere, and because of the observed increase of nightblindness among women of reproductive age, efforts to further increase coverage of the distribution of high-dose vitamin A capsules to women after delivery should be intensified.

Conclusion

Because of Indonesia's crisis, the quality of the diet has reduced markedly which has had a devastating impact on the prevalence and severity of micronutrient deficiencies. Due to the relatively well-maintained coverage of the vitamin A capsule distribution program among children aged 12-59 mo old, VAD has mainly increased among women of reproductive age and among children in urban areas and outer islands where coverage was lower than in rural Java. Intensification and expansion of the vitamin A capsule program should be of high priority.

Recommendations

Based on the findings presented above, we recommend that

1. **Efforts to prevent vitamin A deficiency are intensified** by:
- VAC distribution among infants aged 6-11 mo old
- maintaining coverage of VAC distribution among children aged 12-59 mo old and achieve similar coverage across all villages of a province or slums of a city
- increasing coverage of VAC distribution among children aged 12-59 mo old in urban areas and outer islands
- increasing targeted distribution of VAC to high-risk children (see HKI/GOI crisis bulletin, Issue 6, September 1999)
- increasing coverage of VAC distribution to women within 30 days of delivery
- promotion of exclusive breastfeeding for the first 4-6 months of life, including the feeding of colostrum (first milk produced by mother after delivery)
- increasing the micronutrient content of the diet by including more fortified foods and foods of animal origin in the diet

2. **Monitoring of vitamin A status, vitamin A intake and VAC coverage in urban and rural areas of Indonesia is continued and expanded.**

Dietary vitamin A intake affected by Indonesia's crisis

Recent research has shown that foods of animal origin (eggs, butter, milk and liver) and fortified foods (margarine, commercially available weaning foods, noodles marketed in Indonesia etc) are the best sources of readily available vitamin A. While dark-green leafy vegetables and yellow and orange fruits and vegetables are the most affordable dietary sources of vitamin A, the bioavailability of their vitamin A is much lower.
Because Indonesia's crisis has reduced the purchasing power of most of the population, the consumption of relatively luxury foods, such as animal foods and fortified foods, has decreased markedly. This has had led to a large decrease of the intake of micronutrients, including vitamin A.

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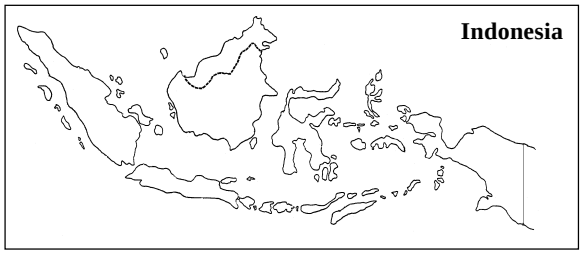
Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.



I N D O N E S I A

Year 2, Issue 5
May 2000

CRISIS BULLETIN

Vitamin A Capsules: Red and Blue

What's the difference?

In 1999, children 6-11 months of age were added as a new target group for routine vitamin A supplementation in Indonesia. These younger children should receive 100,000 IU of vitamin A, half the dosage recommended for older children. The reason for expanding the target group is to promote good nutritional status and prevent morbidity and mortality among children at an earlier age. To meet this need, efforts are being made to distribute 100,000 IU (blue-colored) capsules around the country.

At the end of 1999, an updated set of national policy guidelines for the acceleration of vitamin A supplementation program activities was published in Indonesia. That publication provides a concise reference for policy makers, program managers and health workers across the country about the consequences of vitamin A deficiency, why acceleration programs should be conducted, who the target groups are, how the approach would be carried out, and what dosages of vitamin A should be administered.

Currently, two different types of vitamin A capsules are being used for routine supplementation activities in Indonesia: red 200,000 IU capsules and blue 100,000 IU capsules. However, some policy makers, program managers and health service providers may still have questions on why the 100,000 IU (blue) vitamin A capsules are now being distributed and how they should be used.

This bulletin (published in English and Bahasa Indonesia) provides a brief outline of the vitamin A supplementation program activities for preschool children and describes the different types and sources of vitamin A capsules that have been used to support these programs from the 1970s to the present.

History of vitamin A supplementation for preschool children in Indonesia

In the early 1970s, a pilot project to distribute 200,000 IU vitamin A capsules to approximately 100,000 children aged 1-5 years was launched in 20 districts of Java as a collaborative effort by the Government of Indonesia (GOI) and Helen Keller International (HKI). That project represents one of the earliest phases of widespread community-based supplementation activities in Indonesia. Based on the success of that initial pilot program, the GOI decided to expand vitamin A distribution activities to reach over 7 million children. At that time, the United Nations Children's Fund (UNICEF) distributed 200,000 IU vitamin A capsules to support the program activities. The early vitamin A capsules were orange in color because the vitamin A-containing oil was encased in a clear gelatin capsule.

In the past 30 years, numerous changes have taken place in both the nationwide vitamin A supplementation program and the system for vitamin A capsule production and procurement. The scope

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and intensity of program activities have alternatively expanded and contracted in response to the nutritional situation in the country, new target groups for vitamin A supplementation have been added, the national pharmaceutical industry in Indonesia began to produce capsules for use in the routine vitamin A supplementation program, and in the mid-1990s, the GOI became one of the first governments in the world to fully assume the costs of procuring capsules for a national vitamin A supplementation program for preschool children.

Vitamin A capsule production and procurement

Since the 1970s, several changes have taken place in the system used to procure vitamin A capsules needed for the routine supplementation program. Up until the mid-1990s, the capsules were procured primarily with the financial and logistical support of UNICEF. Initially, children 1-5 years of age were the only target group for routine supplementation and the 200,000 IU vitamin A capsules were the only type of capsules required.

With the help of UNICEF, similar program activities were launched in the 1980s in other countries where vitamin A deficiency threatened the health and survival of preschool children. At the time, research findings were indicating that children even younger than 1 year of age would also benefit from routine vitamin A supplementation and children 6-11 months of age were officially included as a target group for supplementation in some countries. The recommended dosage for this younger age group is 100,000 IU of vitamin A, half the dosage recommended for older children. To meet the need for vitamin A capsules for these younger children, pharmaceutical companies began producing capsules containing 100,000 IU of vitamin A.

In the 1990s, pharmaceutical companies around the world began to adopt a standardized color-coding scheme for the production of vitamin A capsules containing different dosages of vitamin A. In many countries, the internal contents of vitamin A capsules can now be identified by their external color as follows: 200,000 IU (red) and 100,000 IU (blue).

The pharmaceutical industry in Indonesia used the same color-coding scheme when they began producing vitamin A capsules for the national supplementation program in the 1990s. As a result, supply managers and health service providers in the district health offices, *Puskesmas* (community health centers) and *Posyandu* (village health posts) can clearly distinguish between the stocks of 100,000 IU capsules intended for children 6-11 months old and the stocks of 200,000 IU capsules for children 1-5 years old.

Figure 1. Promotional brochure about the new target group of children aged 6-11 months and the 100,000 IU blue vitamin A capsules

Economic crisis in Indonesia

The Asian economic crisis that began in 1997 caused a decline in household purchasing power and decreased families' ability to buy relatively expensive foods such as eggs and meat – foods that are particularly rich in vitamin A. Data collected by the GOI/HKI Nutrition Surveillance System (NSS) documented an increase in the prevalence of night blindness and concerns began to rise about the re-emergence of vitamin A deficiency in some areas of the country (see Crisis Bulletin Yr 1, Iss 2, Oct 1998). Renewed efforts were called for to support vitamin A supplementation activities for children at highest risk – including children living in the urban slum areas where vitamin A capsule coverage rates were low and children 6-11 months old.

Introduction and promotion of a new target group: 6-11 month old children

In early 1999, following the international guidelines, children 6-11 months old were added as a new target group for routine vitamin A supplementation. This was done to minimize the impact of the economic crisis on the nutritional status of this age group. Stocks of the 100,000 IU (blue) vitamin A capsules required to reach this new target group for a one-year period were procured through UNICEF and distributed by the GOI.

In order to promote this new target group to the public, a special media campaign was launched in early 2000. The campaign included TV and radio broadcasts, banners and signboards for *Puskesmas* and *Posyandu* facilities, and technical flyers about the new target group that were distributed to the district health offices (see Figure 1). According to the estimates gathered from the district health offices immediately following the February 2000 distribution month, the stocks of 100,000 IU capsules on hand would be insufficient to supply the *Puskesmas* and *Posyandu* facilities with their needs for the August 2000 vitamin A distribution month.

The Vitamin A Working Group, formed at the end of 1999 and comprised of members from the Ministry of Health (MOH), the national pharmaceutical industry, UNICEF, HKI and other institutions, is currently working to ensure that adequate supplies of all vitamin A capsules required for the August 2000 distribution month are being procured. However, institutionalizing the procedures, required to procure the new 100,000 IU vitamin A capsules on a routine basis, may take the longer than initially anticipated. One important reason for this delay is the current process of decentralization, which will have an effect on how all vitamin A capsules are procured and distributed. The change in procedure, unfamiliarity among provincial/district health workers with the new blue capsule and the large program coverage area also contribute to the delay.

Even though the red and blue capsules were specifically designed for use among different target groups, the only difference between the capsules is the dosage of vitamin A. One solution to a temporary shortage in 100,000 IU capsules is to train local health care workers to dose children aged 6-11 months with half the contents of a 200,000 IU (red) capsule. This approach is routinely used in countries where the lower dose 100,000 IU capsules have never been available. In 1995, the MOH established a precedent for using this approach in Indonesia for the treatment of xerophthalmia and measles in Bengkulu province, when it issued guidelines describing the half-dosing method. Although providing adequate stocks of the 100,000 IU capsule was what was originally planned to meet the program needs for the new target group of younger children, this may not be possible in all locations. The objective in starting program activities for the new target group of younger children is to help protect their health. If an alternative strategy for dealing with an inadequate supply of 100,000 IU capsules is developed, then children 6-11 months old who come to the *Puskesmas* and *Posyandu* health facilities during the August 2000 campaign will not leave without receiving an appropriate dose of vitamin A.

Figure 2. Alternative scenarios for vitamin A capsule supply in August 2000

Type of vitamin A capsules	Supply at Puskesmas/ Posyandu facility	Action in August 2000
Red capsules (200,000 IU)	Adequate	Dose children aged 1-5 yrs with a red capsule
Blue capsules (100,000 IU)	Adequate	Dose children aged 6-11 months with a blue capsule
	Inadequate	Dose children aged 6-11 months using half the drops in a red capsule

Recommendations

- Prior to the August 2000 distribution campaign, a coordinated effort should be made to ensure that adequate supplies of both red and blue capsules reach the field level.
- The potential for a shortage of blue capsules should be considered and a contingency plan developed.
- The functions of the existing procurement system should be determined and the means by which a decentralized system can be strengthened and streamlined to avoid shortages in the future should be explored.
- The means by which the the existing distribution system can be strengthened should be explored.
- Along with an emphasis on adequate procurement and distribution, more intensive promotional efforts should be made to educate all levels of the governmental distribution system and local communities about the new target group (children aged 6-11 months).

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Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

I N D O N E S I A

Year 2, Issue 18
Nov-Dec 2000

CRISIS BULLETIN

– INDONESIA IN TRANSITION –

SPECIAL SERIES ON INFECTIOUS DISEASE & VITAMIN A

Mass measles immunization campaign successfully linked to vitamin A supplementation month in urban areas

Routine immunization programs have been used in many countries as a contact point for delivering vitamin A supplements to preschool age children. In Indonesia, a novel pilot project conducted in August 2000 reversed this strategy and linked a mass measles immunization campaign to the well-established vitamin A supplementation month. The success of this experience demonstrates that this approach can be an effective component of the national strategy for eradicating measles.

Vitamin A deficiency and measles are two preventable causes of childhood morbidity and mortality in Indonesia. In many areas of the country, successful programs are being implemented to control vitamin A deficiency and maintain high measles immunization rates. However, despite these efforts, certain high-risk areas still exist where measles immunization rates are low and measles outbreaks may occur.

This bulletin describes a pilot project that took place in August 2000 to combine a mass measles immunization campaign in urban poor areas with the well-established vitamin A supplementation month for children. Prior to the August 2000 vitamin A distribution month, areas in Jakarta, Surabaya, Semarang and Makassar that were likely to be at high-risk of a measles outbreak were identified. The pilot project was conducted jointly by the Directorate of Community Nutrition and the Directorate of Epidemiology Surveillance and Immunization of the Ministry of Health and Social Welfare (MOH & SW) with the financial and technical assistance of Helen Keller International (HKI) and the United Nations Children's Fund (UNICEF).

Measles immunization crash program

Measles can be prevented by immunization programs. The national guidelines in Indonesia recommend that all children get a measles immunization when they are 9-11 months old. The majority of children receive immunizations through the Posyandu system (integrated health post), Puskesmas (Public Health Center), hospitals or private clinics. However, some children are not reached through these existing systems and may remain unvaccinated throughout the rest of their lives. Measles can kill and additional strategies are needed to improve immunization rates, especially in areas at high risk of a measles outbreak.

In order to reduce the number of unvaccinated children, to

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Background information: Measles

Measles is an acute viral disease that is rapidly transmitted from one person to another. The disease causes a characteristic reddish rash all over the body and is often accompanied by a fever, diarrhea, and rapid weight loss. Measles can be a very serious disease, especially in children. Some children who get measles develop severe eye infections and may even become blind. Even in a mild case of measles it can take several months for a child to regain all the weight he or she lost, for his or her immune system to return to normal, and to fully recover from the disease. Unfortunately, some children (approximately 1-2%) who get measles will die even if they receive treatment when they are sick. Therefore, the best way to protect children's health, eyesight and lives is to prevent them from getting measles.

prevent measles outbreaks, measles with eye complications, and measles mortality, the MOH & SW has decided to implement a special measles "crash program" in 2000-2001 for high-risk areas. This program involves identifying high-risk areas and then vaccinating all susceptible individuals within a very short time frame. For example, where a measles outbreak occurs, international guidelines recommend that all children from 6 months to 5 years of age in the area receive a measles vaccination whether or not they have been vaccinated in the past. Because measles is a very contagious disease, any unvaccinated people remain at risk of becoming infected. Providing immunizations in this situation will help protect individual people from getting measles, becoming ill, and potentially spreading the disease to other people.

In many cases, preschool children who live in high-risk areas for measles are also at risk of vitamin A deficiency. Routine vitamin A supplementation is currently recommended for all children 6-59 months of age twice a year (in February and August) in order to promote good nutritional status and to prevent severe morbidity and mortality in children. Although routine vitamin A supplementation does not prevent children from getting measles, several large-scale, well-controlled studies have shown that children who received vitamin A supplements and then later got measles were 50% less likely to die than the children who did not receive vitamin A supplements before they got measles.

Figure 1. Implementation guidelines for the vitamin A and immunization post health workers

The main reason to link measles immunizations and vitamin A supplementation is to reach the same group of at-risk children with both of these effective prevention programs in a cost-effective manner. Vitamin A supplements can be safely given to preschool age children at the same time they receive a measles immunization. Because the same logistics system can be used to organize and deliver measles immunizations and vitamin A capsules, combining these programs will save valuable time, money, and effort compared to implementing each one of them separately.

Urban pilot project in August 2000

The goal of the pilot project was to capitalize on the success of vitamin A supplementation activities that routinely take place in the Posyandu (integrated health posts) every February and August in Indonesia. In recent years, a variety of mass media and social mobilization activities have taken place around the country to promote these two months as "vitamin A distribution months." Special efforts are made to ensure that adequate supplies of vitamin A capsules are available at the Posyandu and Puskesmas facilities, that health workers know how to administer

the vitamin A capsules, and that community members know they can bring their 6-59 month old children to the health facilities during these months and receive vitamin A capsules at no cost.

The pilot project was designed to build on these existing activities and promote both vitamin A supplementation and measles immunization in the urban areas during the August 2000 vitamin A distribution month. While the same general approach was used for the different locations, specific implementation plans were developed for each city. In general, the teams (consisting of staff members from the Directorate of Community Nutrition and the Directorate of Epidemiology Surveillance and Immunization) ensured that adequate supplies for both vitamin A supplementation and measles immunizations were in place, and that special training and social mobilization activities occurred.

Slightly different methods were used to implement the pilot project in the different cities. For example, in Jakarta, the project was organized to conduct a joint vitamin A supplementation and immunization campaign on August 1. Families were encouraged to bring their children to the designated health posts on that day to receive a vitamin A capsule and measles immunization. The next day, health workers traveled door-to-door to locate children who did not visit the health posts the day before and provided these services to the children at home. In Semarang, the special immunization activities for all children aged 6 months to 5 years were integrated into the regular posyandu activities during August. These two different strategies were chosen by the city organizers in order to make good use of the existing personnel in their locations. High immunization and vitamin A coverage rates were achieved in both locations.

The methods used to implement this pilot project will be evaluated further by the Ministry of Health, UNICEF and HKI and the lessons learned will be applied to similar activities in the future.

Pilot project achievements

- An implementation plan was developed (ie. timeline, logistical plan, training materials, etc.) that can be adapted for use in other urban settings, refugee situations, or measles outbreak areas.
- The working relationship between the Directorate of Community Nutrition, the Directorate of Epidemiology Surveillance and Immunization, HKI and UNICEF was strengthened at the central, provincial, and city levels.
- Community awareness about the routine vitamin A supplementation month, Posyandu activities, and measles immunizations was increased in Jakarta, Surabya, Semarang, and Makassar.
- Vitamin A supplements and measles immunizations were delivered to more than 80,000 children in the urban poor areas of four cities.
- This pilot project successfully reached over 99% of the targeted number of children.

High-risk areas for measles

The Ministry of Health and Social Welfare has declared the following areas and situations in Indonesia to be at high-risk for measles outbreaks:

1) Urban slum areas because of crowded living conditions and a low access to and utilization of health services
2) Refugee situations because of crowded living conditions, the presence of other diseases, and the disruption of regular health care services
3) Areas surrounding a measles outbreak, which is defined as two or more cases happening in a localized area during a one-week timeframe, because an outbreak indicates that other people in the area are also likely to be unvaccinated and therefore susceptible to measles.

Conclusions and recommendations

- The criteria for identifying urban areas that are at highest risk of a measles outbreak should be further developed in order to ensure that the most vulnerable children are reached by similar activities in the future.
- The Directorate of Community Nutrition and the Directorate of Epidemiology Surveillance and Immunization should develop a plan for prioritizing where to replicate this type of an activity during routine vitamin A supplementation months (February and August) in other areas of the country at high-risk of a measles outbreak.
- The strategy of combining measles immunization with vitamin A capsule distribution has potential to be an effective and efficient strategy to eradicate measles outbreaks.

