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**REACH**

RESOURCES  
FOR CHILD  
HEALTH

## **TRIP REPORT**

# **NATIONAL ARI PLANNING MISSION TO NIGERIA, AND WHO EASTERN MEDITERANEAN REGIONAL ARI MEETING IN TUNIS, TUNISIA**

**June 8-21, 1991**



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**TRIP REPORT**

**National ARI Planning Mission to Nigeria  
WHO Eastern Mediteranean Regional ARI Meeting in Tunis, Tunisia**

by

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**June 8-21, 1991**

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## ACRONYMS

AAO	A.I.D. Affairs Officer
A.I.D.	Agency for International Development
ACSI	African Child Survival Initiative
ARI	Acute Respiratory Infections
ATU	ARI Training Unit
CCCD	Combatting Childhood Communicable Diseases
CDD	Control of Diarrheal Disease
DTU	Diarrheal Disease Training Unit
EDP	Essential Drug Program
EMRO	Eastern Mediterranean Regional Office
EPI	Expanded Program on Immunization
FMOH	Federal Ministry of Health
IEC	Information Education and Communication
LGA	Local Government Area
NANGO	National Association of Nongovernmental Organizations
NARIP	National ARI Program
PHC	Primary Health Care
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

**I. PLACES VISITED**           Lagos, Nigeria  
                                  Tunis, Tunisia

**II. PURPOSE**

1. Participate with World Health Organization (WHO) in planning the Nigerian national acute respiratory infection program (NARIP) in collaboration with the Federal Ministry of Health (FMOH).

2. Attend WHO ARI Program Managers meeting for the Eastern Mediterranean Region Office (EMRO) in Tunis, Tunisia.

**III. NIGERIA**

**A. Summary**

The mission to Nigeria was a joint WHO/REACH programming mission for the start of a national ARI program. The mission was requested by the FMOH of Nigeria. REACH participation was requested by WHO/Geneva.

A national policy statement on ARI and a NARIP plan (Annex I and II) were developed in collaboration with the national ARI committee (Annex IV). In addition the WHO case management guidelines for ARI were reviewed for adaption to the local situation in Nigeria (Annex III).

The Massy Street Children's Hospital was visited to review current management of pneumonia and the suitability of the hospital for an ARI training unit (ATU).

USAID/Lagos was made aware of the willingness of REACH to provide assistance to the Nigerian ARI control program and an urban Expanded Program on Immunization (EPI).

**B. Background**

The mission to Nigeria was a joint WHO/REACH programming mission for the start of a national ARI program. The mission was requested by the FMOH of Nigeria. REACH participation was requested by WHO/Geneva.

The Federal Ministry of Health (FMOH) had designated a national ARI committee prior to the consultation. The committee blocked out two weeks of time to work with the REACH and WHO consultants. This commitment of time and personnel was indicative of the commitment of the FMOH to starting a NARIP.

During the consultation a national policy on ARI (Annex I) was written by the ARI committee (Annex IV) with assistance from WHO and REACH consultants. This key policy document was then distributed for comment to all primary health coordinators in the country and key people in the FMOH and pediatric medicine.

Nigeria has adopted the following objectives and strategies for the NARIP:

### **Objectives**

1. The NARIP will have the following objectives, in order of priority:
  - a. to reduce the mortality attributable to pneumonia in children under 5 years of age;
  - b. to decrease the inappropriate use of antibiotics and other drugs for the treatment of ARI in children;
  - c. to reduce the incidence of acute lower respiratory tract infections in children.

### **Strategies**

1. The main strategy available to achieve the first two objectives is the early detection and treatment of pneumonia cases in children under 5 years of age. The FMOH will issue for this purpose standard case management guidelines, adapted from those proposed by the World Health Organization (WHO).
2. To achieve the third objective the only available strategy at present is the immunization of children against measles and whooping cough. The NARIP will collaborate with EPI for the achievement and sustainability of high coverage rates. Other preventive strategies and interventions will be considered in the future after an appraisal of their effectiveness, cost and feasibility.
3. Improving the case management of pneumonia in all government and private health institutions will be the focus of the NARIP in an initial phase. The process will include strengthening of capabilities such as training, provision of essential drugs and equipment, upgrading of health centers and hospitals and refinement of management procedures (supervision, monitoring and referral systems).

The national policy on case management of ARI is the following:

### **Case Management**

1. The following drugs will be made easily and regularly available in all health facilities for the treatment of pneumonia:
  - a. cotrimoxazole, adult tablets, in outpatient services for the treatment of pneumonia at home;
  - b. benzyl and procaine penicillin, gentamicin and chloramphenicol for children with pneumonia admitted to hospitals.

2. The NARIP will work in cooperation with the Essential Drugs Program (EDP) to assure the steady supply of these antibiotics.
3. Safe traditional remedies will be recommended for home treatment of common colds and coughs. Government and private health facilities will not be provided with cough and cold remedies such as mucolytics, antitussives, expectorants, antihistaminics and combinations of these, except for a single ingredient cough suppressant for severe pertussis and a single ingredient antihistaminic for confirmed allergic conditions. There exists no scientific evidence to support the use of other drugs in the treatment of ARI.
4. Delivery of oxygen is a life saving measure in case of severe pneumonia. Oxygen should then be regularly available in all hospitals and should be delivered properly according to standard guidelines.
5. To make sure that children with pneumonia get antibiotic treatment as soon as possible, especially in remote areas, standard antibiotic treatment will be available from all health facility and community based health workers trained in ARI case management. Children with severe pneumonia, very severe disease and wheezing will be referred for hospital treatment.
6. ARI case management guidelines will not include, at present, guidelines for the treatment of ear and throat infections.
7. The sensitivity of bacteria-causing pneumonia to standard antibiotics will be regularly monitored by intermittent sampling in selected hospitals. These hospitals will be selected in the future and use the WHO guideline for monitoring of resistance.

In order to implement the NARIP the training strategy will be as follows:

#### **Training**

1. A training package appropriate for each staff level will be designed adapting the modules provided by WHO. All the courses will incorporate actual clinical practice in the management of patients with pneumonia. The target health workers for case management training will be grouped as follows:
  - a. Village health workers and traditional birth attendants at community level are to be trained in the case management of pneumonia at home and referral of severe cases to hospitals.
  - b. Community health supervisors, assistants and aids in health centers and health posts are to be trained in the case management of pneumonia at home and referral of severe cases to hospitals;

- c. Doctors, senior nurses and community health officers in health centers and first referral hospitals are to be trained in outpatient and inpatient case management of pneumonia;
2. PHC Coordinators and PHC Assistant Coordinators at the State and Local Government Level (LGA) level will be trained in ARI supervisory skills.

#### **ARI Training Units**

1. ATUs will be developed in each of the PHC Zones of Nigeria using the same sites as those used for the Diarrheal Disease training units (DTU). The four ATUs will be used for training of trainers for smaller training units that will be established in the model LGA's. The purpose of the ATUs is as follows:
  - a. to demonstrate the application of ARI treatment protocol in inpatient and outpatient settings.
  - b. to serve as a venue for the practicum during clinical management training courses on ARI.

An important part of the NARIP will be the following Information, Education Communication (IEC) strategy:

#### **Information, Education and Communication**

1. The role of IEC in ARI shall be two-fold: first, to inform and educate health workers on the standard case management protocols; second to create an awareness among mothers and childminders on home care for children with simple coughs and colds and early signs of pneumonia.
2. Effective IEC will be achieved through a phased approach. For the initial phase, as ARI training on new standard case management protocols is still under way, only one-on-one and group health education shall be conducted using IEC materials designed for the different cadres of health workers in Nigeria, such as leaflets, posters and job aids.
3. IEC activities will be expanded to reach larger audiences through mass media, radio and television, only when more than 50% of health facilities have already adopted the new standard case management plan.
4. The following important basic information should be known by health workers and mothers:
  - a. The majority of ARIs do not require antibiotics.
  - b. Management of simple coughs and colds without the use of cough and cold medicines.

- c. Pneumonia can be detected early using simple signs such as rapid breathing and chest indrawing.
- d. When, where and how to bring the child with pneumonia for treatment.
- e. Proper administration of oral antibiotics for pneumonia treatment at home.
- f. Discouragement of any harmful practices for treatment of ARI detected by local studies.

Initial activities in ARI will begin in five pilot local government areas of Nigeria (AnnexV). These areas will be finalized after a proposed July 31 to August 2, 1991 meeting of PHC coordinators. The proposed areas are:

- Odukpani or Ogoja in Cross River State (PHC Zone A)
- Ife Central in Oyo State (PHC Zone B)
- Jema'a in Kaduna State (PHC Zone C)
- Akko in Bauchi State (PHC Zone D)
- Kano Metro in Kano State (PHC Zone D).

The standard case management guidelines of WHO were revised to properly reflect the management of ARI in Nigeria. The proposed revisions are in Annex III.

USAID Nigeria was consulted about the future of ARI programming in Nigeria supported by A.I.D. The A.I.D. Affairs Officer (AAO) Gene Chivaroli indicated a reluctance to get involved in new areas such as ARI as there was not enough money for the current child survival activities; and his impression from his recent trip to Washington is that Nigeria is not going to be receiving any new money.

The AAO did indicate that they would be doing a series of sector reviews over the next several months to determine the options for USAID in the future. This will be done with the intention of coming up with a new project that will be the follow-on to the current ACSI-CCCD project. The AAO indicated that the people used for these reviews will need to be already familiar with Nigeria so that the start-up time for the various consultancies is minimized.

The author indicated that REACH has funds available from S&T/H to support ARI activities on a limited basis and that, should the mission be willing, REACH would like to pursue this in a future visit to Nigeria. Future ARI activities will depend on a review of the program plan that the FMOH develops and sends to USAID.

REACH also indicated that they would be able to support an urban EPI Strategy in Nigeria. Lagos is a priority for USAID and this may be a good match. The mission will contact REACH via cable about an exploratory visit for an urban EPI strategy.

The national ARI plan was presented to UNICEF/Lagos. UNICEF indicated that it is compatible with their 5 year plan. UNICEF also requested that they be allowed to send 5 people to a national ARI Program Managers Course.

The following are key ARI activities planned for in Nigeria over the next few months.

- From July 31 to August 2, 1991, there will be an EPI/CDD/ARI meeting for PHC Coordinators. At this meeting the national plan and strategy will be presented. This is to allow participation of the PHC Coordinators in the national planning for ARI.
- If the National ARI plan is accepted by the PHC Coordinators, Dr. A. O. O. Sorungbe, Director of Primary Health Care, will submit it to the National Health Council on October 29, 1991. Once this is approved, there will be a budget line for ARI in the health budget.
- There will be a focused ethnographic study in September 1991 in LGA Ife-Central. The consultant per diem and travel will be financed by WHO.
- There will be a Program Managers course in August, 1991. This will be followed by a further programming mission to plan activities at the LGA level. The WHO Regional ARI advisor for Africa will run the Program Managers course and stay for the LGA planning.

### C. Recommendations

1. REACH should follow-up with the AAO at USAID/Nigeria for a return trip to Nigeria to assist with the LGA programming mission scheduled for early September.

The specific scope of work for the visit would be as follows;

- a. Assist the FMOH with the planning of their current ARI program in the five local government areas (LGAs) that have been selected for pilot activities in 1991-92. This is a continuation of the just-completed programming mission that REACH assisted with in June 1991. The WHO regional ARI advisor will also be working with the FMOH on this.
- b. Provide information to the Mission on how REACH would be able to assist with the implementation of the ARI program in the selected LGAs.
- c. Work with Mission to provide a detailed implementation plan for how REACH could be used to provided needed inputs to the FMOH for their NARIP.

2. Provide funding from central S&T/H funds for a resident advisor (hired locally) and programing costs that will be needed for the first year of start-up activities in the ARI pilot LGA supported by USAID.

This activity should be viewed as a development cost of the ARI program in Nigeria. The resident advisor would help to focus attention on the pilot area so that training materials and health education materials will be well-developed and able to be used later in other LGAs that want to undertake ARI programs. This is important because the FMOH will use the same staff for the EPI, CDD and ARI programs.

#### **IV. TUNISIA**

##### **A. Summary**

The WHO meeting of ARI program managers was attended by representatives from Afghanistan, Bahrain, Cyprus, Djibouti, Iran, Iraq, Jordan, Libya, Morocco, Pakistan, Sudan, Tunisia, Yemen, WHO, UNICEF, and REACH.

REACH attendance at the meeting was as an observer and participant in the francophone small group discussions. The group requested that the next meeting be held in two years time (1993). The representative from Iran volunteered to host the next meeting.

##### **B. Background**

The meeting of ARI program managers of the Eastern Mediterranean Regional Office of WHO (EMRO) was attended by representatives from Afghanistan, Bahrain, Cyprus, Djibouti, Iran, Iraq, Jordan, Libya, Morocco, Pakistan, Sudan, Tunisia, Yemen, WHO, UNICEF and REACH.

REACH attendance at the meeting was as an observer and participant in the francophone small group discussions. The meeting agenda is in Annex VI.

The conclusions of the meeting are as follows:

##### **Planning**

-All countries in EMRO will have formulated and implemented an ARI control program by 1995.

-Reducing mortality from pneumonia is the objective to be given the highest priority.

-Standard case management is selected as the major ARI control strategy.

-National ARI programs should take an active role in promoting immunizations, especially against measles.

-National ARI programs should coordinate activities with programs addressing other risk factors.

-National ARI programs should use existing data as much as possible for initial planning efforts.

### **Policy Options**

-ARI programs should try to achieve a consensus about antibiotic policy with meetings and workshops with medical opinion leaders and government decision makers.

-National ARI programs should allow paramedical staff to provide standard case management.

-National ARI programs should promulgate a policy that antibiotics not be prescribed for simple coughs and colds. This approach needs to be taught in medical and paramedical training.

-National ARI programs must decide on the signs that they want a mother to recognize in order to seek timely care. Ethnographic research needs to be done to make the messages understandable.

### **Training**

-Three types of training needs to be emphasized:

- a. Master training for clinical case management in ATUs
- b. Management training for provincial level staff
- c. Clinical training for doctors and paramedical staff

-WHO training materials need to be adapted to meet local needs and reflect national policies. EMRO should undertake an Arabic translation of WHO treatment charts.

-Master trainer courses should be organized at the two regional ARI training centers located in Alexandria, Egypt and Tunis, Tunisia.

-WHO should facilitate the exchange of training materials among national ARI programs.

-ARI training should be incorporated into curricula of medical, nursing and paramedical schools.

### **Communication**

-Ethnographic surveys should be undertaken to formulate educational materials. Communication messages need to be field tested.

-National ARI programs need to emphasize face-to-face communication/education/counselling skills of health staff in 1991-92.

-National ARI programs will not use mass media unless case management for ARI is provided on a nationwide scale.

The group requested the next meeting in two years and the representative from Iran volunteered to host the meeting. Topics suggested for the meeting were:

1. Monitoring of national ARI programs
2. Role of antismoking campaigns
3. Role of preventive efforts
4. Clinical efficacy of antibiotics
5. Supervision.