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This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

I N D O N E S I A

Year 3, Issue 2
September 2001

CRISIS BULLETIN

National Vitamin A Supplementation Campaign Activities: August 2001

In Indonesia, maintaining public awareness about the routine vitamin A supplemention program is essential for its ongoing success. Helen Keller International (HKI) helped organize a variety of activities to promote the August 2001 distribution month nationwide.

National Vitamin A Supplementation Program goals

In Indonesia, the goal of the national vitamin A supplementation program for children is to deliver vitamin A supplements to preschool age children twice a year. The *posyandu* (village-based integrated health post) system is the primary channel used to distribute capsules and vitamin A supplementation has been one of the standard services offered at the *posyandu* since the late 1980s. Nationwide, an estimated 20 million children aged 6-59 months are eligible for the supplementation program.

Children aged 6-11 months were officially added as a new target group for routine supplementation in 1999 (see *Ind Cris Bul*, year 2, issue 5, May 2000). Since that time efforts have been made to inform health workers about the new recommendations and to promote the new target group to the public.

In August 1999, national coverage rates for vitamin A supplementation were less than 10% for 6-11 month old children and around 60% for 12-59 month old children, according to data from the Ministry of Health (MOH, 2000). More recent data from the MOH estimate that overall coverage rates for the August 2000 distribution round were around 60% for children aged 6-11 months and around 70% for 12-59 month old children. The improvement in coverage rates among children aged 6-11 months over this one-year period is quite encouraging and further improvements are expected for this new target group.

Ingredients for success

High vitamin A capsule coverage rates can be achieved and maintained over time only when many different systems work

Figure 1. Vitamin A poster

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smoothly together. In Indonesia, the essential ingredients for a successful supplementation program include: community awareness about the routine program, children's attendance at designated distribution points (*posyandu*) during February and August, health worker knowledge about current supplementation guidelines and procedures, a well-functioning distribution system for capsules, and timely procurement of adequate stocks of both 100,000 IU (blue-colored) capsules for younger children (aged 6-11 months) and 200,000 IU (red-colored) capsules for older children (aged 12-59 months).

Lessons learned from past activities

All of these factors listed above are necessary to achieve high vitamin A coverage rates. However, one that has contributed to the success of the routine program over time is that fact the distribution months (February and August) are standardized across Indonesia. This has allowed both national level government information channels and more recently popular mass media channels to be widely used to promote the routine supplementation months.

The benefit of having standardized program months and conducting widespread promotional activities became apparent as pilot programs began expanding in the 1970s. In one pilot program, community health workers were assigned to spend part of each week distributing vitamin A capsules to the children in their service areas who had not received a capsule in the previous six months. Using this system nearly all children could be reached in a 6-month cycle, but coverage tended to decline as time went on. Over time, supplementation program activities expanded into many different provinces and the delivery mechanism changed to a monthly distribution utilizing the *posyandu* system as the main service delivery point. In an effort to draw even more attention to the program, different provinces began

Figure 2. Mothers and children attend the Vitamin A Program health fair organized by HKI at Taman Mini Indonesia Indah before the August distribution month.

Figure 3. A child participating in a coloring contest – one of the many activities held during the health fair at Taman Mini Indonesia Indah.

designating only two months of every year as vitamin A distribution months. Then, in 1991, the vitamin A distribution months were standardized, with February and August being chosen as the national distribution months for Indonesia. National promotional campaigns started at that point and vitamin A coverage rates increased.

The routine vitamin A supplementation program continues to take place during February and August. Ongoing promotion of the supplementation months is essential to maintain public awareness about the program and to encourage *posyandu* attendance, particularly during those months. The general public as well as health care providers need to be reminded when the routine vitamin A distribution months take place.

August 2001 promotional events

In order to raise public awareness about the August 2001 national vitamin A distribution month, HKI worked with the MOH, *Koalisi Untuk Indonesia Sehat* (Coalition for a Healthy Indonesia), and local advertising and mass media production companies to design and implement a coordinated vitamin A promotional campaign. The campaign was designed to promote the same key messages using a variety of media channels.

Key messages: These four key messages were emphasized in all promotional materials and events. They were: 1) What? - Free vitamin A capsules for children; blue-colored capsules for children aged 6-11 months and red-colored capsules for children aged 1-5 years, 2) When? - February and August, 3) Where? *Posyandu* or *Puskesmas* (public health center), and 4) Why? – This was answered using the tag line '*Mataku Sehat, Tubuhku Kuat karena*

kapsul vitamin A' – 'My eyes are healthy and my body is strong because of vitamin A capsules' in association with the vitamin A cartoon baby mascot (see Figure 1). The same color scheme was used for all materials. Because February was also included as a routine distribution month, the promotional materials will be used beyond August 2001.

TV spot: A new public service announcement TV spot was produced to promote the routine vitamin A supplementation program. The spot features an animated version of the vitamin A cartoon baby mascot, the new jingle developed for the radio spot, and the promotional poster. The 15-second and 30-second versions of the TV spot were aired on channels with nationwide coverage across Indonesia from late July until the end of August.

Radio spot: A new public service announcement radio spot was produced. The new jingle features a familiar song, entitled '*Dua Mata Saya*,' taught to kindergarten children but reworded to include vitamin A campaign messages. The 60-second radio spot was aired throughout August in selected areas (including the urban slums of Jakarta) known to have low vitamin A coverage rates. In addition to the national version produced in *Bahasa Indonesia*, regional versions of the radio spot were produced in *Bahasa Sasak*, *Bahasa Minang*, and *Bahasa Madura*.

Vitamin A radio jingle lyrics

"Dua mata saya, yang sehat selalu,
Karena vitamin A, sehat, kuat tubuhku . . ."

English translation:
I have two eyes that are always healthy,
Because of vitamin A, my body is healthy and strong . . .

Print media: A coordinated set of print materials (banners, posters, brochures, flyers, and stickers) were produced that all feature the vitamin A cartoon baby mascot, the same color scheme, and the key messages about the supplementation program. These supporting materials will be used to promote vitamin A month at the local community level.

Over 5,800 packets of print materials were directly distributed to province health offices, district health offices, and all *Puskesmas* in selected provinces. In addition, materials were directly distributed to over 2,000 health promotion groups throughout the country associated with the *Koalisi Untuk Indonesia Sehat.*

'Planet Gizi' children's TV show: Messages about the importance of vitamin A and the national vitamin A supplementation program were incorporated into episodes of the special children's TV variety show 'Planet Gizi' produced by the *Koalisi Untuk Indonesia Sehat.* The three episodes of this special series were filmed at Taman Mini on July 22 were aired on Friday afternoons during the last week of July and first two weeks of August 2001.

Children's health fair: A health fair was held at Taman Mini in conjunction with the taping of the '*Planet Gizi*' TV shows. HKI sponsored an information booth about the national vitamin A supplementation program and organized a program of educational games and activities for children and parents that included a quiz show, a vitamin A mascot coloring contest, a vitamin A jingle singing contest, etc.

Press conference: The national vitamin A supplementation program was one of the topics featured at the July 27 press conference organized by the *Koalisi Untuk Indonesia Sehat* in conjunction with *Hari Anak Nasional* (National Children's Day).

Conclusions and recommendations

- Ongoing promotional activities are essential for maintaining public awareness about the national vitamin A distribution months and increasing demand for vitamin A supplementation, especially for the newest target group of children aged 6-11 months.
- More attention should be given to the vitamin A capsule procurement and distribution systems to ensure that vitamin A capsule supplies do not become a limiting factor in the near future as governmental decentralization proceeds and new roles and responsibilities for implementing the vitamin A program are established at the central, provincial, and district health office levels.

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I N D O N E S I A

Year 2, Issue 2
February 2000

HKI TECHNICAL PROGRAMS SERIES

CRISIS BULLETIN

Nutrition Surveillance:
How does it work?

At its most recent meeting in April 2000, the United Nations Administrative Committee on Coordination/Sub-Committee on Nutrition (ACC/SCN; see box below) presented the Fourth Report on the World Nutrition Situation[1] to key players in the field of nutrition. Those attending the meeting emphasized the importance of the timely collection of comprehensive nutritional data, the rapid processing and dissemination of the findings and their integration in policies and programs at national, regional and global levels.

Over the past 50 years, information systems to monitor and track financial and economic growth have been established. With globalization and rapid economic development throughout the world, information on economic development has become very advanced and up-to-date.

Some of the first systems to monitor nutritional status were also established more than 50 years ago. Advances in computer technology and analytical methods now allow surveillance systems to become more comprehensive and responsive. Because of our growing understanding of the importance of nutrition for social and economic development, more sophisticated surveillance systems must be designed and used to provide insight into the complex and rapidly changing situations that countries are undergoing. The moment has arrived to include key nutrition information into development indices and to accept the importance of regular, up-to-date nutrition information, similar to the current economic and financial systems.

With more than 10 years of experience in operating nutrition surveillance in Bangladesh, Helen Keller International (HKI) initiated a nutrition surveillance system in Indonesia in 1995, in collaboration with the Government of Indonesia (GOI). Through these surveillance systems, HKI has stimulated new discussions on how to use surveillance to identify the best indicators to monitor a particular situation. This work has strengthened linkages between different sectors/fields, ranging from agriculture and economics to health and demographics. This report, the first of the HKI Technical Programs Series, describes how the HKI/GOI Nutrition Surveillance System (NSS) works. Future reports will introduce novel techniques, methods and analyses that can be used in nutrition surveillance and health systems.

Aims of the ACC/SCN

The Administrative Committee on Coordination (ACC), which is composed of the heads of the UN Agencies, recommended the establishment of the Sub-Committee on Nutrition (SCN) in 1977 following the World Food Conference.

The aims of the SCN are:
- to raise awareness of and concern for nutrition problems at global, regional and national levels;
- to refine the direction, increase te scale and strengthen the coherence and impact of actions against malnutrition worldwide;
- and to promote cooperation among UN agencies and partner organizations.

For more information, please visit **www.unsystem.org/accscn**

[1] ACC/SCN (2000). *Fourth Report on the World Nutrition Situation*. Geneva: ACC/SCN in collaboration with International Food Policy Research Institute (IFPRI).

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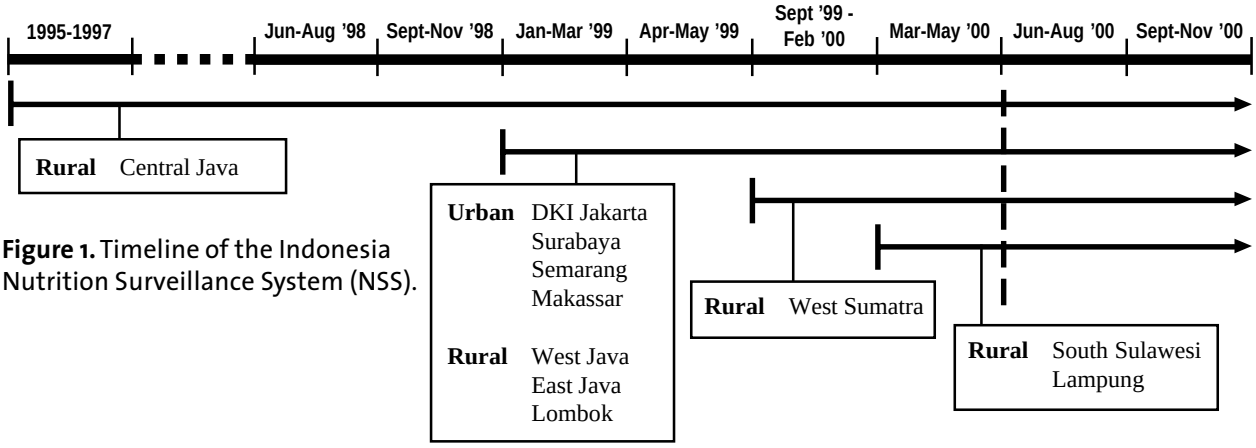


Figure 1. Timeline of the Indonesia Nutrition Surveillance System (NSS).

Nutrition surveillance activities were operated in Central Java from 1995 to 1997. The NSS restarted in Central Java in June 1998 and has gradually expanded to 7 other Indonesian provinces, covering both rural and urban areas, over the past two years (Figure 1, above). Data are currently being collected from urban slums in four major cities and seven rural provinces throughout Indonesia (Figure 2, below). Preparations have also begun to further expand the surveillance to two more provinces by late 2000. The NSS sites were selected based on the ongoing work of HKI and the United Nations Children's Fund (UNICEF) and in consultation with the Government of Indonesia and other organizations working in nutrition.

Different sampling frames have been applied for the rural and urban areas.[2] In the rural areas, a multi-stage cluster sampling design is used to obtain the random sample (see Figure 4, p3). For instance, Central Java consists of six ecological zones. From each zone, 30 villages are selected by probability proportional to size (PPS) sampling techniques. Each village provides a list of households with at least one child younger than five years of age. From this list, 40 households with at least one child less than five years of age are selected by fixed interval systematic sampling (SS). The total sample size for the NSS rural areas is 33,600 households.

The urban sample includes only households residing in a slum or shantytown. Two slightly different sampling frames are used in the urban slum sites. In Jakarta and Surabaya, '*kelurahan*' (villages) with slums are listed and 40 are selected using simple random sampling (SRS) techniques. Then, within each *kelurahan*, two to three '*Rukun Warga*' (RW; sub-villages) with slums are selected, for a total of 80-120 RWs, or sample clusters, per urban area. In Semarang and Makassar, the *kelurahan* strata is not used and 80 RWs with slum populations are randomly selected from each of the two cities. Within each RW, 30 households with at least one child younger than five years old residing in the slum are then randomly selected to participate in the survey round. The total sample size for the four urban slums is 10,800 households.

Information is collected quarterly in all sites (four rounds per year). The survey teams interview the households to obtain information on household composition, parental education and occupation, sanitary conditions, land and livestock ownership, food production and consumption, vitamin A capsule receipt, child and maternal morbidity and nutritional knowledge. Weight, height (or length, for

[2] Kirkwood B. Essentials of Medical Statistics. Oxford Blackwell Scientific Publications, 1988.

Figure 2. Map of the HKI/GOI NSS project sites.

Current urban slum sites – Jakarta, Surabaya, Semarang and Makassar – are located in DKI Jakarta, East Java, Central Java and South Sulawesi, respectively. These provinces, except DKI Jakarta, also include current rural sites monitored by the NSS. Other current rural project sites are the provinces of West Sumatra, Lampung, West Java and West Nusa Tenggara. The provinces of South Kalimantan and East Nusa Tenggara will be included as rural surveillance sites in late 2000.

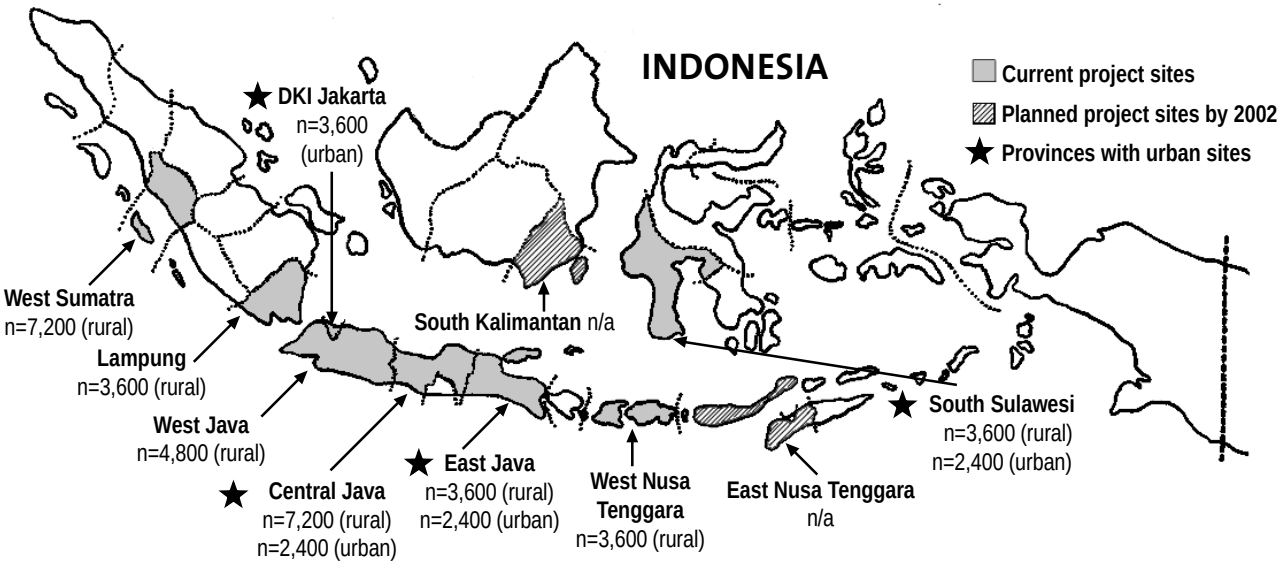
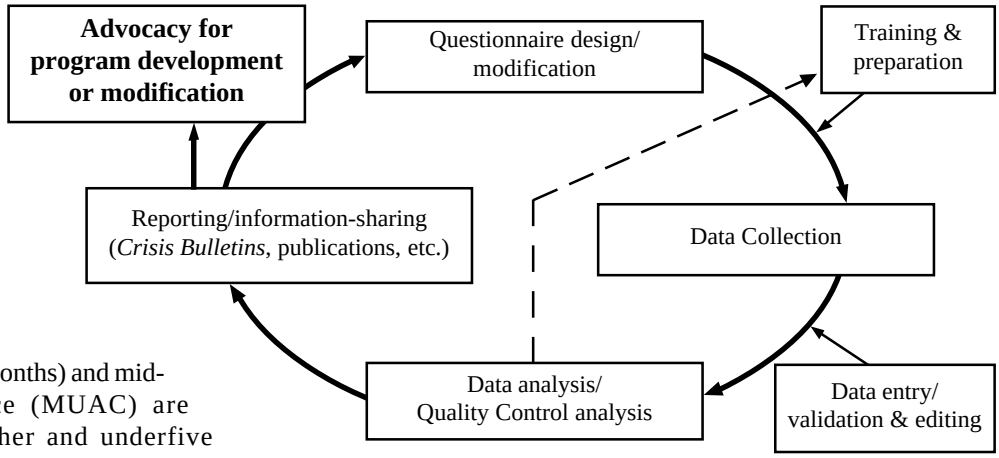


Figure 3. The nutrition surveillance process



children younger than 24 months) and mid-upperarm circumference (MUAC) are measured from the mother and underfive child(ren). Blood samples are collected from a random sub-sample of children and mothers by finger prick to measure hemoglobin concentration using the *HemoCue* device (Angelholm, Sweden).

HKI employs several mechanisms to ensure that the data are collected properly. The survey teams are carefully selected and trained and a field supervisor regularly supervises their work. In addition, a quality-control (QC) team makes random, unannounced visits on a sub-sample of the households that were already visited by a regular field worker. The data collected by the quality-control team are compared with those of the field worker, and the differences in observations are discussed with the fieldworkers before they embark on a new round of data-collection.

Data entry is conducted using SPSS Data Entry Builder for Windows version 1.0. During data entry, validity of values are checked automatically and, after data entry, further checks on the data entered are performed. Data analysis is conducted using SPSS 7.5 for Windows.

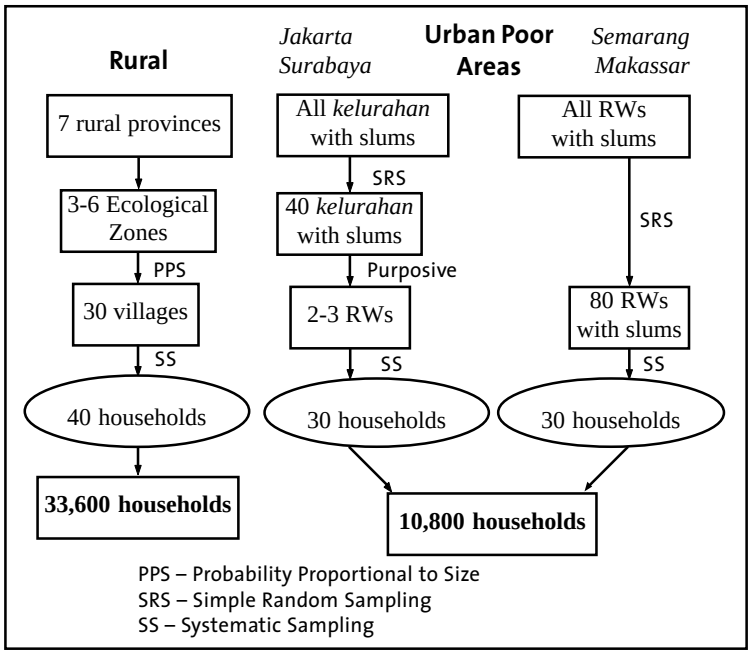
A special report (*Crisis Bulletin*) is prepared every month with the most up-to-date information on the nutrition/health situation. The information is shared with both local and international audiences to assist government and other organizations to develop or revise nutrition-related programs.

Through its work with government and NGO counterparts in Bangladesh and Indonesia, HKI/Asia-Pacific has become a leader in operating and using nutrition surveillance systems. In Indonesia, the NSS has been used locally and internationally to monitor the health and nutritional impact of the economic crisis. The NSS works with the DAI Food Policy Support Group and the International Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS) initiative and provides data to the World Health Organization's (WHO) global anthropometric database. The NSS is also now well positioned to serve as the framework to monitor a variety of development programs in Indonesia and other Asia-Pacific countries.

Conclusions and Recommendations

- The HKI nutrition surveillance systems have been useful tools to monitor nutritional status over time, to evaluate the nutrition and health impact of national or sub-national events such as economic crises and natural disasters, and to monitor development programs and conduct special surveys.
- Using the advanced technology that is available, surveillance systems must be comprehensive and innovative in the future in order to monitor the complex and rapidly changing situations occuring in the world.
- The NSS can be used as a framework to monitor development programs and to provide insight into other sectors of development.

Figure 4. Sampling framework for the HKI/GOI NSS.



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Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

I N D O N E S I A

Year 3, Issue 1
August 2001

CRISIS BULLETIN

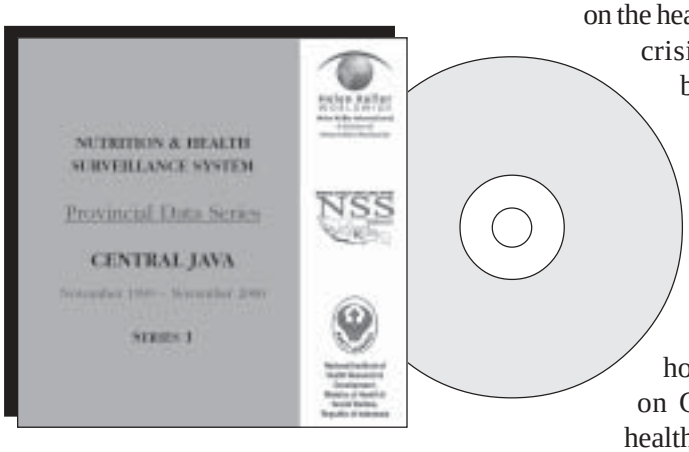
– INDONESIA IN TRANSITION –

Decision-Making during Decentralization: New Role of the Nutrition and Health Surveillance System (NSS)

In response to a directive of the Government of Indonesia to decentralize program management and resource allocation, the NSS is making data available at the provincial level. The initiative is a novel approach to enable program monitoring and decision making at the local level, while maintaining high quality across the 12 NSS data collection sites. Further strengthening of the existing skills in data analysis, data interpretation and converting information into action may be needed to best implement this new approach.

A common goal of nutrition surveillance systems is that the data is used to develop programs and to prioritize resources in the areas where the information has been collected. A number of surveillance systems have attempted to achieve this goal over the past 10 years, but success has been varied. These initiatives faced a number of common constraints, including limitations of the surveillance system itself, limitations in the decentralization process, limitations in technical capacity at the sub-national level, and/or limitations in effectively interpreting results and applying the results to programs.[1] Thus, the role of local government and communities in collecting and using information to design and implement programs is still commonly identified as a weakness of most information systems.

A recent directive from the government to decentralize decision-making and resource allocation presents new opportunities and challenges for using data at the local level in Indonesia. Building on the success in using data to focus action on the health impacts of the economic crisis,[1] the NSS has recently begun to encourage and assist provinces in using data to make decisions about programs and to allocate resources for health and nutrition. This bulletin describes these new activities, including how the NSS is sharing data on CDROMs with provincial health officials.



[1]Asian Development Bank-International Food Policy Research Institute (ADB-IFPRI, 2000). *Attacking the Double Burden of Malnutrition in Asia: A Synthesis of Findings from the ADB-IFPRI Regional Technical Assistance Project 5824 on Nutrition Trends, Policies and Strategies in Asia and the Pacific*. (Draft Report) Washington, June 2000.

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NSS INITIATIVES

Data sharing

The NSS is a source of information for helping health and nutrition program managers at the province and district level to learn about the health and nutrition situation of their working area, to monitor the changes in health and nutritional status of their population over time, and to assess and monitor ongoing health and nutrition-related programs. The NSS has developed CDROMs for each of the NSS provinces with key information and is encouraging the provincial health staff and their counterparts (local research institutions) to participate in analysis of the data. In addition to the data, the CDROM also contains a copy of the public access statistical analysis software *EpiInfo* and manuals for the software and for the dataset in *Bahasa Indonesia*.

The data on the CDROM for each province includes indicators on nutrition status (outcomes), determinants of malnutrition and program coverage of several health programs (Box 1). The nutrition outcome indicators in the dataset provide an opportunity to discuss the consequences of malnutrition with decision-makers, communities and health staff, and can be used to advocate for nutrition in provincial and district planning. These indicators can also be used to monitor the changes in nutritional status over time and to better understand the impact of development programs in the particular areas. Several indicators of the determinants of malnutrition were also included in the provincial dataset. This information might be used to better understand and explain to health workers and communities why malnutrition exists in the site and to identify groups in their population that might be more vulnerable to malnutrition. Some of these indicators, when monitored overtime, can also reflect the impact of ongoing health programs. Finally, indicators of some ongoing programs were also included on the CDROM. These indicators can help to show that nutrition programs are important, can encourage health staff to review coverage and other aspects of their ongoing programs, allow them to monitor changes in their programs over time, and help them to better understand how surveillance can be practical and programmatic.

Using the NSS to guide decisions about nutrition, health and agriculture

The goal of these new NSS activities is to be able to support the new role of the provinces and districts in being responsible for program and resource decision-making in their areas. At the provincial level in Indonesia, an inter-sectoral food and nutrition provincial team called the *Tim Pangan dan Gizi* (TPG) will be encouraged to use the results from the NSS to initiate or modify health and nutrition programs and advocate for allocation of resources to nutrition and health programs. This group will be able to feed information back into the surveillance process so that the NSS could collect additional information on specific topics/programs as necessary. The TPG will also be encouraged to engage local communities in the NSS by sharing and discussing results (Box 2). Additionally, the TPG might play a role in linking the different ongoing information

Box 1: Variables included in the CDROMs

Locator information
Zone, district, subdistrict
Date of visit

Nutritional status
Child age
Sex
Moderate and severe wasting
Moderate and severe stunting
Moderate and severe underweight
Anemia
Maternal age
Maternal wasting or overweight
Maternal anemia, including during pregnancy

Determinants of malnutrition
Breast feeding status
Child diarrhea
Source of drinking water
Place to defecate
Parents' education
Parents' occupation
Household/family size and composition

Program-related
Child receipt of VAC in past 6 months
Knowledge of vitamin A-rich foods
Deworming
Salt iodization
Posyandu participation
Immunization status

systems and in designing the type of information systems that will be needed when the decentralization is fully operationalized.

Provincial and community participation in the NSS

To encourage ownership of the NSS by the provincial and district health managers, they will be more involved in the planning of the NSS. The provincial health officers will take the lead to develop plan of actions for the implementation of the NSS. Through this planning, they will be able to comment about sampling and representation of the NSS in their province, add or modify questions in the questionnaire that are of interest to them, and link the NSS with other operations, programs or monitoring schemes as appropriate. Being more involved in the planning stage of the NSS will also allow better linkage between the availability of information to make decisions for budget requests and allocations within and between health, agriculture and other sectors.

In addition to being more involved in planning the NSS, government and non-government personnel will be encouraged to join the NSS survey teams when they conduct data collection and supervision. The independence of the NSS survey teams for data collection and quality control will be maintained, but interested provincial, district and sub-district staff in health and related fields will be invited to accompany the survey teams in the field to learn about interviewing techniques, how random households are selected, and other aspects of the data collection process.

Role of the central government

The new approach of the NSS requires that the central oversight of the surveillance system is maintained in order to ensure the high quality of the data and the similarity of collecting them in the 12 sites (4 urban poor areas and 8 rural provinces). Through this central oversight of the NSS, the central government will also be able to monitor the progress of the decentralization process and will be able to identify where additional support or efforts may be needed. The central government can also share successes and lessons learned from this initiative within Indonesia and across borders. This plan answers the challenge of being able to operate a simple system for planning and monitoring at the local level and still have the opportunity for in-depth analyses at the central level and with research or university collaborators.

Box 2: Community Participation in Nutrition Surveillance

The participation of communities in programs that improve their health and well-being was accepted at the Alma Ata Conference in 1974. As a result, development organizations, including donors and UN agencies such as the World Bank and UNICEF, have shifted their development approach to ensure greater community participation in the design, implementation and evaluation of programs aimed at improving health and nutrition. Experience to date shows that involving communities is more difficult in practice than in theory; however, the number of programs that are being implemented efficiently and on a large-scale with genuine community involvement is growing.

At Alma Ata, food and nutrition initiatives were identified as one of the main priorities for achieving greater community participation in development. As part of these initiatives, the importance of using data to develop, formulate and monitor programs and policies to improve health and nutrition was widely accepted.

RECOMMENDATIONS

- In Indonesia, the NSS should continue to be used to monitor the recovery to the Asian economic crisis, to assess and monitor regional differences in nutrition and health, and to provide central oversight on the progress of decentralization.

- In order to support the use of data for decision making at local level, an interactive capacity development package for provincial and sub-provincial staff and potentially MSc students should be developed that will help them to 1) analyze data, 2) interpret results, and 3) translate and present results into messages for action

- Complementing the existing information systems, the NSS should continue to transfer knowledge on the NSS so that it can be adopted by autonomous districts in the future.

- Ways for obtaining greater involvement of the community in nutrition surveillance should and will be explored.

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I N D O N E S I A

Year 4, Issue 3
January 2002

Provincial Findings
Nov 1998 – Aug 2001
Issues 1-13

CRISIS BULLETIN

– INDONESIA IN TRANSITION –

Nutrition and Health Surveillance in urban slums of Semarang

Key results for the period: Feb 1999 – Aug 2001

In 1995, the HKI/GOI Nutrition and Health Surveillance System (NSS) was started in Central Java. After the economic crisis hit Indonesia, it was expanded to other rural as well as urban areas of the country in order to primarily monitor the impact of the crisis on the health and nutrition of the population. As such, it has enabled the Government of Indonesia and its international, national and local partners to prioritize and design actions for limiting the potentially severe impact of the crisis on the population. As of early 2001, Indonesia began a rapid process of decentralization and NSS data have been made available to each of the participating provinces in order to facilitate the identification of priority areas and problems and to enable independent monitoring of programs conducted. This bulletin reports findings for urban slum areas of Semarang in the period Feb 1999 – August 2001.

Wide use of NSS data

In addition to the use of the NSS data for planning and monitoring programs, they are now also being made available for comparisons between countries and for other kinds of analyses, such as analyses of correlations with economic or climate trends in order to learn more about health and nutrition in relation to such regional and global changes.

Data collection in Semarang

For each round of NSS data collection, a new sample of households is selected. In Semarang, the following steps are taken to select 2,400 households per round. *Rukun warga*, or RWs, (sub-village level administrative units with a population of 3,000-5,000) with slums are identified, from which 80 are randomly selected. From each RW, 30 households with underfive children are then selected by purposive sampling to select the poorest of the poor households.

Data are collected using a questionnaire with precoded answers, from mothers and their underfive children. Weight, height and mid-upper-arm circumference are measured, and from a random subsample, blood is collected by finger prick for assessment of hemoglobin concentration.

Findings presented

In this bulletin, data are presented on a selection of indicators of performance of national programs (salt iodization, vitamin A capsule distribution, immunization, posyandu attendance), feeding practices (exclusive breastfeeding and vitamin A intake from retinol-rich foods), nutritional status (anemia and anthropometry), and morbidity (diarrhea). For each indicator, its meaning, the way the information was collected, and the findings, both in general as well as in Semarang, are described. While the scope of this series is limited to presenting the findings, they serve to facilitate a discussion on the immediate and underlying causes of problems and ways to address these.

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Fig 1. Households with adequately iodized salt (>30 ppm, using test kit)

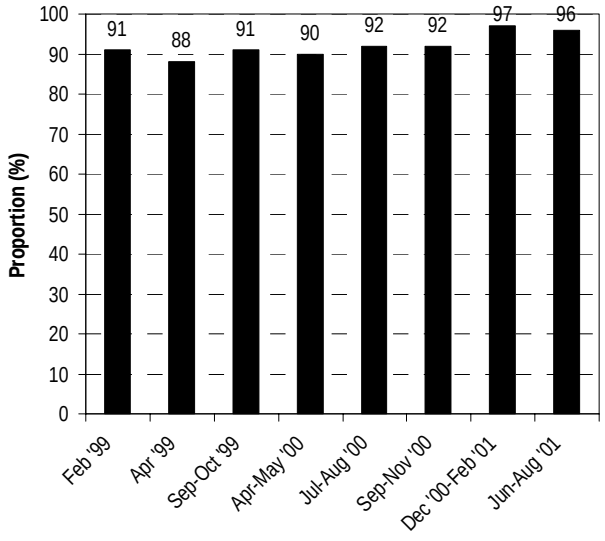


Fig 2. Children aged 0-5 mo exclusively breastfed

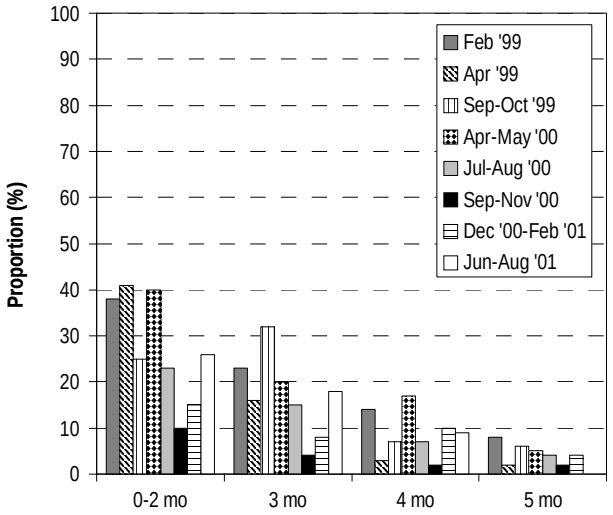
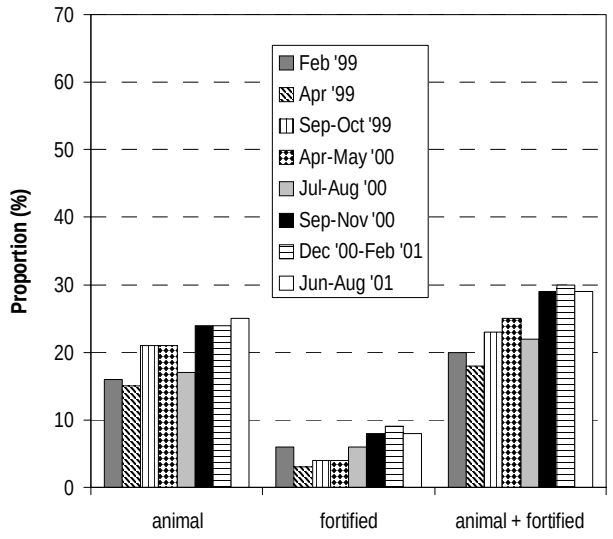


Fig 3. Mothers' preformed vitamin A intake >110 RE/d



Salt iodization (SEE FIG. 1)

What is indicated. Iodine deficiency has severe consequences. It reduces intellectual development and can even cause cretinism. The most prevalent clinical sign of iodine deficiency is goiter. The preferred way to prevent iodine deficiency is by iodizing salt.

Data collection method. A rapid-test kit was used to examine whether the cooking salt available in the household was adequately iodized (>30 ppm).

Findings. *General* – The availability of adequately iodized salt increased between 1999 and 2001 and, in some sites, >95% of households use adequately iodized salt. *Semarang* – The proportion of households with adequately iodized salt was among the highest found.

Exclusive breastfeeding of infants aged <6 months (SEE FIG. 2)

What is indicated. Infants should be exclusively breastfed until the age of 6 months because of the nutritional and health benefits. However, many mothers introduce their infants to other liquids and/or solids before the age of 6 months for various reasons.