ANNEX I  
NIGERIA NATIONAL ARI POLICY

FEDERAL REPUBLIC OF NIGERIA

PROGRAMME FOR THE CONTROL OF ACUTE RESPIRATORY INFECTIONS  
POLICY STATEMENT

FEDERAL MINISTRY OF HEALTH  
DEPARTMENT OF PRIMARY HEALTH CARE

Nigeria ARI Policy (DRAFT)

June 14, 1991

### Abbreviations

ARI	Acute Respiratory Infections
ATU	ARI Training Unit
CCCD	Combatting Childhood Communicable Diseases
CDD	Control of Diarrhoeal Disease
DTU	Diarrhoeal Disease Training Unit
EDP	Essential Drug Programme
EPI	Expanded Programme on Immunizations
FMOH	Federal Ministry of Health
IEC	Information Education and Communication
LGA	Local Government Area
NANGO	National Association of Nongovernmental Organizations
NARIP	National ARI Programme
PHC	Primary Health Care
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization

## **INTRODUCTION**

1. The Federal Ministry of Health (FMOH) recognizes acute respiratory infections (ARI) as a major child health problem in Nigeria. ARI with diarrhoeal diseases, are the leading cause of mortality in children under 5 years of age. They account for a large proportion of hospital admissions and constitute the first cause of attendance to outpatient clinics.
2. As a result, the FMOH hereby institutes a National ARI Programme (NARIP) that will be integrated within the Primary Health Care (PHC) programme. At the central level, the NARIP will form part of the unit dealing with the Expanded Programme on Immunization (EPI) and the programme for the Control of Diarrhoeal Diseases (CDD). At the peripheral level, it will be implemented under the responsibility of the Local Government Areas (LGA).

## **OBJECTIVES**

1. The NARIP will have the following objectives, in order of priority:
  - a. to reduce the mortality attributable to pneumonia in children under 5 years of age;
  - b. to decrease the inappropriate use of antibiotics and other drugs for the treatment of ARI in children;
  - c. to reduce the incidence of acute lower respiratory tract infections in children.

## **STRATEGIES**

1. The main strategy available to achieve the first two objectives is the early detection and treatment of pneumonia cases in children under 5 years of age. The FMOH will issue for this purpose standard case management guidelines, adapted from those proposed by the World Health Organization (WHO).
2. To achieve the third objective the only available strategy at present is the immunization of children against measles and whooping cough. The NARIP will collaborate with EPI for the achievement and sustainment of high coverage rates. Other preventive strategies and interventions will be considered in the future, after an appraisal of their effectiveness, cost and feasibility.
3. Improving the case management of pneumonia in all government and private health institutions will be the focus of the NARIP in an initial phase. The process will include strengthening of capabilities such as training, provision of essential drugs and equipment, upgrading of health centres and hospitals and refinement of management procedures (supervision, monitoring and referral systems).

## CASE MANAGEMENT

1. The following drugs will be made easily and regularly available in all health facilities for the treatment of pneumonia:
  - a. cotrimoxazole, adult tablets, in outpatients services for the treatment of pneumonia at home;
  - b. benzyl and procaine penicillin, gentamicin and chloramphenicol for children with pneumonia admitted to hospitals.
2. The NARIP will work in cooperation with the Essential Drugs Programme (EDP) to assure the steady supply of these antibiotics.
3. Safe traditional remedies will be recommended for home treatment of common colds and coughs. Government and private health facilities will not be provided with cough and cold remedies such as mucolytics, antitussives, expectorants, antihistaminics and combinations of these, except for a single ingredient cough suppressant for severe pertussis and a single ingredient antihistaminic for confirmed allergic conditions. There exists no scientific evidence to support the use of other drugs in the treatment of ARI.
4. Delivery of oxygen is a life saving measure in case of severe pneumonia. Oxygen should then be regularly available in all hospitals and should be delivered properly according to standard guidelines.
5. To make sure that children with pneumonia get antibiotic treatment as soon as possible, especially in remote areas, standard antibiotic treatment will be available from all health facility and community based health workers trained in ARI case management. Children with severe pneumonia, very severe disease and wheezing will be referred for hospital treatment.
6. ARI case management guidelines will not include, at present, guidelines for the treatment of ear and throat infections.
7. The sensitivity of bacteria causing pneumonia to standard antibiotics will be regularly monitored by intermittent sampling in selected hospitals. These hospitals will be selected in the future and use the WHO guidelines for monitoring of resistance.

## TRAINING

1. A training package appropriate for each staff level will be designed adapting the modules provided by WHO. All the courses will incorporate actual clinical practice in the management of patients with pneumonia. The target health workers for case management training will be grouped as follows:

- a. Village health workers and traditional birth attendants at community level, are to be trained in the case management of pneumonia at home and referral of severe cases to hospitals.
  - b. Community health supervisors, assistants and aids in health centres and health posts, are to be trained in the case management of pneumonia at home and referral of severe cases to hospitals;
  - c. Doctors, senior nurses and community health officers in health centres and first referral hospitals, are to be trained in outpatient and inpatient case management of pneumonia;
2. PHC Coordinators and PHC Assistant Coordinators at the State and LGA level will be trained in ARI supervisory skills.

#### **ARI TRAINING UNITS (ATU)**

1. ATUs will be developed in each of the PHC Zones of Nigeria using the same sites as those used for the Diarrheal Disease training units (DTU). The four ATUs will be used for training of trainers for smaller training units that will be established in the model LGA's. The purpose of the ATUs is as follows:
  - a. to demonstrate the application of ARI treatment protocol in inpatient and outpatient settings.
  - b. to serve as venue for the practicum during clinical management training courses on ARI.

#### **INFORMATION, EDUCATION AND COMMUNICATION (IEC)**

1. The role of IEC in ARI shall be two-fold: first, to inform and educate health workers on the standard case management protocols; second to create an awareness among mothers and childminders on home care for children with simple coughs and colds and early signs of pneumonia.
2. Effective IEC shall be achieved through a phased approach. For the initial phase, as ARI training on new standard case management protocols is still under way, only one-on-one and group health education shall be conducted using IEC materials designed for the different cadres of health workers in Nigeria, such as leaflets, posters and job aids.
3. IEC activities shall be expanded to reach larger audiences through mass media, radio and television, only when more than 50% of health facilities have already adopted the new standard case management plan.
4. The following important basic information should be known by health workers and mothers:

- a. The majority of ARIs do not require antibiotics.
- b. Management of simple coughs and colds without the use of cough and cold medicines.
- c. Pneumonia can be detected early using simple signs such as rapid breathing and chest indrawing.
- d. When, where and how to bring the child with pneumonia for treatment.
- e. Proper administration of oral antibiotics for pneumonia treatment at home.
- f. Discouragement of any harmful practices for treatment of ARI detected by local studies.

#### **PHASING OF IMPLEMENTATION**

1. The Nigeria ARI program will start in some of the model LGA's with the coordination of different agencies (WHO, UNICEF and USAID/CCCD). This will allow for the development of locally adapted materials for training at all levels. The basis for these materials will be the various training materials that WHO has developed or is developing.
2. It is anticipated that after initial work in some model LGAs, the expansion will depend on the capacity of the LGAs for initiation of ARI activities into their PHC programme.

#### **SUPERVISION AND MONITORING**

1. Reporting, monitoring, supervision and referral shall be integrated with the existing PHC programme of Nigeria.
2. The home based record for children shall be used to record all ARI cases as is done for other conditions in the Nigerian PHC programme.
3. ARI cases seen in the health facilities shall be logged in the register of the health facility. Reporting will be done using the format prescribed by the Monitoring and Evaluation Unit in Primary Health Care.
4. Supervisory visits of each level will be done by higher level supervisors to include training, case management and referral, availability of drugs and other essential ARI supplies and equipment.