Data collection method. The mother was asked whether her child was still breastfed, and if so, whether he/she already received other liquids or foods.

Findings. *General* – Throughout the country, infants are introduced to other liquids and food at a very early age. At 4 months of age, <40% was exclusively breastfed. This proportion was lower in urban than in rural areas, and the general trend is for a further decline. *Semarang* – The proportion of infants of different ages who were exclusively breastfed was one of the lowest observed.

Preformed vitamin A intake, mothers (SEE FIG. 3)

What is indicated. Vitamin A deficiency increases morbidity and mortality and can cause night blindness and xerophthalmia. Food sources of vitamin A are green, red and orange vegetables and fruits, animal foods such as egg, butter, liver and milk, and fortified foods such as margarine, fortified noodles and complementary foods. Vitamin A is more readily available from animal foods and fortified foods and therefore their consumption should increase.

Data collection method. Mothers were asked what they ate during the previous day and vitamin A intake was estimated semi-quantitatively (24-VASQ method). We calculated the proportion of mothers that consumed more than 110 RE/d from retinol-rich foods (animal foods and fortified foods), which is equivalent to one chicken egg, and is

approximately 1/5 of the recommended daily allowance (RDA) for vitamin A for (non-breastfeeding) women.
Findings. *General* – Among mothers, retinol came mainly from animal foods (eggs, fish, chicken, liver) rather than from fortified foods and 10-45% of mothers consumed at least the equivalent of one egg/day. *Semarang* – The proportion of mothers that consumed at least 110 RE/d from animal foods has increased but is still relatively low.

Preformed vitamin A intake, children aged 12-23 months (SEE FIG. 4)
What is indicated. See above.
Data collection method. Mothers were asked what their child ate during the previous day, excluding breast milk, and a semi-quantitative estimate of vitamin A intake was made. For children, 110 RE is nearly 1/3 of their RDA.
Findings. *General* – Among children in urban areas, fortified foods were a more important source of retinol than animal foods. And in all areas, fortified foods were a much more important source of retinol for children than for their mothers. The main vitamin A-fortified foods consumed by children are milk (powdered milk and infant formula), complementary foods (porridges) and fortified noodles. *Semarang* – Slightly more than 40% of children obtained at least 1/3 of their RDA from retinol-rich foods and the proportion is increasing.

Monthly *posyandu* attendance (SEE FIG. 5)
What is indicated. The *posyandu* is the integrated health post at sub-village level that is conducted every month and which provides a number of services including growth monitoring, immunization, vitamin A capsule distribution and family planning services. Mothers are encouraged to bring their child every month for weighing.
Data collection method. Mothers were asked when their child had last been to the *posyandu*. The proportion that had visited a posyandu <4 weeks before the interview was calculated for children aged 0-11, 12-23, and 24-35 months.
Findings. *General* – The lowest attendance in the last month was 30-50%, while in some sites, it was as high as 80-90%. *Semarang* – Monthly attendance was good, ranging between 65-80%.

Vitamin A capsule receipt, children aged 6-59 months (SEE FIG. 6)
What is indicated. Vitamin A deficiency increases morbidity and mortality and can cause night blindness and xerophthalmia. As long as the diet does not supply enough vitamin A, high-dose vitamin A capsules need to be distributed. Since the

Fig 4. Children's (12-23 mo) preformed vitamin A intake > 110 RE/d

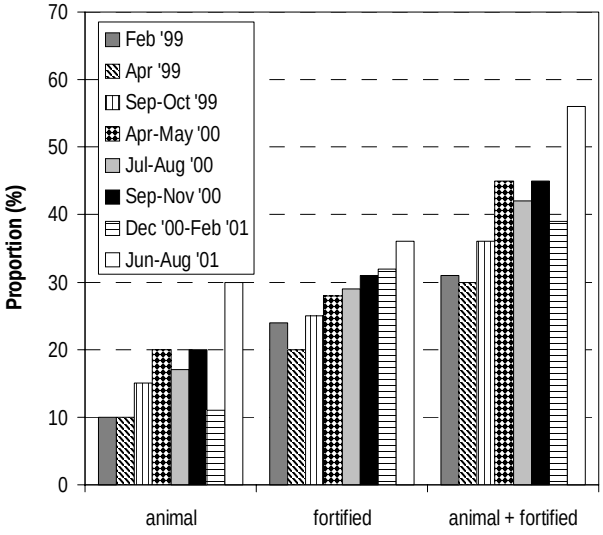


Fig 5. Children's (0-35 mo) monthly attendance of posyandu

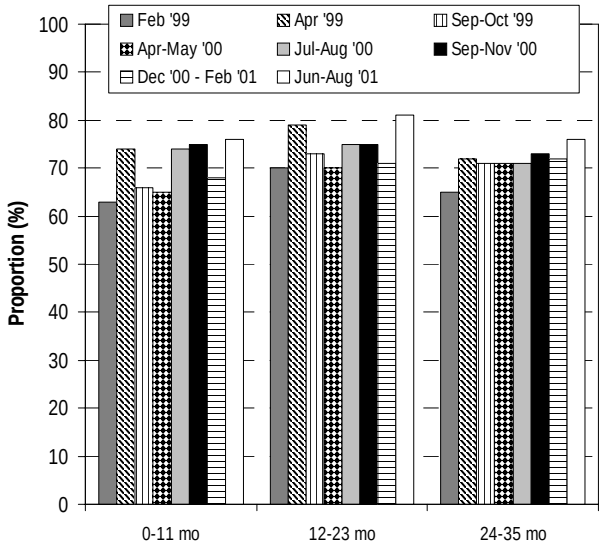


Fig 6. VAC coverage among 6-59 mo old children

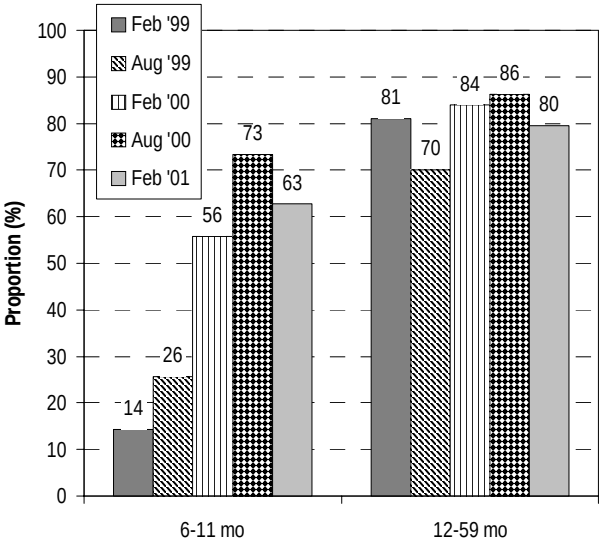


Fig 7. VAC coverage among mothers after delivery in 12 months prior to interview

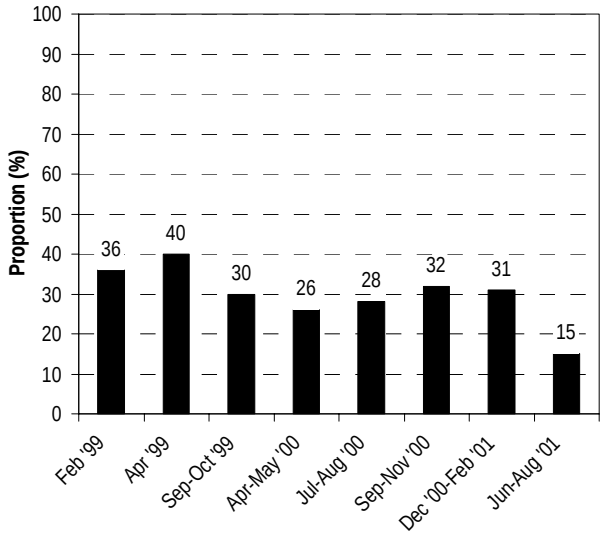


Fig 8. Children 12-17 mo old fully immunized

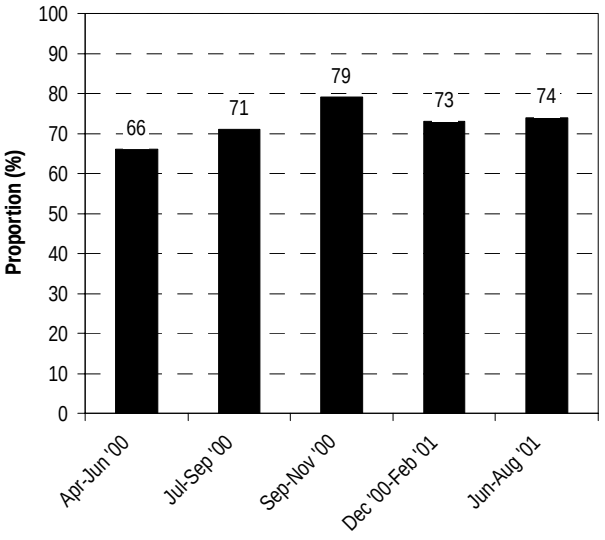
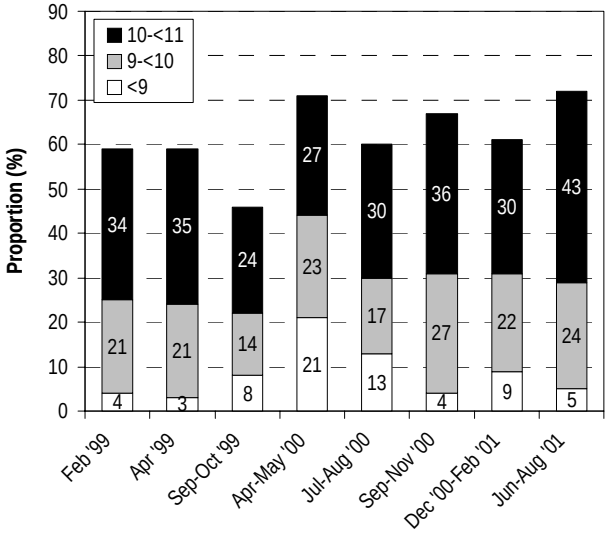


Fig 9. Anemia among children aged 12-23 mo by Hb-level (g/dL)



1970s, children aged 12-59 months should receive 200,000 IU twice per year. And since 1999, infants aged 6-11 months should receive 100,000 IU. The minimum target for coverage is 80%.

Data collection method. Mothers were asked whether the child received a vitamin A capsule in the last distribution month (Feb/Aug) and the child's age at the start of that month was calculated based on birth date.

Findings. *General* – Coverage among children aged 6-11 months has markedly increased, but in most sites, it is still lower than among children aged 12-59 months. Coverage among children aged 12-59 months has generally remained stable. *Semarang* – Coverage among children aged 6-11 months has been increasing very rapidly and the good coverage among all children should be maintained.

Vitamin A capsule receipt, women within one month after delivery (SEE FIG. 7)

What is indicated. Vitamin A deficiency is also highly prevalent among breastfeeding mothers, which has consequences for herself and her child. Since 1991, all women should receive a vitamin A capsule (200,000 IU) within six weeks after delivery.

Data collection method. Women were asked whether they had received a vitamin A capsule after the birth of their last child. Data were analyzed for women with a child younger than 12 months of age.

Findings. *General* – Achieving and maintaining good coverage proves very difficult. The high coverage that had been achieved in Central Java and Semarang in 1996-1997 decreased markedly between 1999 and 2001. By early 2001, the highest coverage among all sites was approximately 30% and the lowest, 10%. *Semarang* – The high coverage achieved in 1999 is not easy to maintain, but coverage in Semarang is still among the highest found.

Immunization status, children aged 12-17 months (SEE FIG. 8)

What is indicated. During their first year of life, children should be immunized against tuberculosis (BCG); diphtheria, tetanus and pertussis (DTP, 3 times); polio (3 times); hepatitis; and measles. Measles is the last immunization to be received and should be given between 9-12 months of age.

Data collection method. From 2000, the mother was asked whether each immunization had been received for each child.

Findings. *General* – In some sites, only 50-60% had been completely immunized by the age of 12-17 months, while in other areas, 90-95% was fully immunized. The minimum coverage target is 80%. *Semarang* – The proportion of fully immunized

children, 70-80%, was lower than what was observed in rural Central Java (80-90%).

Child anemia, 12-23 months old

(SEE FIG. 9, P4, BOTTOM)

What is indicated. Anemia prevalence among young children is a very sensitive indicator for changes in the quality of the diet, because diet is the only factor that really affects their hemoglobin concentration. The main cause of anemia in most of Indonesia is iron deficiency. The consequences of iron deficiency include reduced psychomotor and mental development, reduced immunity, and lethargy.

Data collection method. Blood was obtained by finger prick and its hemoglobin concentration (Hb, g/dL) was assessed using a HemoCue®.

Findings. *General* – Anemia prevalence among young children is alarmingly high both in urban and rural areas. This calls for immediate action by means of fortified complementary foods and iron/multi-micronutrient supplements. Prevalence of Hb<9 g/dL was relatively low (5-15%) in Central Java and West Sumatra, and high (15-25%) in Jakarta, East Java and Lombok. *Semarang* – The prevalence of child anemia increased in early 2000 and is only decreasing very slowly.

Maternal anemia, non-pregnant mothers

(SEE FIG. 10)

What is indicated. Anemia increases lethargy, reduces productivity and is an important cause of maternal mortality. While anemia among women is also largely due to iron deficiency, dietary intake is not the only cause. Other factors, such as receipt of iron tablets during pregnancy and family planning method used, also affect their Hb.

Data collection method. Same as among children.

Findings. *General* – Anemia levels in rural areas have not changed very much, while in Jakarta and Surabaya, a steady decline has been observed since early 1999. *Semarang* – The pattern of prevalence through time is very similar to that observed among children aged 12-23 months and it is still relatively high.

Maternal wasting (SEE FIG. 11)

What is indicated. Among mothers, the prevalence of a low bodyweight compared to height (wasting) is a good indicator for shortage of food and changes in food availability. The latter can be affected by crises as well as by seasonal changes.

Data collection method. Maternal wasting is defined as a Body Mass Index (BMI) below 18.5 kg/m^2 (<17 is severely wasted), which is calculated by dividing bodyweight by height-squared.

Findings. *General* – Prevalence of maternal wasting was highest in urban slum areas in early 1999

Fig 10. Anemia among non-pregnant women (Hb<12 g/dL)

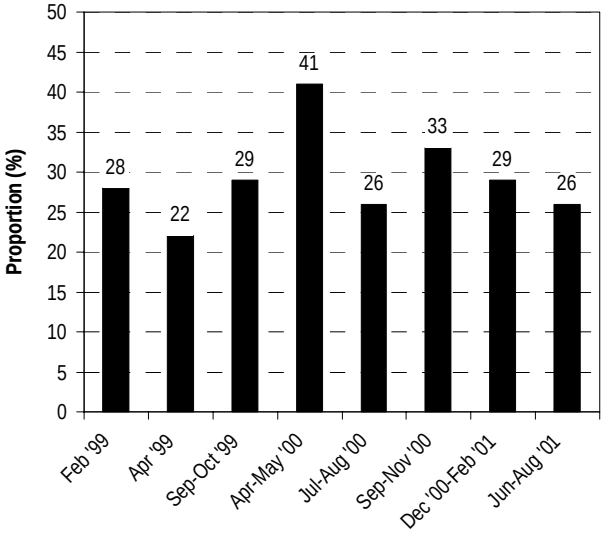


Fig 11. Wasting among mothers (BMI <18.5 kg/m^2)

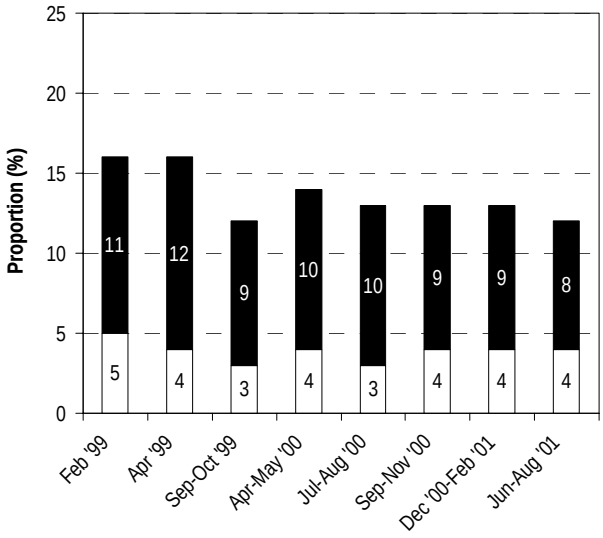


Fig 12. Wasting among children aged 12-23 mo (WHZ<-2 SD)

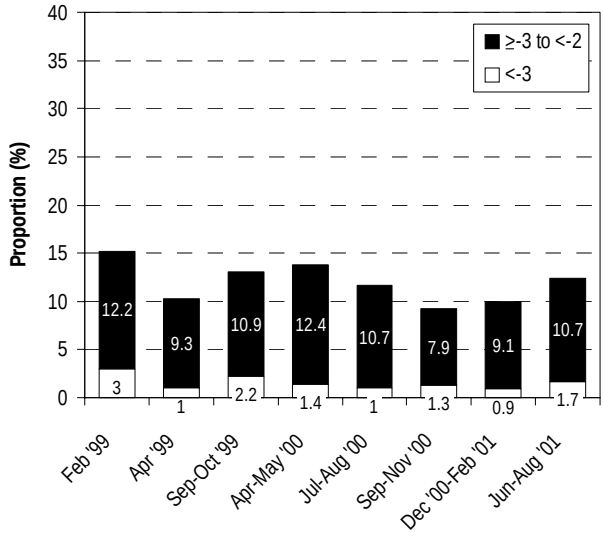


Fig 13. Stunting among children aged 12-23 mo (HAZ<-2 SD)

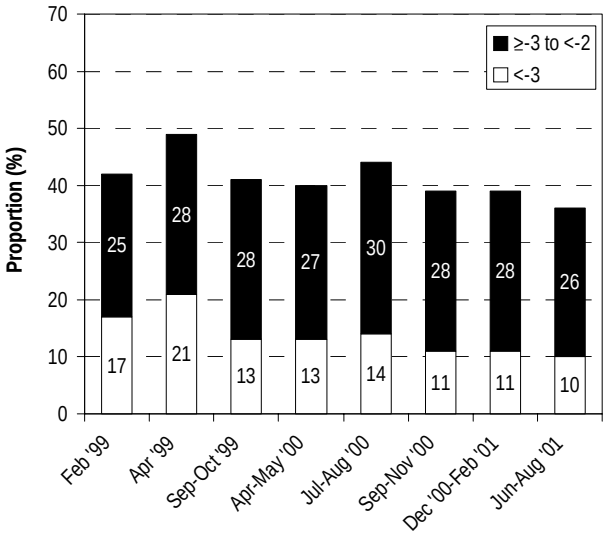


Fig 14. Underweight among children aged 12-23 mo (WAZ<-2 SD)

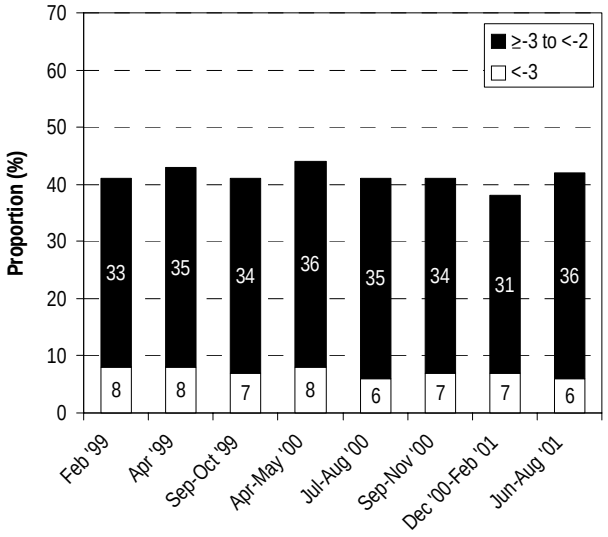
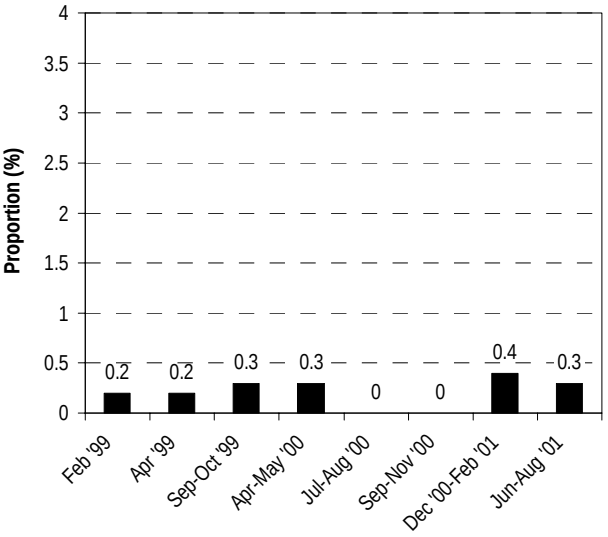


Fig 15. Maternal diarrhea in week prior to interview



(5%<17, and 15% between 17-<18.5) and has since declined, which indicates a process of recovery from the crisis. *Semarang* – It declined throughout 1999 and 2000.

Child wasting, 12-23 months old

(SEE FIG. 12, P5, BOTTOM)

What is indicated. Among young children, wasting (low weight for height) can result from both a decrease in the quantity of food consumed as well as from an increase in the incidence or severity of disease. A prevalence of wasting of 10-15% calls for immediate attention.

Data collection method. Here, wasting is defined as a Z-score for weight-for-height that is <-2 standard deviations (SD) of the median of the reference population (NCHS).

Findings. *General* – In early 1999, the prevalence of childhood wasting was very high, but since then, it has decreased in most areas. In most places, the prevalence of Z-scores <-3 SD is now <2% and <-2 SD is <18%. *Semarang* – The prevalence of wasting was low in comparison to that among the same age group living in other urban slums.

Child stunting, 12-23 months old (SEE FIG. 13)

What is indicated. Stunting (too short stature for age) results from consumption of a diet of inadequate quality for a prolonged period of time and it takes a long time to reverse a worsening trend. A prevalence of 30-39% is classified as high and of more than 40%, as very high.

Data collection method. Here, stunting is defined as a Z-score for height-for-age that is <-2 SD of the median of the reference population (NCHS).

Findings. *General* – The prevalence of stunting was lowest in Jakarta, Surabaya, West Java, Lampung and South Sulawesi; highest in Lombok; decreased in Central Java and Semarang; and increased in Makassar. *Semarang* – The prevalence of stunting is lower than in rural Central Java and, similar to what is observed there, it seems to be declining.

Child underweight, 12-23 months old

(SEE FIG. 14)

What is indicated. Underweight (too low weight-for-age) can be the result of wasting (sudden low weight), the cause of which is usually recent and fairly clear, as well as stunting (low weight because of short stature), which takes much longer to address. The growth charts on the Indonesian health card for underfive children monitor the weight-for-age changes of the individual child over time.

Data collection method. Here, underweight was defined as a Z-score for weight-for-age that is <-2 SD of the median of the reference population (NCHS).

Findings. *General* – The prevalence of underweight was lowest in Central Java; highest in Jakarta, Lombok and Makassar; and decreased most in Jakarta, Surabaya and Central Java. *Semarang* – The prevalence of underweight has not changed and is slightly higher than in rural Central Java.

Maternal diarrhea (SEE FIG. 15, P6, BOTTOM)
What is indicated. Diarrhea is a form of morbidity that is relatively easy to monitor, because it occurs relatively frequently and its definition is easily understood by respondents. Diarrhea prevalence primarily reflects hygiene conditions both inside the house as well as in the neighborhood and of (street) food consumed.
Data collection method. Respondents were asked whether they suffered from diarrhea during the previous 7 days.
Findings. *General* – The prevalence of diarrhea among mothers ranged from <0.5% to 3%, decreased in some sites, but remained the same in most. *Semarang* – The prevalence of diarrhea among mothers was the lowest observed, together with that in rural Central Java.

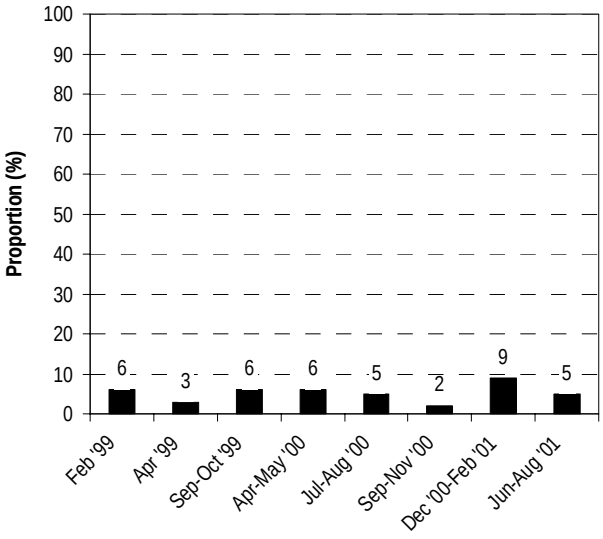
Child diarrhea, 12-23 months old (SEE FIG. 16)
What is indicated. See maternal diarrhea above. Diarrhea is generally more prevalent among young children and generally higher in urban slums than in rural areas because of the higher concentration of people and poorer conditions for waste disposal, including open sewage.
Data collection method. Mothers were asked whether their child suffered from diarrhea during the previous 7 days.
Findings. *General* – The prevalence of diarrhea among children aged 12-23 months was approximately six times higher than among mothers; was lowest in Central Java (<10%); and highest in West Sumatra, Lombok and Makassar (15-25%). *Semarang* – The prevalence of diarrhea among children was among the lowest observed.

CONCLUSIONS

General

The impact of the crisis on nutrition and health has been severe, as shown by the high prevalence of wasting and very high prevalence of anemia among both mothers and young children. From mid-1999, the prevalence of these problems has started to decrease in most areas, indicating that recovery from the crisis has commenced, but special programs are still necessary. And it is important to realize what number of people is affected, depending on the size of the population of a province or urban slums.

Fig 16. Diarrhea among children aged 12-23 mo in week prior to interview



Programs for limiting micronutrient deficiencies, such as vitamin A capsule (VAC) distribution, have been relatively well maintained. VAC coverage has markedly increased among the new target group of children aged 6-11 months, but needs to be much higher among mothers within one month after delivery. In some areas, the proportion of fully immunized children is still well below the minimum target of 80%. The use of iodized salt is still increasing. The very high prevalence of anemia, particularly among young children, needs to be combated with supplements and fortified foods, because foods naturally rich in iron cannot bridge the current gap between needs and intake. And reasons for the very early introduction of liquids and/or complementary foods to breastfeeding infants need to be explored urgently in order to reverse the trend towards less and less exclusive breastfeeding of infants younger than 6 months of age.

The wide range of data available from the NSS should be exploited to the benefit of Indonesia's population and its use is therefore facilitated by making its data available on CDROM. Workshops are needed to stimulate and increase the capacity for using these data, and discussing and interpreting the findings presented in this bulletin series.

Semarang

In the slums of Semarang, many health programs are performing above average (vitamin A capsule distribution, salt iodization, *posyandu* attendance) and sometimes better and sometimes slightly less than in rural Central Java. Particular attention needs to be paid to reversing the trend for less and less exclusive breastfeeding from a very young age and to developing programs to reduce anemia among children as well as women.

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Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

I N D O N E S I A

CRISIS BULLETIN

– INDONESIA IN TRANSITION –

Year 4, Issue 10
January 2002

Provincial Findings
Nov 1998 – Aug 2001
Issues 1-13

Nutrition and Health Surveillance in rural Central Java

Key results for the period: Nov 1998 – Aug 2001

In 1995, the HKI/GOI Nutrition and Health Surveillance System (NSS) was started in Central Java. After the economic crisis hit Indonesia, it was expanded to other rural as well as urban areas of the country in order to primarily monitor the impact of the crisis on the health and nutrition of the population. As such, it has enabled the Government of Indonesia and its international, national and local partners to prioritize and design actions for limiting the potentially severe impact of the crisis on the population. As of early 2001, Indonesia began a rapid process of decentralization and NSS data have been made available to each of the participating provinces in order to facilitate the identification of priority areas and problems and to enable independent monitoring of programs conducted. This bulletin reports findings for rural Central Java in the period Nov 1998 – Aug 2001.

Wide use of NSS data

In addition to the use of the NSS data for planning and monitoring programs, they are now also being made available for comparisons between countries and for other kinds of analyses, such as analyses of correlations with economic or climate trends in order to learn more about health and nutrition in relation to such regional and global changes.

Data collection in Central Java

For each round of NSS data collection, a new sample of households is selected, as follows. The whole of Central Java is divided into six zones. Per zone, 30 villages are selected by PPS sampling (probability proportional to size, thus larger villages have a larger chance to be selected). Per village, 40 households with at least one underfive child are randomly selected by systematic sampling. For the latter, each village is asked to prepare a list of all households with underfive children. From this list, households are selected based on an interval that is determined by the size of the village. For example, from a village with 200 households with an underfive child, every fifth household would be selected. Per round of data collection, 7,200 households (6 zones x 30 villages x 40 households) are selected from Central Java.

Data are collected using a questionnaire with precoded answers, from mothers and their underfive children. Weight, height and mid-upper-arm circumference are measured, and from a random subsample, blood is collected by finger prick for assessment of hemoglobin concentration.

Findings presented

In this bulletin, data are presented on a selection of indicators of performance of national programs (salt iodization, vitamin A capsule distribution, immunization, *posyandu* [integrated community health post] attendance), feeding practices (exclusive breastfeeding and vitamin A intake from retinol-rich foods), nutritional status (anemia and anthropometry), and morbidity (diarrhea). For each indicator, its meaning, the way the information was collected, and the findings, both in general as well as in Central Java, are described. While the scope of this series is limited to presenting the findings, they serve to facilitate a discussion on the immediate and underlying causes of problems and ways to address these.

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Fig 1. Households with adequately iodized salt (>30 ppm, using test kit)

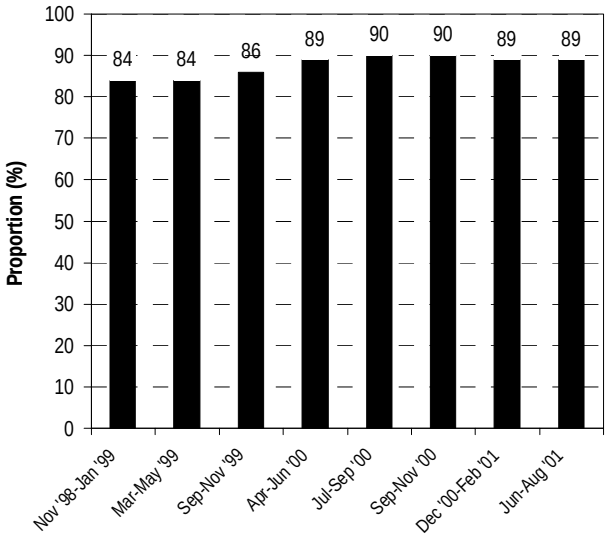


Fig 2. Children aged 0-5 mo exclusively breastfed

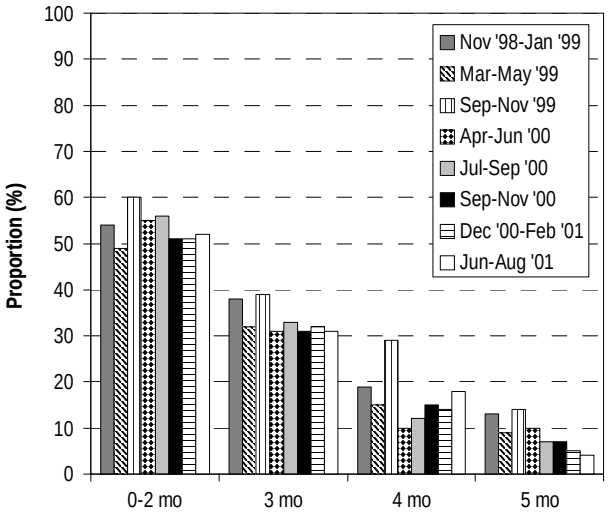
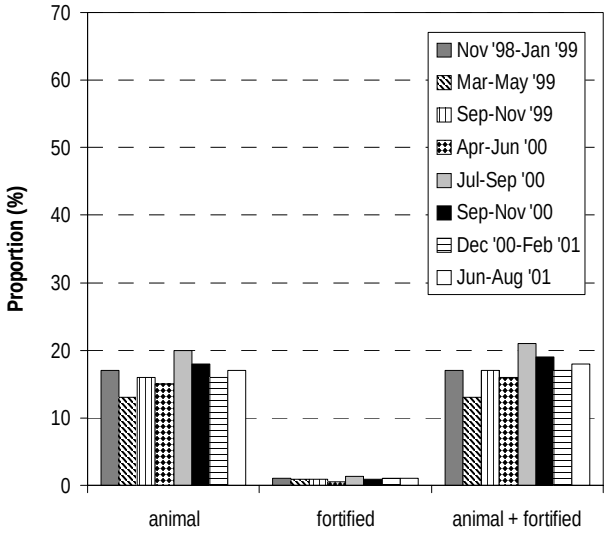


Fig 3. Mothers' preformed vitamin A intake >110 RE/d



Salt iodization (SEE FIG. 1)

What is indicated. Iodine deficiency has severe consequences. It reduces intellectual development and can even cause cretinism. The most prevalent clinical sign of iodine deficiency is goiter. The preferred way to prevent iodine deficiency is by iodizing salt.

Data collection method. A rapid-test kit was used to examine whether the cooking salt available in the household was adequately iodized (>30 ppm).

Findings. *General* – The availability of adequately iodized salt increased between 1999 and 2001 and, in some sites, >95% of households use adequately iodized salt. *Central Java* – The proportion of households with adequately iodized salt was among the highest observed.

Exclusive breastfeeding of infants aged <6 months (SEE FIG. 2)

What is indicated. Infants should be exclusively breastfed until the age of 6 months because of the nutritional and health benefits. However, many mothers introduce their infants to other liquids and/or solids before the age of 6 months for various reasons.

Data collection method. The mother was asked whether her child was still breastfed, and if so, whether he/she already received other liquids or foods.

Findings. *General* – Throughout the country, infants are introduced to other liquids and food at a very early age. At 4 months of age, <40% was exclusively breastfed. This proportion was lower in urban than in rural areas, and the general trend is for a further decline. *Central Java* – The rates of exclusive breastfeeding have been better maintained than in other parts of the country, but are still low.

Preformed vitamin A intake, mothers (SEE FIG. 3)

What is indicated. Vitamin A deficiency increases morbidity and mortality and can cause night blindness and xerophthalmia. Food sources of vitamin A are green, red and orange vegetables and fruits, animal foods such as egg, butter, liver and milk, and fortified foods such as margarine, fortified noodles and complementary foods. Vitamin A is more readily available from animal foods and fortified foods and therefore their consumption should increase.

Data collection method. Mothers were asked what they ate during the previous day and vitamin A intake was estimated semi-quantitatively (24-VASQ method). We calculated the proportion of mothers that consumed more than 110 RE/d from retinol-rich foods (animal foods and fortified foods), which is equivalent to one chicken egg, and is

approximately 1/5 of the recommended daily allowance (RDA) for vitamin A for (non-breastfeeding) women.
Findings. *General* – Among mothers, retinol came mainly from animal foods (eggs, fish, chicken, liver) rather than from fortified foods and 10-45% of mothers consumed at least the equivalent of one egg/day. *Central Java* – The proportion of mothers that consumed at least 110 RE/d from retinol-rich foods is among the lowest observed.

Preformed vitamin A intake, children aged 12-23 months (SEE FIG. 4)
What is indicated. See above.
Data collection method. Mothers were asked what their child ate during the previous day, excluding breast milk, and a semi-quantitative estimate of vitamin A intake was made. For children, 110 RE is nearly 1/3 of their RDA.
Findings. *General* – Among children in urban areas, fortified foods were a more important source of retinol than animal foods. And in all areas, fortified foods were a much more important source of retinol for children than for their mothers. The main vitamin A-fortified foods consumed by children are milk (powdered milk and infant formula), complementary foods (porridges) and fortified noodles. *Central Java* – The proportion of children that obtained at least 1/3 of their RDA for vitamin A from retinol-rich foods is among the lowest observed.

Monthly *posyandu* attendance (SEE FIG. 5)
What is indicated. The *posyandu* is the integrated health post at sub-village level that is conducted every month and which provides a number of services including growth monitoring, immunization, vitamin A capsule distribution and family planning services. Mothers are encouraged to bring their child every month for weighing.
Data collection method. Mothers were asked when their child had last been to the *posyandu*. The proportion that had visited a posyandu <4 weeks before the interview was calculated for children aged 0-11, 12-23, and 24-35 months.
Findings. *General* – The lowest attendance in the last month was 30-50%, while in some sites, it was as high as 80-90%. *Central Java* – Monthly attendance was very high and increased between late 1998 and mid-2000.