## EVALUATION

1. In the first year baseline available data will be gathered in the LGAs where ARI programs are implemented to estimate levels of morbidity and mortality and to assess the performance of the referral system. A focused ethnographic study will be conducted in 1-2 LGAs to understand local practices related to ARI and design IEC messages.
2. Bi-annual Technical Advisory Group (TAG) meetings shall be conducted to review program implementation. The composition of the TAG is as follows:
  1. Four Pediatricians(One from each PHC zone)
  2. Rural Clinician
  3. Medical Microbiologist
  4. Epidemiologist/Statistician
  5. Social Scientist
  6. FMOH-EPI/CDD/ARI
  7. EDP
  8. Health Educator
  9. CCCD Representative
  10. WHO
  11. UNICEF
  12. National Association of Nongovernmental Organizations (NANGO)
  13. Monitoring and Evaluation Unit, PHC
  14. Training and Manpower Division
3. The terms of reference of the TAG are:
  - a. To advise the Government on the formulation, implementation, monitoring and evaluation of NAIRP.
  - b. To make recommendations concerning ARI control measures and especially appropriate case management and research.
  - c. To review the NAIRP periodically.
4. A program review will be conducted every two years with the first review to be held in June 1993.
5. A comprehensive program review will occur in 1996. The detailed terms of reference for this review will be elaborated with the different organizations assisting the Government of Nigeria with the ARI program.

Draft Prepared by the Members of the National  
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B

ANNEX II

NIGERIA NATIONAL PLAN OF OPERATIONS

FEDERAL REPUBLIC OF NIGERIA  
FEDERAL MINISTRY OF HEALTH  
DEPARTMENT OF PRIMARY HEALTH CARE  
NATIONAL ARI PROGRAMME

PLAN OF OPERATIONS 1991-92

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## ABBREVIATIONS

ARI	Acute Respiratory Infections
ATU	ARI Training Unit
CCCCD	Combatting Childhood Communicable Diseases
CDD	Control of Diarrhoeal Disease
DTU	Diarrhoea Training Unit
EDP	Essential Drug Programme
EPI	Expanded Programme on Immunizations
FES	Focussed Ethnographic Study
FMOH	Federal Ministry of Health
JCHEW	Junior Community Health Extension Worker
LGA	Local Government Area
NARIP	National ARI Programme
PHC	Primary Health Care
SCHEW	Senior Community Health Extension Worker
TAG	Technical Advisory Group
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VHW	Village Health Worker
WHO	World Health Organization

## I. INTRODUCTION

The Federal Ministry of Health (FMOH) recognizes that Acute Respiratory Infections (ARI) are a major child health problem in Nigeria. ARI, with diarrhoeal diseases, are the leading cause of mortality in children under 5 years of age. They account for a large proportion of hospital admissions and constitute the first cause of attendance to outpatient clinics.

As a result, the FMOH has instituted a National ARI Programme (NARIP) that will be integrated within the Primary Health Care (PHC) Programme. At the central level, the NARIP will form part of the unit dealing with the Expanded Programme on Immunization (EPI) and the Programme for the Control of Diarrhoeal Diseases (CDD). At the peripheral level, it will be implemented under the responsibility of the Local Government Areas (LGA).

The EPI/CDD/ARI unit of the PHC Services Division of the FMOH will be responsible for the implementation of the NARIP at national level. A National ARI Technical Advisory Group (TAG) will be designated to assist in the development of the programme and in its periodic review. At peripheral level, the programme will be managed by the PHC Coordinators of the LGAs and by their assistants (Figure 1).

This annual plan of operations is a first draft and it will require further discussion and refinement. In particular, the LGAs involved in the initial phase will be required to adapt it to their local situation and to add all the details necessary for the implementation of activities.

## II. GEOGRAPHY

The Federal Republic of Nigeria lies between 3 and 14 degrees east longitude, and 4 and 14 degrees north latitude, and has an area of 923,769 square kilometers. The longest distance from east to west is about 1,126 kilometers, and from north to south about 1,046 kilometers. It is bounded on the west by the Republic of Benin; on the east by Cameroon Republic; on the north by Niger and Chad Republics; and on the south by the Gulf of Guinea.

The country has a tropical climate, with an annual rainfall of 440 cm in the south and 65 cm in the north. There are two main seasons: the dry and the rainy season. The length of the rainy season varies considerably according to zone. Generally, rainfall is heaviest between June and September. The average annual maximum temperature varies from 38 degrees centigrade in the north to 31 degrees centigrade in the south, while the average annual minimum is 23 degrees centigrade in the south and 18 degrees centigrade in the north.

## III. DEMOGRAPHY

According to the National Population Council Publication of January 1988, the mid-year estimated population in 1988 was 112.3 million with a crude birth rate of 48 per 1000 per year and a 3.2% annual growth rate. Population projections for 1990 based on the 1963 census figures were 115.3 millions. The projection for 1992 is 122.8 million people.

Below are some essential demographic data:

Population (estimated for 1990)	115,300,000
Population under 15 (48%)	55,047,600
Women between 15 and 49 yrs (24%)	27,700,000
Children under 5 yrs (18%)	20,700,000
Children under 1 yr (4.4%)	5,100,000
Crude birth rate per 1000	48
Crude death rate per 1000	16
Annual rate of natural increase (%)	3.2
Infant mortality rate per 1000	85
Underfive mortality rate per 1000	145

About 30% of the population live in urban settlements of 20,000 inhabitants or more, while the other 70% live in about 100,000 scattered rural communities, some of which are not easily accessible. It is estimated that 60% of the urban population has access to potable water, while only 20% has access in rural areas.

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#### IV. ADMINISTRATION

Nigeria is currently divided into 21 States plus the Federal Territory of Abuja (Figure 2). Each of the States, including Abuja, is further divided into Local Government Areas (LGAs). There are 453 LGAs in the country. There are three tiers of government: Federal, State and Local Government. The Federal Republic has a democratic, presidential system of government.

Nigeria has the largest trained manpower resources in Africa. There are 25 Universities and many secondary and teacher training colleges. The adult literacy rate is estimated to be 54% for males and 31% for females. In 1990 3.12% of the Federal Government expenditure was designated for education. The official language is English.

While electronic mass media are government owned, Nigeria has the largest privately owned print media sector in Africa. Illiteracy may limit the use of the print media. The electronic media, especially radio, serve a very large proportion of the urban and rural population.

#### V. HEALTH SYSTEM

The national health policy is based on Primary Health Care, which is the tool for achieving the goal of Health for All by the year 2000. PHC focuses on the establishment of a village health system through community participation. It also aims at improving the quality of health services, increasing access to and correcting the maldistribution of health services. It is believed that integrated PHC services, based especially on EPI, CDD and ARI programmes, will improve the survival of Nigerian children.

For ease of implementation of PHC programmes, the country has been divided into 4 PHC zones: A, B, C and D. The LGAs in each State are responsible for implementing all PHC services, under the direct supervision of the PHC Coordinator. About 400 "model" and "willing" LGAs, out of 453, have now been restructured to adopt the PHC approach. In these LGAs, integrated PHC services have been put in place. Cost-recovery schemes have been introduced to ensure the regular provision of drugs and self reliance of the communities.

In 1990, 1.46% of the Federal Government expenditures was designated for health. Access to health care, defined as living within 5 kilometers of health services, is estimated to be 30% for rural and 75% for urban populations.

In 1987 it was estimated that about 10,000 first-level health facilities were serving the population of about 100,000 communities: these included maternities, health centres, clinics and dispensaries. Table 1 shows the number of health facilities available in 1988 by type. This list is not completely reliable, in particular regarding the private sector.

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It was estimated that about 10,000 doctors, out of 16,000 registered, were serving a population of about 103 million people, a ratio of 1 per 10,000. The number of nurses and midwives was estimated to be about 40,000, or 1 per 2,500. In addition, about 22,000 junior and senior community health extension workers (JCHEW/SCHEW) had been trained; not all had been employed, due to economic problems. Table 2 is a summary of the different categories of health workers operating in the country. The JCHEW and SCHEW employed by the public sector are usually based in the health facilities, although they perform community health tasks. Village Health Workers (VHW) and Traditional Birth Attendants (TBA) on the contrary are community based and work part-time as volunteers; there is no reliable information on their number.