Vitamin A capsule receipt, children aged 6-59 months (SEE FIG. 6)
What is indicated. Vitamin A deficiency increases morbidity and mortality and can cause night blindness and xerophthalmia. As long as the diet does not supply enough vitamin A, high-dose

Fig 4. Children's (12-23 mo) preformed vitamin A intake > 110 RE/d

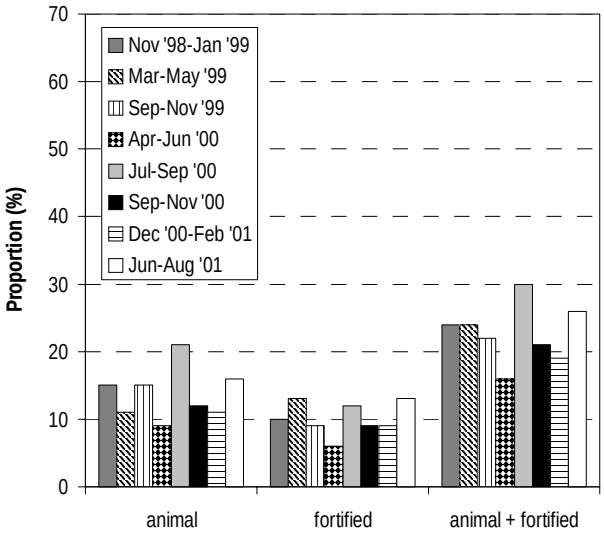


Fig 5. Children's (0-35 mo) monthly attendance of posyandu

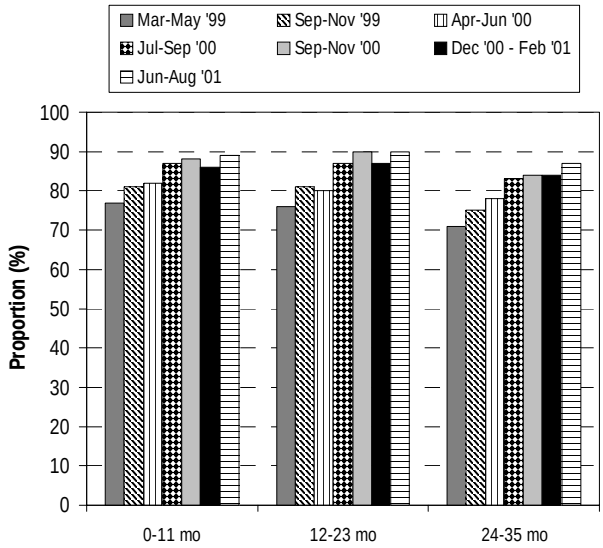


Fig 6. VAC coverage among 6-59 mo old children

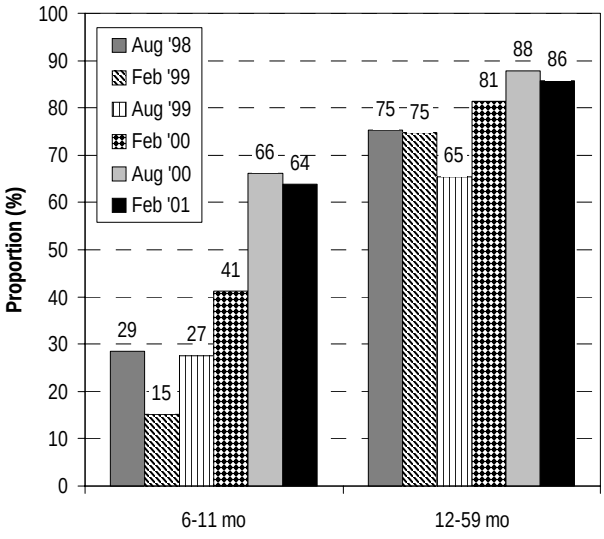


Fig 7. VAC coverage among mothers after delivery in 12 months prior to interview

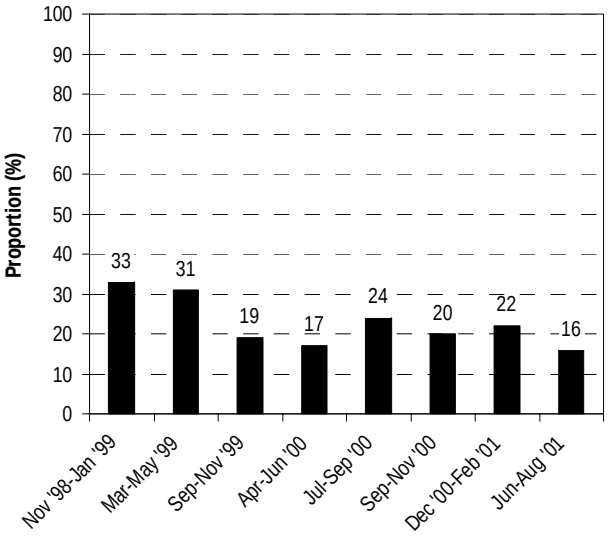


Fig 8. Children 12-17 mo old fully immunized

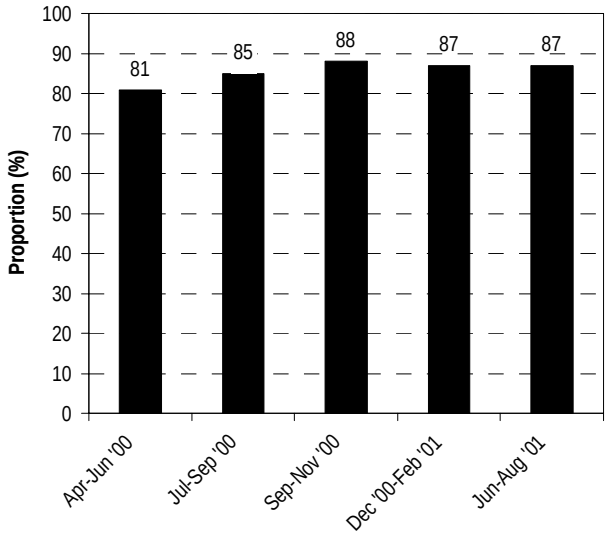
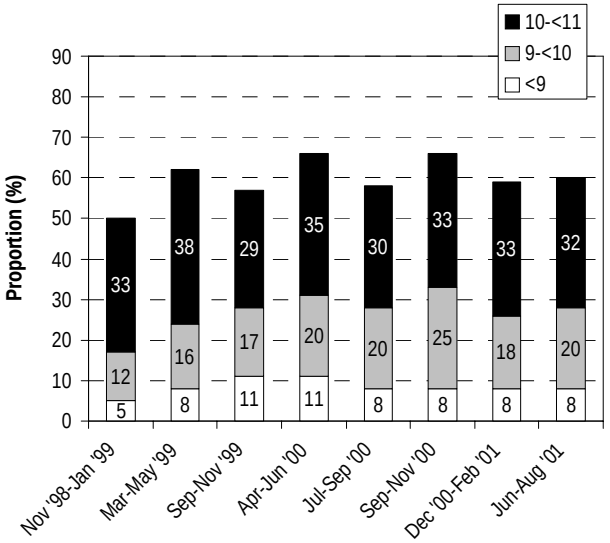


Fig 9. Anemia among children aged 12-23 mo by Hb-level (g/dL)



vitamin A capsules need to be distributed. Since the 1970s, children aged 12-59 months should receive 200,000 IU twice per year. And since 1999, infants aged 6-11 months should receive 100,000 IU. The minimum target for coverage is 80%.

Data collection method. Mothers were asked whether the child received a vitamin A capsule in the last distribution month (Feb/Aug) and the child's age at the start of that month was calculated based on birth date.

Findings. *General* – Coverage among children aged 6-11 months has markedly increased, but in most sites, it is still lower than among children aged 12-59 months. Coverage among children aged 12-59 months has generally remained stable. *Central Java* – Coverage is among the highest observed, but it is still lower among children aged 6-11 months than among children aged 12-59 months.

Vitamin A capsule receipt, women within one month after delivery (SEE FIG. 7)

What is indicated. Vitamin A deficiency is also highly prevalent among breastfeeding mothers, which has consequences for herself and her child. Since 1991, all women should receive a vitamin A capsule (200,000 IU) within six weeks after delivery.

Data collection method. Women were asked whether they had received a vitamin A capsule after the birth of their last child. Data were analyzed for women with a child younger than 12 months of age.

Findings. *General* – Achieving and maintaining good coverage proves very difficult. The high coverage that had been achieved in Central Java and Semarang in 1996-1997 decreased markedly between 1999 and 2001. By early 2001, the highest coverage among all sites was approximately 30% and the lowest, 10%. *Central Java* – Coverage decreased after mid-1999 and is now similar to that in most other rural areas.

Immunization status, children aged 12-17 months (SEE FIG. 8)

What is indicated. During their first year of life, children should be immunized against tuberculosis (BCG); diphtheria, tetanus and pertussis (DTP, 3 times); polio (3 times); hepatitis; and measles. Measles is the last immunization to be received and should be given between 9-12 months of age.

Data collection method. From 2000, the mother was asked whether each immunization had been received for each child.

Findings. *General* – In some sites, only 50-60% had been completely immunized by the age of 12-17 months, while in other areas, 90-95% was fully immunized. The minimum coverage target is 80%. *Central Java* – The proportion of fully immunized children was almost the highest observed.

Child anemia, 12-23 months old

(SEE FIG. 9, P4, BOTTOM)

What is indicated. Anemia prevalence among young children is a very sensitive indicator for changes in the quality of the diet, because diet is the only factor that really affects their hemoglobin concentration. The main cause of anemia in most of Indonesia is iron deficiency. The consequences of iron deficiency include reduced psychomotor and mental development, reduced immunity, and lethargy.

Data collection method. Blood was obtained by finger prick and its hemoglobin concentration (Hb, g/dL) was assessed using a HemoCue®.

Findings. *General* – Anemia prevalence among young children is alarmingly high both in urban and rural areas. This calls for immediate action by means of fortified complementary foods and iron/multi-micronutrient supplements. Prevalence of Hb<9 g/dL was relatively low (5-15%) in Central Java and West Sumatra, and high (15-25%) in Jakarta, East Java and Lombok. *Central Java* – The prevalence of child anemia was lower than in most other sites but is still high.

Maternal anemia, non-pregnant mothers

(SEE FIG. 10)

What is indicated. Anemia increases lethargy, reduces productivity and is an important cause of maternal mortality. While anemia among women is also largely due to iron deficiency, dietary intake is not the only cause. Other factors, such as receipt of iron tablets during pregnancy and family planning method used, also affect their Hb.

Data collection method. Same as among children.

Findings. *General* – Anemia levels in rural areas have not changed very much, while in Jakarta and Surabaya, a steady decline has been observed since early 1999. *Central Java* – Maternal anemia prevalence has been maintained at pre-crisis levels of 20-30%.

Maternal wasting (SEE FIG. 11)

What is indicated. Among mothers, the prevalence of a low bodyweight compared to height (wasting) is a good indicator for shortage of food and changes in food availability. The latter can be affected by crises as well as by seasonal changes.

Data collection method. Maternal wasting is defined as a Body Mass Index (BMI) below 18.5 kg/m^2 (<17 is severely wasted), which is calculated by dividing bodyweight by height-squared.

Findings. *General* – Prevalence of maternal wasting was highest in urban slum areas in early 1999 (5%<17, and 15% between 17-<18.5) and has since declined, which indicates a process of recovery from the crisis. *Central Java* – It decreased after mid-1999.

Fig 10. Anemia among non-pregnant women (Hb<12 g/dL)

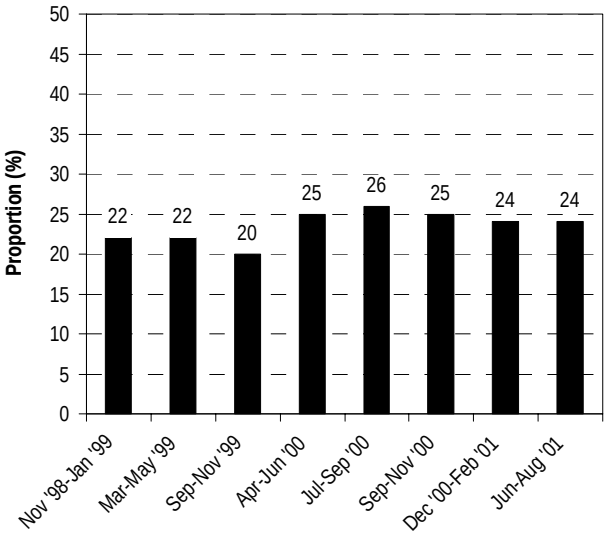


Fig 11. Wasting among mothers (BMI <18.5 kg/m^2)

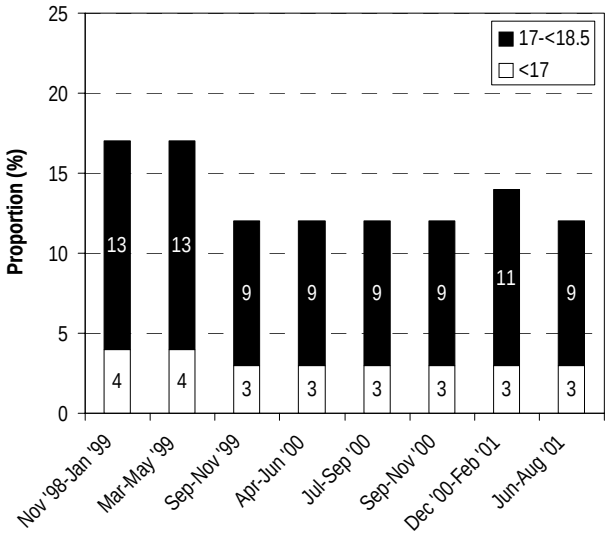


Fig 12. Wasting among children aged 12-23 mo (WHZ<-2 SD)

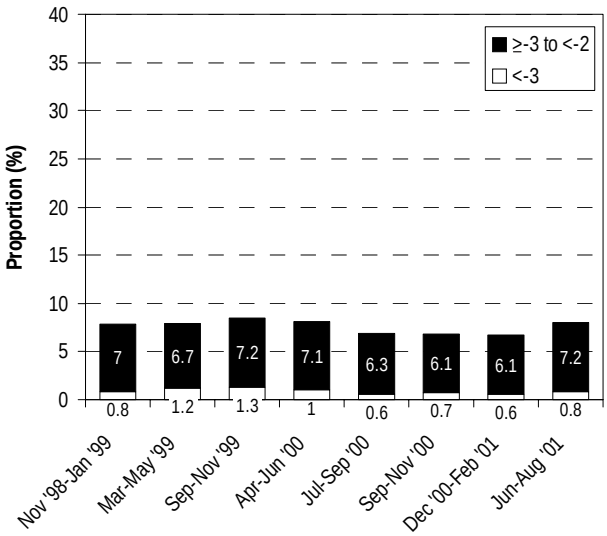


Fig 13. Stunting among children aged 12-23 mo (HAZ<-2 SD)

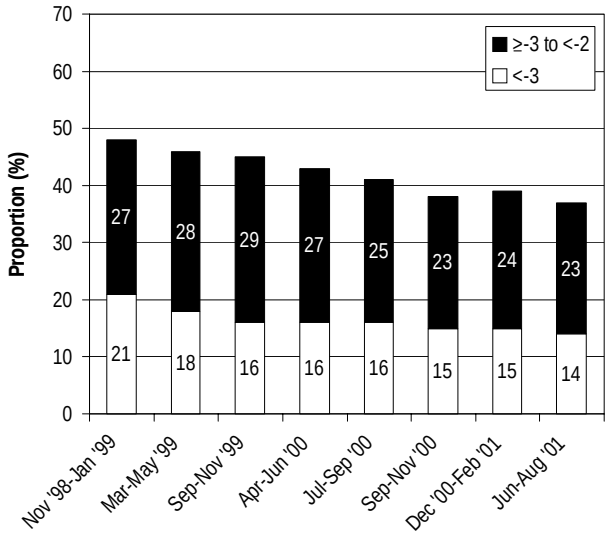


Fig 14. Underweight among children aged 12-23 mo (WAZ<-2 SD)

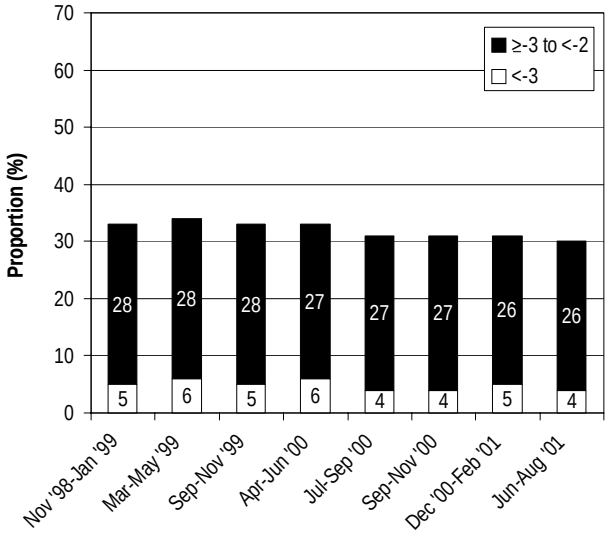
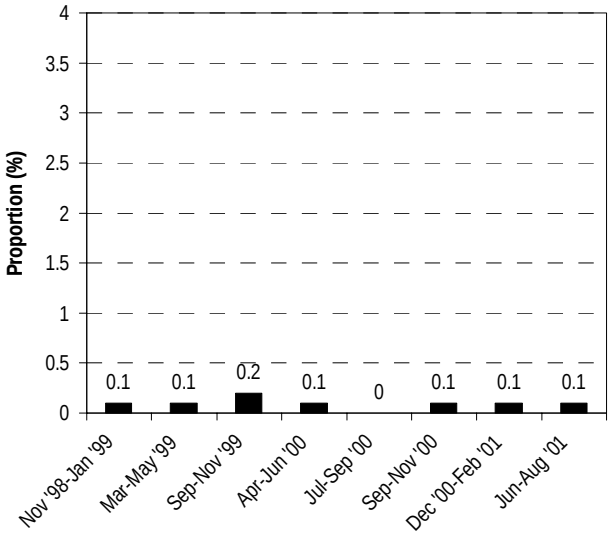


Fig 15. Maternal diarrhea in week prior to interview



Child wasting, 12-23 months old

(SEE FIG. 12, P5, BOTTOM)

What is indicated. Among young children, wasting (low weight for height) can result from both a decrease in the quantity of food consumed as well as from an increase in the incidence or severity of disease. A prevalence of wasting of 10-15% calls for immediate attention.