VI. ARI PROBLEM

There is considerable evidence that ARI are a major cause of morbidity and mortality among young children in Nigeria. Several published and unpublished reviews of hospital data show that ARI, and pneumonias in particular, are the first cause of death in infants and among the first three in children between 1 and 4 years of age. Pneumonia accounts for 13% to 24% of hospital deaths from all causes in infants and children up to 14 years of age. The hospital case fatality ratio may reach up to 10%. Pneumonia represents also between 10% and 20% of all hospital admissions and ARI are undoubtedly the first cause of attendance at outpatient clinics.

Community studies in different areas have shown that ARI are the first cause of disease in children under 5 years of age. This fact is recognized also by mothers; in some areas mothers already recognize that fast and difficult breathing are signs of severe disease. Community studies have also shown that ARI are common in all seasons, but that their incidence slightly peaks twice between July and October and between January and March.

There is currently no available information on the specific mortality and incidence rates for pneumonia in children under 5 years of age, both at national, state and LGA level. This lack of information does not allow the NARIP to establish targets for the reduction of incidence and mortality. Some data are available from the disease notification system of the Epidemiological Division of the FMOH, but they are not adequate to derive population based incidence and mortality rates.

A recent national coverage survey revealed that approximately 85% of children are vaccinated against measles and about 81% have received the third dose of DPT at 2 years of age (National EPI Coverage Survey, preliminary report, FMOH, 18 April 1991).

## VII. OBJECTIVES

The NARIP will have the following objectives, in order of priority:

1. To reduce the mortality attributable to pneumonia in children under 5 years of age.
2. To decrease the inappropriate use of antibiotics and other drugs for the treatment of ARI in children.
3. To reduce the incidence of acute lower respiratory tract infections in children.

## VIII. STRATEGIES

The main strategy available to achieve the first two objectives is the early detection and treatment of pneumonia cases in children under 5 years of age. The FMOH will issue for this purpose standard case management guidelines, adapted from those proposed by the World Health Organization (WHO).

To achieve the third objective the only available strategy at present is the immunization of children against measles and whooping cough. By preventing the incidence of these diseases, immunization will also contribute to the achievement of the first objective. The NARIP will therefore collaborate with the EPI for the achievement and sustainment of high coverage rates.

Other preventive strategies and interventions, aimed at the reduction of the prevalence of risk factors for pneumonia, such as low birth weight, bottle feeding, malnutrition, vitamin A deficiency, indoor and outdoor air pollution, exposure to chilling and to cigarette smoking, will be considered in the future, after an appraisal of their effectiveness, cost and feasibility.

Improving the case management of pneumonia in all government and private health institutions will therefore be the focus of the NARIP in an initial phase. The process will include strengthening of capabilities such as training, provision of essential drugs and equipment, upgrading of health centres and hospitals and refinement of management procedures such as supervision, monitoring and referral systems.

## IX. STAGES

In the first year the ARI programme will be implemented only in the following LGAs (Figure 2):

- Ogoja in Cross River State (Zone A)
- Ife Central in Oyo State (Zone B)
- Jema'a in Kaduna State (Zone C)
- Akko in Bauchi State (Zone D)
- Kano Metro in Kano State (Zone D).

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These LGAs have been selected among model LGAs where PHC programmes are supported by the FMOH, WHO, UNICEF and USAID/CCCD (Table 3). After this initial experience other LGAs will be invited to institute ARI activities integrated with their PHC programme. It is expected that at least 50 LGAs, out of a total of 453, will have established the programme by the end of 1995.

Standard case management of the child with cough or difficult breathing will first be introduced in first-level health facilities and first referral hospitals, to increase the access rate. The health facilities with trained staff will have to be supplied regularly with standard antibiotics and appropriate equipment.

Where VHws and TBAs are present, they will be trained to assess children with cough and difficult breathing and prescribe standard antibiotic treatment at home to cases of pneumonia. They will refer all severe cases to hospitals. Trained VHws and TBAs will also be supplied with the standard antibiotic and with a sounding timer, to enable them to count the respiratory rate.

During this stage, supervision and monitoring will be essential to identify problems and offer solutions. In this way common mistakes will be corrected, management procedures will be streamlined and expansion of activities to other LGAs will be facilitated.

In this initial stage, communication activities will be limited to face-to-face education of mothers and other childminders on home care and recognition of signs of pneumonia. When standard case management becomes accessible to more than 50% of the population, communication of important messages will be done also through mass-media. Families will be educated to recognize pneumonia and to seek care promptly in health facilities or from VHws and TBAs.

X. ACTIVITIES

Four activities need to be planned at this stage to implement the NA<sup>2</sup>IP in the LGAs: training, supervision, communication and logistics. A detailed plan of activities for each LGA is not feasible without coordination with the local PHC Coordinator. In addition, the data available at central level (see Table 4, for example) are not sufficient for planning activities. It is hoped that some technical support will be provided initially to the five selected LGAs for this exercise.

1. TRAINING

Training courses are needed for the management and supervision of the programme at national and LGA level, and for the delivery of standard case management to children with ARI at first-level health facilities and first referral hospitals.

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#### A. PROGRAMME MANAGEMENT AND SUPERVISORY SKILLS

A course on programme management and supervision will be organized at FMOH level before the end of 1991, preferably at the end of August.

The participants in this first course will be the PHC Coordinators and their Assistants for EPI/CDD/ARI in the five LGAs selected for the initiation of activities. Ten federal technical facilitators, assigned to the states of the five selected LGAs, will also participate. In addition, the FMOH will designate two participants from the staff of the Department of PHC. Finally, UNICEF will be invited to designate five more, for a total of about 27 participants.

The director of the course will be designated by the FMOH, as well as one of the facilitators. WHO will provide two facilitators, possibly the medical officers for ARI in the country and in the regional offices. The last two facilitators will be hired in Nigeria. The course will have a duration of five or six days and will be immediately preceded by a 4 days meeting of the facilitators to review the materials and exercises.

Training will focus on management and supervisory skills. For this purpose a small committee will review the WHO modules for programme managers (ARI) and for supervisors (CDD) to select the most important items to be included. It is expected for example, to omit training the participants on national policies and evaluation and to give emphasis to establishing targets, planning and monitoring. The participants will also need to be trained on standard case management of ARI at PHC level, although there is no need to spend long hours on clinical practice sessions.

The FMOH will submit as soon as possible to WHO a proposal for the organization of this course that will include dates, venue and budget. WHO will provide the training documents necessary for the course. They will be adapted to the national ARI policy as stated in the document prepared by the National ARI Planning Committee for this purpose.

The five LGAs selected for the initiation of ARI activities will later prepare a detailed plan for the training of supervisors at local level. This local training activity is expected to take place between the end of 1991 and the end of 1992.

#### B. CASE MANAGEMENT

Three categories of health workers will be trained in ARI case management:

- doctors and senior nurses working in general and cottage hospitals and in large health centres;
- JCHEW and SCHEW working in health centres, health posts and dispensaries;
- village health workers and traditional birth attendants working at community level.

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In addition, training of trainers will be organized at national and zonal levels, using if possible the designated ARI Training Units (ATU) at Massey Street Children Hospital in Lagos, at Yola in Gongola State, at Owerri in Imo State and at the Children Hospital of Kano in Kano State. These centres have been designated also as Diarrhoea Training Units (DTU) for the CDD programme.

a. TRAINING OF TRAINERS

The first course for trainers in ARI case management will be organized by the FMOH before the end of 1991, if possible between the end of August and the beginning of September. The proposed venue is the city of Kano, where there is a Children Hospital. Kano State has recently allocated funds for ARI and there has been already some preliminary experience with training.

The course will be attended by 12-15 participants: one paediatrician or doctor from each of the four designated ATUs, one paediatrician or doctor from each of the five LGAs starting ARI activities, two or three paediatricians representing the medical schools and the paediatric association, one paediatrician or doctor designated by the FMOH and one by the Children Hospital in Kano.

Two or three clinical instructors will be required. WHO will provide a consultant with experience in ARI training, while one or two additional instructors will be hired locally. WHO assumes also the responsibility of providing training documents for the course.