Data collection method. Here, wasting is defined as a Z-score for weight-for-height that is <-2 standard deviations (SD) of the median of the reference population (NCHS).

Findings. *General* – In early 1999, the prevalence of childhood wasting was very high, but since then, it has decreased in most areas. In most places, the prevalence of Z-scores <-3 SD is now <2% and <-2 SD is <18%. *Central Java* – The prevalence of wasting was among the lowest observed.

Child stunting, 12-23 months old (SEE FIG. 13)

What is indicated. Stunting (too short stature for age) results from consumption of a diet of inadequate quality for a prolonged period of time and it takes a long time to reverse a worsening trend. A prevalence of 30-39% is classified as high and of more than 40%, as very high.

Data collection method. Here, stunting is defined as a Z-score for height-for-age that is <-2 SD of the median of the reference population (NCHS).

Findings. *General* – The prevalence of stunting was lowest in Jakarta, Surabaya, West Java, Lampung and South Sulawesi; highest in Lombok; decreased in Central Java and Semarang; and increased in Makassar. *Central Java* – The prevalence of stunting has declined steadily since late 1998.

Child underweight, 12-23 months old

(SEE FIG. 14)

What is indicated. Underweight (too low weight-for-age) can be the result of wasting (sudden low weight), the cause of which is usually recent and fairly clear, as well as stunting (low weight because of short stature), which takes much longer to address. The growth charts on the Indonesian health card for underfive children monitor the weight-for-age changes of the individual child over time.

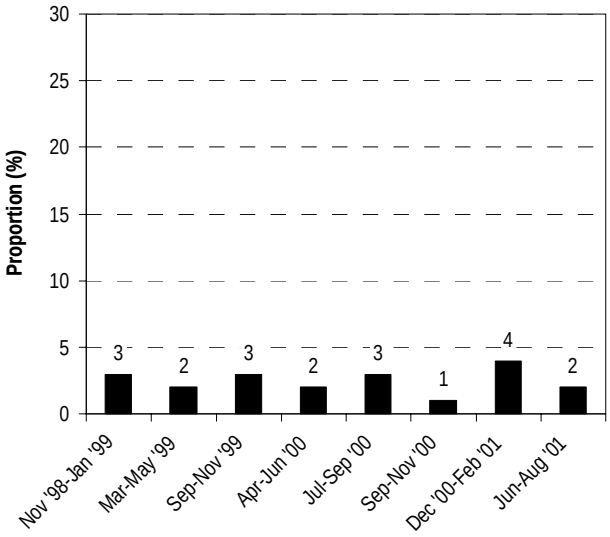
Data collection method. Here, underweight was defined as a Z-score for weight-for-age that is <-2 SD of the median of the reference population (NCHS).

Findings. *General* – The prevalence of underweight was lowest in Central Java; highest in Jakarta, Lombok and Makassar; and decreased most in Jakarta, Surabaya and Central Java. *Central Java* – The prevalence of underweight was among the lowest observed.

Maternal diarrhea (SEE FIG. 15, P6, BOTTOM)
What is indicated. Diarrhea is a form of morbidity that is relatively easy to monitor, because it occurs relatively frequently and its definition is easily understood by respondents. Diarrhea prevalence primarily reflects hygiene conditions both inside the house as well as in the neighborhood and of (street) food consumed.
Data collection method. Respondents were asked whether they suffered from diarrhea during the previous 7 days.
Findings. *General* – The prevalence of diarrhea among mothers ranged from <0.5% to 3%, decreased in some sites, but remained the same in most. *Central Java* – The prevalence of diarrhea among mothers was the lowest observed.

Child diarrhea, 12-23 months old (SEE FIG. 16)
What is indicated. See maternal diarrhea above. Diarrhea is generally more prevalent among young children and generally higher in urban slums than in rural areas because of the higher concentration of people and poorer conditions for waste disposal, including open sewage.
Data collection method. Mothers were asked whether their child suffered from diarrhea during the previous 7 days.
Findings. *General* – The prevalence of diarrhea among children aged 12-23 months was approximately six times higher than among mothers; was lowest in Central Java (<10%); and highest in West Sumatra, Lombok and Makassar (15-25%). *Central Java* – The prevalence was the lowest observed.

Fig 16. Diarrhea among children aged 12-23 mo in week prior to interview



CONCLUSIONS

General

The impact of the crisis on nutrition and health has been severe, as shown by the high prevalence of wasting and very high prevalence of anemia among both mothers and young children. From mid-1999, the prevalence of these problems has started to decrease in most areas, indicating that recovery from the crisis has commenced, but special programs are still necessary. And it is important to realize what number of people is affected, depending on the size of the population of a province or urban slums.

Programs for limiting micronutrient deficiencies, such as vitamin A capsule (VAC) distribution, have been relatively well maintained. VAC coverage has markedly increased among the new target group of children aged 6-11 months, but needs to be much higher among mothers within one month after delivery. In some areas, the proportion of fully immunized children is still well below the minimum target of 80%. The use of iodized salt is still increasing. The very high prevalence of anemia, particularly among young children, needs to be combated with supplements and fortified foods, because foods naturally rich in iron cannot bridge the current gap between needs and intake. And reasons for the very early introduction of liquids and/or complementary foods to breastfeeding infants need to be explored urgently in order to reverse the trend towards less and less exclusive breastfeeding of infants younger than 6 months of age.

The wide range of data available from the NSS should be exploited to the benefit of Indonesia's population and its use is therefore facilitated by making its data available on CDROM. Workshops are needed to stimulate and increase the capacity for using these data, and discussing and interpreting the findings presented in this bulletin series.

Central Java

Overall, the health and nutrition situation in Central Java is very good when compared to other areas of the country. It is unfortunate that it was not possible to maintain the relatively high coverage rate that had been achieved for the delivery of high-dose vitamin A capsules to women shortly after delivery. Consumption of retinol-rich animal and fortified foods was relatively low. Efforts should focus on reducing anemia among women as well as young children, increasing vitamin A capsule coverage among children aged 6-11 months and women, and increasing rates of exclusive breastfeeding.

Helen Keller International
A division of
Helen Keller Worldwide

NUTRITION & HEALTH SURVEILLANCE SYSTEM
NSS
Indonesia

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Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

Appendix 3: Planned schedule of events

VITAMIN A MANAGEMENT & TECHNICAL PROGRAM REVIEW SCHEDULE 2003

DATE	TIME	ACTIVITY / TO MEET	TARGET AUDIENCE	ADDRESS / ROOM	STATUS
Wed, 4/30	09:00 - end	Team Review: Preparation Work	Dora Panagides & Team	HKI Office	Confirmed
Thur, 5/1	10:00 – 12:00	Directorate for Nutrition / MOH	Dr Rachmi, Sunarko, Minarto, Atmarita	MOH office Kuningan, Blok C, 8th floor	Confirmed
	14:30 – end	Health Promotion center / MOH	Dachroni, Ismoyowati, dr Ruflina	MOH office, Kuningan, Blok C, 6th floor	Confirmed
Fri, 5/2	09:00 – 11:00	Immunization Sub-Dit / MOH	Dr Hariadi W & dr Totok	MOH office, Percetakan, Bldg C, 2th floor	Confirmed
	13:00 – 14:00	WHO: Child Health & Immuniztn	Dr Fritz de Haan & Dr Hein van Fliet	Bina Mulia I Bldg, Kuningan, 9th floor	Confirmed
	5:00 – 16:000	Bappenas: Welfare, Health & Nutr	Arum Atmawikarta & staffs	Bappenas office, Left wing, 3th floor	Confirmed
Mon, 5/5	09:30 – 12:00	Stakeholders CAs Group	KUIS, PATH, SAVE, MSH, MCI, CWS, CARE, WVI, CRS, Prof Muhilal, etc.	Sahid Jaya Hotel	Confirmed
	14:00 – end	UNICEF: Nutr & Immunization JICA: Buku KIA	A Adish, Anna W, Ingrid Akiko Matsuyama & team	Wisma metropolitan II, 10th floor	Confirmed
Tues, 5/6	09:00 – 11:00	USAID – Jakatra	Molly G, Jonathan R, Lynn Adrian	Merdeka Selatan 3-5, Jakarta Pusat	Confirmed
	14:00 – 15:00	CIDA – Canadian Embassy	Peggy Thorpe	World Trade Center, Jd Sudirman 29, 6th fl	Confirmed
Wed, 5/7	11:00 – end	Team Review: Discuss & Wrap Up	Dora Panagides & Team	HKI Office	Confirmed
Thur, 5/8	09:00 – 10:00	USAID-Jkt: debrief by team leader (Dora Panagides)	Molly G, Jonathan R, Lynn Adrian	USAID	Confirmed

Team member: (1) Dora Panagides / leader, (2) Elvina Karyadi / SEAMEO, (3) Titin Hartini / MOH, (4) Sri Durjati B / USAID

Appendix 4: People met, title and affiliation

Date	Time	Place	Attendee	Title	Organization
30-Apr-03		HKI HKI	Dr. Amy Rice Dr. Martin Bloem	Vitamin A Program Director Country Director	Helen Keller International Helen Keller International
01-May-03	10.00 - 12.00	MoH	Dr. Rachmi Untoro, M.P.H.	Director of Directorate of Community Nutrition	Directorate of Community Nutrition Ministry of Health of Republic of Indonesia
			Ir. Sunarko, M.Sc.	Head of Sub-Directorate of Micro Nutrition	Directorate of Community Nutrition Ministry of Health of Republic of Indonesia
			Minarto, MPS.	Head of Sub-Directorate of Macro Nutrition	Directorate of Community Nutrition Ministry of Health of Republic of Indonesia
	14.30 - 16.00	MoH	Drs. Dachroni, MPH	Director of Health Promotion	Directorate of Health Promotion Ministry of Health of Republic of Indonesia
			Ismoyowati, SKM, M.Kes	Head of Section of Health Education	Directorate of Health Promotion Ministry of Health of Republic of Indonesia
			Dra. Ruflina Rauf, SKM	Staff of Section of Health Education	Directorate of Health Promotion Ministry of Health of Republic of Indonesia

02-May-03	09.00 - 11.00	MoH	Hariadi Wibisono, MPH	Head of Sub-Directorate of Immunization	Sub-Directorate of Immunization Ministry of Health of Republic of Indonesia
			Dr. Totok Hariyanto	Staff of Sub-Directorate of Immunization	Sub-Directorate of Immunization Ministry of Health of Republic of Indonesia
			Dr. Jane Soepardi	Staff of Sub-Directorate of Immunization	Sub-Directorate of Immunization Ministry of Health of Republic of Indonesia
			Kartini Herawati, SKM	Staff of Sub-Directorate of Immunization	Sub-Directorate of Immunization Ministry of Health of Republic of Indonesia
	13.00 - 14.00	WHO	Dr. Frits Reijsenbach de Haan	Medical Officer	World Health Organization
			Dr. Hein van Fliet	Medical Officer	World Health Organization
	15.00 - 16.00	BAPPENAS	Ir. Yosi Diani Tresna, MPM	Head of Nutrition Section	Directorate of Health and Community Nutrition National Development Planning Agency (BAPPENAS)
			Taufik Hanafi, Ph.D	Head of Sub-Directorate of Medical Service	Directorate of Health and Community Nutrition National Development Planning Agency (BAPPENAS)
05-May-03	08.30 - 12.00	Sahid Jaya Hotel	Bhavna Patel, MPH	Health Team Leader	Catholic Relief Service

			Iwan MR Hasan, S.Kom	Operations Director	Coalition for Health Indonesia 2010
			Faraja Chiwile	Sector Specialist Nutrition	Church World Service
			drg. Devi Anty Moeshar, MKes	Head of Sub-Unit of Family Health	Sub-Unit of Family Health Health Office of DKI Jakarta Province
			dr. Shirley I.M	Head of Sub-Directory of Family Health	Sub-Directorate of Family Health Health Office of Tangerang District
			Maiyanti Aziz	Staff of Nutrition Section	Sub-Unit of Public Health Health Office of West Jakarta District
			Martin W. Bloem, M.D., PhD	Country Director	Helen Keller International/Jakarta
			Roy Tjiong, M.D.	Deputy Country Director	Helen Keller International/Jakarta
			Amy L. Rice, PhD	Vitamin A Program Director	Vitamin A Program Helen Keller International/Jakarta
			Riza Adirza, S.K.M.	Vitamin A Program Assistant	Vitamin A Program Helen Keller International/Jakarta

			Wida Septarina	Public Relations	Vitamin A Program Helen Keller International/Jakarta
			Yoshiko Fujiwara	Advisor on Pharmaceutical Policy/JICA Expert	Japan International Cooperation Agency (JICA)
			Akiko Matsuyama, MPH, Ph D	Project Chief Advisor	Japan International Cooperation Agency (JICA)
			Dr. Abdul Cholil	Director	Maternal and Neonatal Health (MNH)
			Dr. Bob Bernstein	Senior Technical Advisor	Health Decentralization Program Management Science of Health (MSH)
			Prof. Muhilal	Researcher	Nutrition Research and Development Center Ministry of Health of Republic of Indonesia
			Anne Palmer	Program Director	Healthy Start Plus Program for Appropriate Technology in Health (PATH)
			Laurel MacLaren	Program Director	Save the Children-US
			Dr. Melania G.	National Officer	World Food Program United Nations

			Keiko Izushi	Programme Officer	World Food Program United Nations
			Lynn K. Adrian	Deputy Team Leader	United States Agency for International Development (USAID)
			Molly Gingerich	Director for Office of Health, Population and Nutrition	United States Agency for International Development (USAID)
			Dr. Walujo S	Coordinator for Utan Kayu Project Integration for Nutrition	University of Indonesia
			Maureen Laisang	Program Officer TAP	World Vision Indonesia
			Rustini Sianipar	Project Officer LCSP	World Vision Indonesia
	14.00 - 15.30	UNICEF	Abdulaziz Adish	Project Officer Nutrition	United Nations Children's Fund (UNICEF)
			Anna Winoto	Assistant Project Officer	United Nations Children's Fund (UNICEF)
			Akiko Matsuyama, MPH, Ph D	Project Chief Advisor	Japan International Cooperation Agency (JICA)

			Yoshiko Fujiwara	Advisor on Pharmaceutical Policy/JICA Expert	Japan International Cooperation Agency (JICA)
06-May-03	09.00 - 11.00	USAID	Molly Gingerich	Director for Office of Health, Population and Nutrition	United States Agency for International Development (USAID)
			Lynn Krueger Adrian, MPH	Deputy Team Leader	United States Agency for International Development (USAID)
	14.00 -15.00	Canadian Embassy	Peggy Thorpe	First Secretary (Development)	Canadian International Development Agency (CIDA)
07-May-03	09:00-09:30	HKI	Jonathan Ross, MPH	Public Health Advisor	USAID

Appendix 5: Crisis Bulletin, Year 5, Issue 1

I N D O N E S I A

Year 5, Issue 1
January 2003

CRISIS BULLETIN

– INDONESIA IN TRANSITION –

Vitamin A capsule coverage improves between the August 1999 and February 2002 vitamin A distribution months

In 1999, the national policy on vitamin A supplementation changed to include 6-11 mo old infants as a new target group for routine supplementation. Data from the Government of Indonesia/Helen Keller International (GOI/HKI) Nutrition and Health Surveillance System (NSS) following the February 2002 vitamin A distribution month show that capsule coverage rates have increased among all children 6-59 mo of age since late 1999 and that the most dramatic improvement has occurred among the new target group.

The NSS, which is conducted as a collaborative effort between the Ministry of Health (MOH) and HKI, routinely provides information about a variety of socioeconomic, demographic, health, and nutrition indicators. Vitamin A capsule (VAC) coverage rates among children 6-11 mo and 12-59 mo of age are two of the key indicators that were reported for each province separately as part of the 2000[1] and 2001[2] provincial bulletin series.

This bulletin presents VAC coverage rates for children in all of the NSS data collection sites following the August 1999 and February 2002 vitamin A distribution months in order to examine progress made over this time period. Coverage rates are presented to the nearest 1% for all of the urban poor and rural sites included in the Sep '99 – Feb '00 and Mar-Apr '02 data collection rounds.

How is vitamin A capsule coverage calculated?

Vitamin A capsule (VAC) coverage is calculated as the proportion of children who reportedly received a VAC in the 6 months prior to the NSS data collection round divided by the total number of children in the same age group. Results are calculated only for those children who were eligible for supplementation (i.e. 6-59 mo old) during the most recent VAC distribution month. Coverage rates may vary from 0% (none of the children received vitamin A) to 100% (all of the children received vitamin A).

NSS VAC coverage data

Since 1999, NSS data collection has taken place on a quarterly basis in both rural and urban areas.[3] Households with children under five years of age are eligible to participate and the mother in each household is invited to be interviewed. Currently, approximately 40,000 households participate in each round (10,000 in the urban areas combined and 30,000 in the rural areas combined). In the urban areas, around 275 younger

[1] Helen Keller International/Indonesia (2000). Nutrition and Health Surveillance System (NSS). *Monitoring the Economic Crisis: Impact and Transition, 1998-2000*. Jakarta: Helen Keller Worldwide.

[2] Helen Keller International/Indonesia (2002). *New Insight on the Health & Nutrition Situation in Indonesia through Data Sharing*. Nutrition & Health Surveillance System Annual Report 2000-2001. Jakarta: Helen Keller Worldwide.

[3] Helen Keller International/Indonesia (2000). *Nutrition Surveillance: How does it work?* HKI Technical Programs Series. Indonesia Crisis Bulletin. Year 2, Issue 2. Jakarta: Helen Keller Worldwide.