The FMOH will submit as soon as possible to WHO a proposal for the organization of this course that will include dates, venue and budget. A five or six days duration is suggested for the training of trainers. The course should make the trainers familiar with the ARI/WHO training materials, including the video.

b. TRAINING OF OTHER HEALTH WORKERS

The five LGAs starting ARI activities will prepare detailed plans for training of the three categories of health workers mentioned above in case management. It is expected that on average it will take about 12 months to complete this training activity at local level. This means that the population with access to the health services in the five LGAs will probably have access to standard case management for ARI by the end of 1992.

The trainers in every LGA, in coordination with the trainers of the zonal ATUs, will be responsible for this activity, with support from the Assistant PHC Coordinator for EPI/CDD/ARI. The FMOH will provide the materials necessary for conducting the courses.

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It is recommended that 3-day courses are organized for doctors, and senior nurses, with a maximum of 12 participants per course. The staff working at first referral level will need some training also on treatment of severe pneumonia and very severe disease. For this purpose the guidelines proposed in the WHO manual "Acute Respiratory Infections in Children: Case Management in Small Hospitals in Developing Countries. A Manual for Doctors and other Senior Health Workers" (1990) will be used.

The duration of the courses for the other categories of health workers and for VHWs and TBAs will be established locally depending on feasibility, previous training and tasks that they are expected to perform. VHWs and TBAs, where present, should be trained ideally in a large nearby health centre by trained SCHEW with previous training experience. The courses for this category of health workers may have a variable duration and may even be spread along two or three weeks, with some hours per day spent on hands-on case management at the health centre.

In the LGAs, health services are provided by the private sector, including NGOs and missions, beside the public sector. It would be advisable to coordinate training in ARI case management with these health agencies or institutions, to increase the access rate considerably faster.

## 2. SUPERVISION

The supervision of ARI will be integrated with the existing PHC programme and the FMOH will be responsible for its organization at Zone, State, LGA and District levels. It is hoped that after training in ARI case management every health worker will be assigned to a supervisor able to visit him or her at least twice in a year. This close and complete supervision is considered essential in the first stage of the programme for the early identification and solution of problems, before expanding activities to other LGAs.

Each trained supervisor should be assigned to 8-10 health workers and should be allocated time and resources, including transport, sufficient for at least two supervisory visits a year to every health worker. Visits should aim at identification of problems and their solution. If a solution is not found locally the supervisor will appeal to an upper level of responsibility. A standard supervisory checklist will be designed by the FMOH to help perform this task. The supervisor will take the opportunity to reinforce training in case management during every visit.

The checklists completed during every visit will be kept by the supervisor and will be used to prepare a short quarterly report on the health workers visited, the number of visits and the problems identified. Summary reports will be prepared quarterly by the Assistant PHC Coordinator and forwarded to the FMOH in a timely fashion.

The EPI/CDD/ARI staff of the FMOH, with assistance from WHO, UNICEF and USAID/CCCD, will be responsible for support and supervision of training in case management at LGA level. Although EPI/CDD/ARI staff are not expected to participate in each training course taking place in every LGA, they will do their best to be present in most of the planned courses in this initial stage.

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### 3. COMMUNICATION

The case management strategy is based on early recognition of signs and symptoms of pneumonia and prompt care seeking outside the home. This dependence on the use of health services means that health workers must be adequately trained and that health facilities must be regularly supplied with standard antibiotics before mass communication is used. Meanwhile, health workers must be able to communicate individually or in small groups with mothers and other childminders, to educate them on the use of antibiotics and home care.

Communication skills therefore will be included in case management training. In every course there will be a session on this subject followed by practical exercises. Talking with mothers or childminders attending as outpatients in the health facility would be ideal; an alternative would be to use role plays or other practical exercises.

The FMOH will prepare a list of two or three very important messages, among the following, that have to be communicated to caretakers of children with ARI:

- how to recognize danger signs and fast or difficult breathing and seek treatment;
- how to administer antibiotics for the treatment of pneumonia at home;
- how to avoid using antibiotics and other drugs for common coughs and colds;
- how to feed and increase fluid intake in children with ARI treated at home;
- how to avoid harmful treatment practices.

The messages will vary depending on the child's condition and on cultural patterns. Messages on misuse of antibiotics for example may be a priority in certain areas but not in others, while known harmful practices also have a variable geographical distribution.

The list of messages, and their translation into a language (or drawings) easily understood in every area, will be derived from current knowledge on the practices of health workers, drug sellers, mothers and families. Some KAP studies have already been carried out in some areas, but they have not covered all the topics needed for the above purpose. Focused Ethnographic Studies (FES), using or adapting the protocol prepared by WHO, will be carried out in one or two LGAs to complete the picture and to train national social scientists conducting this type of surveys. The first FES is expected to take place in October 1991 in Ife Central, Oyo State, with support from WHO and USAID/CCCD.

The messages chosen for communication activities, adequately adapted, will be used for the preparation of materials, such as posters, leaflets and job aids, to be used at first-level health facilities for face-to-face communication. Mass media will not be used in this initial stage of the programme and until accessibility to standard case management has reached at least the 50% level.

#### 4. LOGISTICS

This part of the plan will consider the supply of drugs and other equipment considered essential for the implementation of activities.

##### A. DRUGS

The NARIP will not establish an independent system for the procurement and distribution of drugs, but will cooperate with the Essential Drugs Programme (EDP). Cotrimoxazole, adult tablets, will be used for the treatment of pneumonia at home, while benzyl penicillin, gentamicin and chloramphenicol will be given to children with severe pneumonia and very severe disease admitted to hospital. These drugs are already included in the essential drugs list, except for cotrimoxazole at the level of VHWs, TBAs and first-level health facilities.

Commercial cough and cold remedies are not recommended for ARI in children and should not be used in health facilities. A single ingredient cough suppressant may be prescribed for severe pertussis and a single ingredient antihistaminic for confirmed allergic conditions. The FMOH will try to identify safe traditional remedies to recommend for home treatment of common colds and coughs.

At this stage, it is difficult to estimate the quantity of drugs needed for ARI activities. This planning exercise will be conducted at LGA level before the initiation of activities. Table 5 suggests a method for this calculation. The parameters used can be changed depending on the information available locally or the best available estimate. It is assumed that the incidence rate of pneumonia in children under 5 years of age is about 20 cases per 100 children per year.

##### B. EQUIPMENT

Oxygen should be available in first referral hospitals, as well as the equipment needed for its delivery to children with severe pneumonia or very severe disease. Oxygen concentrators may be needed in places where oxygen cylinders can not be supplied regularly.

Sounding timers to count the respiratory rate in children with ARI will be provided to those health facilities where health workers have been trained in standard case management.

Video equipment will be needed to show the WHO video on "Assessment of the Child with Cough or Difficult Breathing", that is essential for an exercise included in the WHO module "Management of the Young Child with an Acute Respiratory Infection" (1991). The module will be used for training in supervisory skills and case management at central and local levels.

In the initial stage the NARIP will use the WHO modules for training, with a short guide for local adaptation. In future, the programme will study the appropriateness of producing national training documents.

## XI. SUBTARGETS

Subtargets for training, needs of drugs, communication, access and use rates will be established by the NARIP after the preparation of detailed plan of activities in the five selected LGAs, where information is available for this type of planning exercise. The FMOH and the agencies supporting the programme will collaborate with the PHC coordinators and their assistants for this purpose.

### 1. TRAINING

This subtarget refers to the proportion of each category of health workers, including VHWs and TBAs, that have to be trained in case management of children with cough or difficult breathing by a certain time in each LGA. A list of all the health workers to be trained, i.e. those who are caring for children under 5 years of age, is necessary. The subtarget is then established according to the priority given to each category and to the number of courses that it is considered feasible to conduct during a certain time. It can be phrased as follows: "By (month) (year), (number) (category of health workers), corresponding to (%) of the total in (LGA), will be trained in the case management of children with cough or difficult breathing". The health workers expected to leave or to arrive in the LGA during the period must be taken into account.

### 2. DRUGS NEEDS

This subtarget refers to the proportion of each category of health facilities that have to be regularly supplied with standard antibiotics by a certain time in each LGA. A list of all the health facilities providing care to children is needed; VHWs and TBAs must be considered individually. The subtarget is then established in coordination with the EDP in the area. It can be phrased as follows: "By (month) (year), (number) (category of health facilities) or (VHWs/TBAs), corresponding to (%) of the total in (LGA), will be regularly supplied (100% of the time) with (antibiotics)". Ideally, this subtarget should correspond to the health facilities with trained health workers. A similar subtarget can be established for the availability of oxygen in first referral hospitals.

### 3. COMMUNICATION

The communication subtargets refer to the proportion of mothers or caretakers attending the health facilities, or the VHWs and TBAs, of a given LGA that receive information about the communication messages selected by the programme. In a subsequent stage, when mass-media are used to communicate these messages, the subtargets will refer to all the families in a community. They can be phrased as follows: "By (month) (year), (%) of mothers attending the health facilities in (LGA) will receive information about (message)". The subtargets can be established once it has been estimated how many health workers in every health facility will be trained to talk with mothers.

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#### 4. ACCESS

This subtarget refers to the proportion of children under 5 years of age in a given LGA having access to a health facility, or to a VHW or TBA, where standard case management is available, i.e. where at least one health worker has been trained and standard antibiotics are regularly supplied. Access can be defined as living within 5 kilometres or one hour from a health facility, or a VHW and TBA. The subtarget can be established after the subtargets on training and availability of drugs have been decided. It can be phrased as follows: "By (month) (year), (number), or (%), of children under 5 years in (LGA) will have access to standard case management".

#### 5. USE

This subtarget refers to the proportion of cases of pneumonia in children being actually given standard case management in a given LGA: having access is not enough, children with pneumonia have to be taken to the health facilities, or to VHWs and TBAs, and have to be correctly assessed, classified and treated. The subtarget can be phrased as follows: "By (month) (year), (%) of all childhood pneumonia cases in (LGA) will be correctly identified and treated". All the previously described subtargets must be taken into account to establish the use subtarget. The data can be used for planning and evaluation purposes, as it has been done in Table 5 for example.

### XII. TARGETS

Since data on pneumonia mortality in children under 5 years of age are not available, it is currently impossible to establish impact targets. A significant reduction of pneumonia mortality should however be expected when high access and use rates are achieved in the delivery of standard case management. Sustained high coverage rates of the EPI are also needed to further reduce the incidence and mortality rates of pneumonia.

The NARIP will try to assess trends in the use of antibiotics and other drugs used for ARI and to determine costs. The standard case management strategy is expected to bring about a more rational use of drugs and therefore a reduction of public expenditure.

### XIII. MONITORING

The EPI/CDD/ARI Unit of the Department of PHC will be responsible for overall monitoring of the NARIP; including federal and zonal activities. This will mean reviewing every six months the summary reports on training and supervision, relevant reports received by the Monitoring and Evaluation Unit, including those of the Sentinel Surveillance system, and making occasional visits to the sites where activities are carried out. The EPI/CDD/ARI Unit will periodically provide feedback to the zonal and LGA levels.

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At the LGA level, the PHC Coordinator and his assistant will monitor programme implementation; routine supervision will be integrated into the LGA PHC supervisory system.

Specific aspects that need to be monitored at central and peripheral level include:

- the number of health workers trained in case management;
- the number of supervisory visits and reports submitted;
- the regular procurement and distribution of drugs;
- the correct use of the case management guidelines;
- the number of cases of pneumonia diagnosed;
- the number of severe cases correctly referred to hospital.

The FMOH will also, via the ARI Technical Advisory Group, develop a plan for the surveillance of the sensitivity of Streptococcus pneumoniae and Haemophilus influenzae to the standard antibiotics.

#### XIV. EVALUATION

It will be difficult to evaluate the achievement of the objectives of the programme, since there is not sufficient information on the incidence and mortality rates for pneumonia in children. It is assumed that the programme will have an impact on these rates if activities are carried out correctly and reach a substantial proportion of the population.

It is important to collect data on cases and deaths due to pneumonia seen in the health facilities or by VHWs and TBAs. They will be used to estimate the use rate, if the expected number of cases can be approximately calculated on the basis of an incidence rate of 20 per 100 children under 5 years per year. The data can also be used to calculate the hospital case fatality ratio, a proxy indirect indicator of the quality of case management. The Monitoring and Evaluation Unit of the Department of PHC at the FMOH will issue standard guidelines on the collection of health facility data on cases and deaths due to pneumonia.

The NARIP consider that the following indicators are essential for the evaluation of the programme and that the collection of data is feasible:

- 1) The proportion of health workers, including VHWs and TBAs, trained in the case management of children with cough or difficult breathing by LGA. Every LGA starting ARI activities should institute a system for recording and reporting the number of health workers trained among those caring for children.
- 2) The proportion of health facilities, including VHWs and TBAs, regularly supplied with standard antibiotics by LGA. Every LGA and health facility should have a routine system for recording and reporting on stocks of these antibiotics.

- 3) The proportion of children under 5 years with access to a health facility, including VHWs and TBAs, with at least one health worker trained in case management and regularly supplied with standard antibiotics by LGA. The data for this indicator can be derived from the routine information system mentioned above.
- 4) The proportion of children under 5 years with pneumonia who use the health facilities, including VHWs and TBAs, able to deliver standard case management. The denominator will be the best available estimate of the number of expected cases in a given area. Routine records will be used for the numerator.
- 5) The proportion of cases of childhood pneumonia seen at health facilities that are correctly identified and treated. A health facility survey must be planned and organised for this purpose. It is suggested to conduct such a survey in the LGAs with ARI activities approximately three years after the initiation of the programme.
- 6) The proportion of children with ARI seen at health facilities who should not receive antibiotics but who are given them. This indicator too will be calculated with the results of the above-mentioned health facility survey.
- 7) The proportion of mothers and caretakers attending the health facilities that are given proper advice on home care. The collection of data will be done during the same health facility survey.
- 8) The costs incurred by the FMOH to supply standard antibiotics to the health facilities. It is hoped that the NARIP will contribute to decrease these costs by rationalizing the use of antibiotics. The data on procurement and distribution of antibiotics will be elaborated annually by the EDP and will be used to calculate costs.

#### XV. WORKPLAN

A detailed workplan illustrates the activities that will be performed by the staff of the NARIP, supported by WHO, UNICEF and USAID/CCCD, in the next 12 months (Annex 1). The workplan includes also some activities to be carried out at LGA level, but detailed workplans for the five selected LGAs will be elaborated as soon as possible in coordination with the PHC coordinators and their assistants.

#### XVI. BUDGET AND RESOURCES

A complete budget will be worked out when the LGAs have finished elaborating their plans of activities. Meanwhile, the workplan in Annex 1 shows the budget needed to cover initial activities and the potential sources of funds.

The FMOH will avail to the programme the staff at central and peripheral levels, the health infrastructure of the public sector, vehicles, fuel, stationery and the standard antibiotics.

FIGURE 1: ORGANIZATIONAL CHART AT LGA LEVEL.