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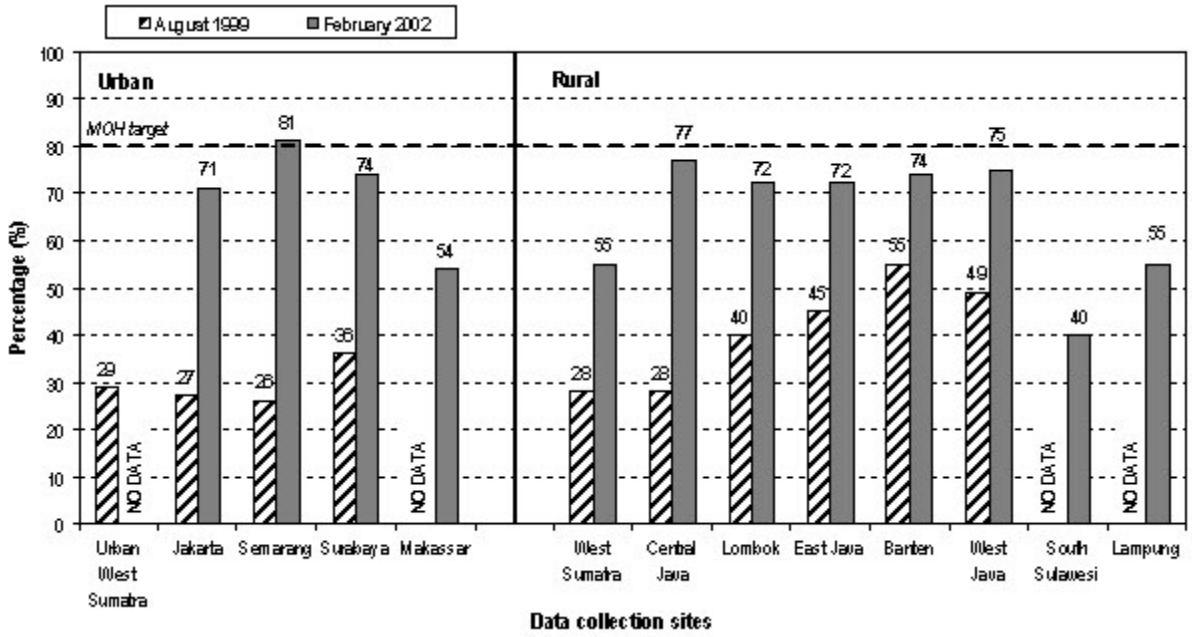
Helen Keller WORLDWIDE

Figure 1. VAC coverage among 6-11 mo-old children in urban poor and rural areas in August 1999 and February 2002.



(6-11 mo old) and 1,500 older (12-59 mo old) children per site were eligible for vitamin A supplementation and contributed data to this report. In the rural areas, around 650 younger and 2,850 older children were eligible per site and contributed data to this report. These sample sizes allowed for 95% confidence estimates of VAC coverage rates to within ±5% (for younger children) and ±3% (for older children).

Urban poor data collection sites

In August 1999, capsule coverage rates among the new target group of 6-11 mo old children were uniformly low (26-36%) in all urban areas (see Figure 1). Not surprisingly, coverage rates were much higher (35-75%) for the well-established target group of 12-59 mo old children (see Figure 2). None of the urban sites had achieved the 80% target set by the MOH for either the younger or older target group.

By the February 2002 distribution round, VAC coverage rates had increased dramatically for both age groups. Coverage rates among the younger (6-11 mo old) children had doubled or tripled. Among 12-59 mo old children, coverage rates doubled in Jakarta and increased in Surabaya and Semarang by 11-13% points. Semarang was the only site that achieved 80% coverage for both 6-11 and 12-59 mo old children, while in Surabaya, the coverage rate exceeded 80% in the 12-59 mo age group.

Rural data collection sites

In August 1999, VAC coverage rates among the new target group of 6-11 mo old children were low (28-55%) in the rural areas surveyed (see Figure 1). Not surprisingly, coverage rates were somewhat higher (46-74%) for the well-established target group of 12-59 mo old children (see Figure 2). West Sumatra and Central Java had the lowest coverage rates for younger children, while Banten and West Java had the highest.

By the February 2002 distribution round, VAC coverage rates had increased for both age groups. In February 2002, coverage rates among the younger (6-11 mo old) children were 40-77%, while rates of 49-86% were reached in the older (12-59 mo old) age group. Although none of the sites achieved coverage rates that exceeded 80% among younger children, three sites (Central Java, Lombok and West Java) achieved coverage rates of 80% or higher among the older children.

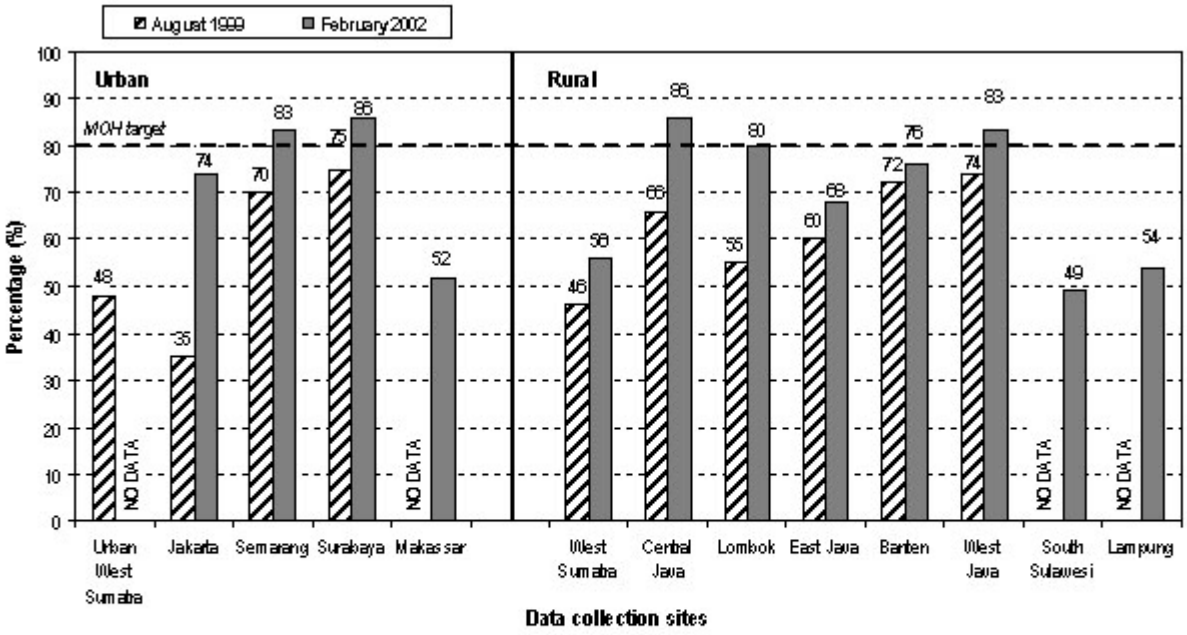
Factors influencing the vitamin A program since 1999

The observed improvement in VAC coverage rates over the past 2-3 years, particularly among the new target group, is attributable to a combination of factors that have influenced the national vitamin A supplementation program for children. Some of the key factors include:

Inter-agency and intersectoral collaboration: Since 1999, the MOH, HKI, UNICEF, and other groups (with financial support from USAID) have worked together to promote the newly introduced national policy to supplement 6-11 mo old children with vitamin A.

Information dissemination: Over time, information about the new national policy guidelines to supplement younger children reached program planners and health workers at the provincial, district and village levels.

Figure 2. VAC coverage among 12-59 mo-old children in urban poor and rural areas in August 1999 and February 2002.



Mass media campaigns: Large-scale mass media campaigns have taken place to raise public awareness about the vitamin A program and to remind families that the distribution month is approaching. Campaign activities have included TV and radio spots, press conferences, the distribution of printed media materials to *Puskesmas* (public health centers) and *Posyandu* across the country, and special activities, such as information booths and educational games at health fairs. More details about the activities conducted prior to the August 2001 vitamin A month are described in a separate bulletin.[4]

Pilot programs linking vitamin A supplementation and immunization: HKI collaborated with the MOH to sponsor a series of pilot projects linking mass measles immunization campaigns to vitamin A distribution among high-risk groups in the urban poor areas of Jakarta, Surabaya, Semarang and Makassar in Aug 2000,[5] in selected villages on Lombok in August 2001, and in two districts of West Sumatra in February 2002.

Increased availability of 100,000 IU VACs: UNICEF initially donated a supply of 100,000 IU VACs for distribution following the 1999 change in policy. In 2000, Kimia Farma also began producing 100,000 IU VACs in response to the demand for this new product. This new type of VAC has gradually become incorporated into the routine procurement and distribution system for the government-sponsored national supplementation program.

Conclusions

- The NSS is a useful tool for monitoring the vitamin A supplementation program.
- Between August 1999 and February 2002, VAC coverage rates improved for both target groups of children (6-11 and 12-59 mo old) in all sites.
- However, despite good progress, few of the sites had achieved the MOH goal of 80% capsule coverage rates.

Recommendations

- The NSS should continue to monitor the vitamin A supplementation program.
- Efforts should continue to try improving vitamin A capsule coverage rates by increasing public awareness about the supplementation program, by increasing promotion through mass media campaigns and close collaboration with technical support groups at the Central MOH, Provincial and District levels, and by increasing inter-agency and intersectoral collaboration.

[4] Helen Keller International/Indonesia (2001). *National Vitamin A Supplementation Campaign Activities: August 2001.* Indonesia Crisis Bulletin. Year 3, Issue 2. Jakarta: Helen Keller Worldwide.

[5] Helen Keller International/Indonesia (2000). *Mass Measles Immunization Campaign Successfully Linked to Vitamin A Supplementation Month in Urban Areas.* Indonesia Crisis Bulletin. Year 2, Issue 18. Jakarta: Helen Keller Worldwide.

All references are available online at *http://www.hkiasiapacific.org/Resources/Downloads/bulletins_indonesia.htm*

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Projects carried out by HKI-Indonesia in collaboration with the above organizations are funded by the United States Agency for International Development (USAID).

This publication was made possible through support by the Office of Population, Health and Nutrition, USAID/Indonesia Mission, under the terms of Award No. 497-A-00-99-00033-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the US Agency for International Development.

Appendix 6: Vitamin A capsule coverage among 6-59 month old children, August 1999 – August 2002

Indicator	Distribution round	1999	2000	2001	2002
Vitamin A capsule coverage among 6-11 month old children in 4 urban poor NSS data collection sites.	February	-	40%	55%	72%
	August	29%	54%	66%	86%
Vitamin A capsule coverage among 6-11 month old children in 8 provinces (includes 4 urban poor and all rural NSS data collection sites).	February	-	44%	55%	70%
	August	41%	61%	66%	83%
Vitamin A capsule coverage among 12-59 month old children in 8 provinces (includes 4 urban poor and all rural NSS data collection sites).	February	-	70%	65%	74%
	August	65%	75%	73%	87%

Data source: HKI/GOI Nutrition and Health Surveillance System (NSS). Vitamin A capsule coverage has been measured in 4 urban poor data collection sites (Jakarta, Surabaya, Semarang, Makassar) and in 8 different provinces over time (Banten, West Java, Central Java, East Java, West Sumatra, Lampung, South Sulawesi, NTB (Lombok). Data are representative of the rural areas in these 8 latter sites. Coverage is reported as the percentage of children who received an age-appropriate dose of vitamin A during the last distribution round. Coverage rates for individual sites are reported separately by data collection round in the provincial series of Indonesia Crisis Bulletins. These bulletins are available to the public and can be downloaded from the following website:

http://www.hkiasiapacific.org/Resources/Downloads/bulletins_indonesia.htm.

Vitamin A capsule receipt among preschool age children is also included as one of the key indicator variables in the HKI/GOI Nutrition and Health Surveillance System data sets distributed in 2001, 2002, and 2003.

Appendix 7: Crisis Bulletin, Year 2, Issue 18

I N D O N E S I A

Year 2, Issue 18
Nov-Dec 2000

CRISIS BULLETIN

– INDONESIA IN TRANSITION –

SPECIAL SERIES ON INFECTIOUS DISEASE & VITAMIN A

Mass measles immunization campaign successfully linked to vitamin A supplementation month in urban areas

Routine immunization programs have been used in many countries as a contact point for delivering vitamin A supplements to preschool age children. In Indonesia, a novel pilot project conducted in August 2000 reversed this strategy and linked a mass measles immunization campaign to the well-established vitamin A supplementation month. The success of this experience demonstrates that this approach can be an effective component of the national strategy for eradicating measles.

Vitamin A deficiency and measles are two preventable causes of childhood morbidity and mortality in Indonesia. In many areas of the country, successful programs are being implemented to control vitamin A deficiency and maintain high measles immunization rates. However, despite these efforts, certain high-risk areas still exist where measles immunization rates are low and measles outbreaks may occur.

This bulletin describes a pilot project that took place in August 2000 to combine a mass measles immunization campaign in urban poor areas with the well-established vitamin A supplementation month for children. Prior to the August 2000 vitamin A distribution month, areas in Jakarta, Surabaya, Semarang and Makassar that were likely to be at high-risk of a measles outbreak were identified. The pilot project was conducted jointly by the Directorate of Community Nutrition and the Directorate of Epidemiology Surveillance and Immunization of the Ministry of Health and Social Welfare (MOH & SW) with the financial and technical assistance of Helen Keller International (HKI) and the United Nations Children's Fund (UNICEF).

Measles immunization crash program

Measles can be prevented by immunization programs. The national guidelines in Indonesia recommend that all children get a measles immunization when they are 9-11 months old. The majority of children receive immunizations through the Posyandu system (integrated health post), Puskesmas (Public Health Center), hospitals or private clinics. However, some children are not reached through these existing systems and may remain unvaccinated throughout the rest of their lives. Measles can kill and additional strategies are needed to improve immunization rates, especially in areas at high risk of a measles outbreak.

In order to reduce the number of unvaccinated children, to

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Background information: Measles

Measles is an acute viral disease that is rapidly transmitted from one person to another. The disease causes a characteristic reddish rash all over the body and is often accompanied by a fever, diarrhea, and rapid weight loss. Measles can be a very serious disease, especially in children. Some children who get measles develop severe eye infections and may even become blind. Even in a mild case of measles it can take several months for a child to regain all the weight he or she lost, for his or her immune system to return to normal, and to fully recover from the disease. Unfortunately, some children (approximately 1-2%) who get measles will die even if they receive treatment when they are sick. Therefore, the best way to protect children's health, eyesight and lives is to prevent them from getting measles.

prevent measles outbreaks, measles with eye complications, and measles mortality, the MOH & SW has decided to implement a special measles "crash program" in 2000-2001 for high-risk areas. This program involves identifying high-risk areas and then vaccinating all susceptible individuals within a very short time frame. For example, where a measles outbreak occurs, international guidelines recommend that all children from 6 months to 5 years of age in the area receive a measles vaccination whether or not they have been vaccinated in the past. Because measles is a very contagious disease, any unvaccinated people remain at risk of becoming infected. Providing immunizations in this situation will help protect individual people from getting measles, becoming ill, and potentially spreading the disease to other people.

In many cases, preschool children who live in high-risk areas for measles are also at risk of vitamin A deficiency. Routine vitamin A supplementation is currently recommended for all children 6-59 months of age twice a year (in February and August) in order to promote good nutritional status and to prevent severe morbidity and mortality in children. Although routine vitamin A supplementation does not prevent children from getting measles, several large-scale, well-controlled studies have shown that children who received vitamin A supplements and then later got measles were 50% less likely to die than the children who did not receive vitamin A supplements before they got measles.

Figure 1. Implementation guidelines for the vitamin A and immunization post health workers

The main reason to link measles immunizations and vitamin A supplementation is to reach the same group of at-risk children with both of these effective prevention programs in a cost-effective manner. Vitamin A supplements can be safely given to preschool age children at the same time they receive a measles immunization. Because the same logistics system can be used to organize and deliver measles immunizations and vitamin A capsules, combining these programs will save valuable time, money, and effort compared to implementing each one of them separately.

Urban pilot project in August 2000

The goal of the pilot project was to capitalize on the success of vitamin A supplementation activities that routinely take place in the Posyandu (integrated health posts) every February and August in Indonesia. In recent years, a variety of mass media and social mobilization activities have taken place around the country to promote these two months as "vitamin A distribution months." Special efforts are made to ensure that adequate supplies of vitamin A capsules are available at the Posyandu and Puskesmas facilities, that health workers know how to administer

the vitamin A capsules, and that community members know they can bring their 6-59 month old children to the health facilities during these months and receive vitamin A capsules at no cost.

The pilot project was designed to build on these existing activities and promote both vitamin A supplementation and measles immunization in the urban areas during the August 2000 vitamin A distribution month. While the same general approach was used for the different locations, specific implementation plans were developed for each city. In general, the teams (consisting of staff members from the Directorate of Community Nutrition and the Directorate of Epidemiology Surveillance and Immunization) ensured that adequate supplies for both vitamin A supplementation and measles immunizations were in place, and that special training and social mobilization activities occurred.

Slightly different methods were used to implement the pilot project in the different cities. For example, in Jakarta, the project was organized to conduct a joint vitamin A supplementation and immunization campaign on August 1. Families were encouraged to bring their children to the designated health posts on that day to receive a vitamin A capsule and measles immunization. The next day, health workers traveled door-to-door to locate children who did not visit the health posts the day before and provided these services to the children at home. In Semarang, the special immunization activities for all children aged 6 months to 5 years were integrated into the regular posyandu activities during August. These two different strategies were chosen by the city organizers in order to make good use of the existing personnel in their locations. High immunization and vitamin A coverage rates were achieved in both locations.

The methods used to implement this pilot project will be evaluated further by the Ministry of Health, UNICEF and HKI and the lessons learned will be applied to similar activities in the future.

Pilot project achievements

- An implementation plan was developed (ie. timeline, logistical plan, training materials, etc.) that can be adapted for use in other urban settings, refugee situations, or measles outbreak areas.
- The working relationship between the Directorate of Community Nutrition, the Directorate of Epidemiology Surveillance and Immunization, HKI and UNICEF was strengthened at the central, provincial, and city levels.
- Community awareness about the routine vitamin A supplementation month, Posyandu activities, and measles immunizations was increased in Jakarta, Surabya, Semarang, and Makassar.
- Vitamin A supplements and measles immunizations were delivered to more than 80,000 children in the urban poor areas of four cities.
- This pilot project successfully reached over 99% of the targeted number of children.

High-risk areas for measles

The Ministry of Health and Social Welfare has declared the following areas and situations in Indonesia to be at high-risk for measles outbreaks:

1) Urban slum areas because of crowded living conditions and a low access to and utilization of health services
2) Refugee situations because of crowded living conditions, the presence of other diseases, and the disruption of regular health care services
3) Areas surrounding a measles outbreak, which is defined as two or more cases happening in a localized area during a one-week timeframe, because an outbreak indicates that other people in the area are also likely to be unvaccinated and therefore susceptible to measles.

Conclusions and recommendations

- The criteria for identifying urban areas that are at highest risk of a measles outbreak should be further developed in order to ensure that the most vulnerable children are reached by similar activities in the future.
- The Directorate of Community Nutrition and the Directorate of Epidemiology Surveillance and Immunization should develop a plan for prioritizing where to replicate this type of an activity during routine vitamin A supplementation months (February and August) in other areas of the country at high-risk of a measles outbreak.
- The strategy of combining measles immunization with vitamin A capsule distribution has potential to be an effective and efficient strategy to eradicate measles outbreaks.

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