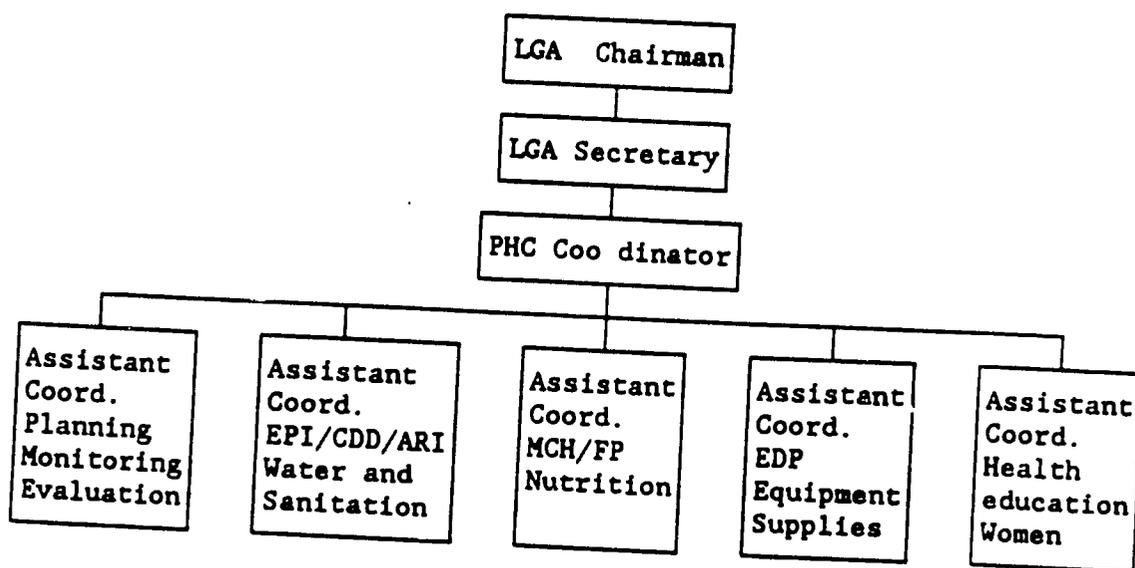
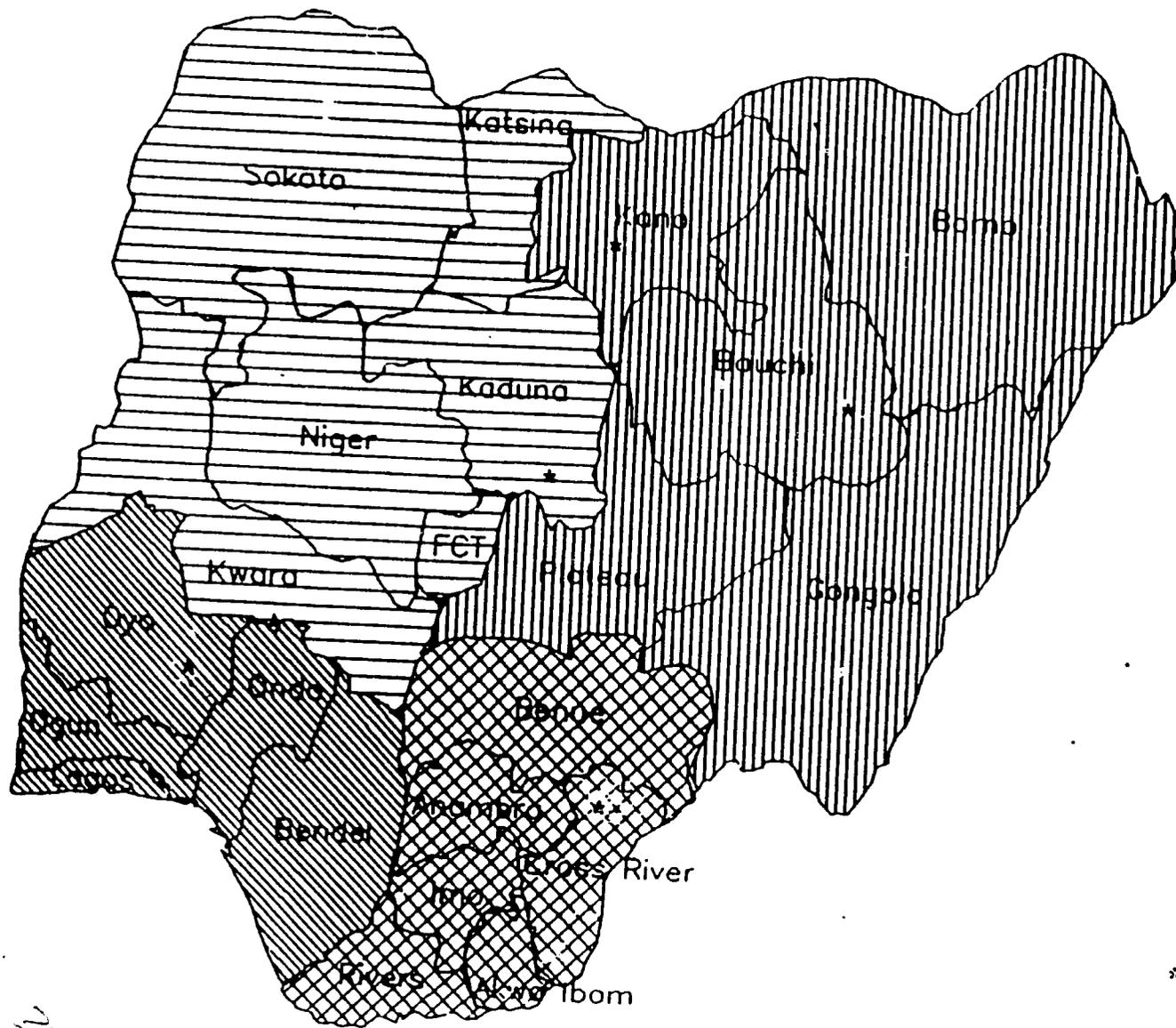


FIGURE 2

# NIGERIA

## HEALTH ZONES



### Health Zones

-  ZONE A
-  ZONE B
-  ZONE C
-  ZONE D

\*Selected LGAs for initiation of ARI activities.

TABLE 1: HEALTH FACILITIES, NIGERIA, 1988.

ZONE	STATE	HOSPITALS		HEALTH CENTRES	DISPENSARIES
		GOVT.	PRIV.		
A	Akwa-Ibom	62	46	101	35
A	Anambra	71	296	71	78
A	Benue	29	210	20	284
A	Cross River	28	59	130	224
A	Imo	90	596	88	80
A	Rivers	54	36	33	74
B	Bendel	82	187	58	250
B	Lagos	55	168	43	245
B	Ogun	99	196	25	287
B	Ondo	97	291	38	269
B	Oyo	35	88	6	220
C	Kaduna	23	98	14	176
C	Katsina	7	27	28	240
C	Kwara	32	124	29	198
C	Niger	8	3	43	187
C	Sokoto	9	4	36	319
D	Bauchi	11	51	22	311
D	Borno	23	12	75	134
D	Gongola	13	14	39	284
D	Kano	26	34	13	307
D	Plateau	16	64	10	205
TOTAL		870	2604	922	4407

Source: FMOH, Medical Statistics Division.

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TABLE 3: MODEL LGAS SUPPORTED BY THE FMOH, WHO, UNICEF, AND USAID/CCCD.

ZONE	STATE	LGA	MODEL FOR
A	ANAMBRA	NSUKKA	USAID/CCCD
A	BENUE	IDAH	WHO
A	BENUE	KWANDE	UNICEF
A	BENUE	OJU	WHO
A	CROSS RIVER	to be chosen	WHO
A	IMO	OGOJA	UNICEF
A		UKWA	WHO
B	LAGOS	OJO	USAID/CCCD
B	OGUN	IJEBU-ODE	WHO
B	ONDO	OWO	UNICEF
B	ONDO	IDANRE-IFEDORE	UNICEF
B	OYO	IFE-CENTRAL	USAID/CCCD
B	OYO	ORIADE	UNICEF
B	OYO	ISEYIN	UNICEF
B	OYO	EJIGBO	UNICEF
B	OYO	IFELOJU	UNICEF
C	KADUNA	IKARA	UNICEF
C	KADUNA	JEMA'A	UNICEF
C	NIGER	AGAIE	UNICEF
C	NIGER	CHANCHAGA	WHO
C	NIGER	LAPAI	USAID/CCCD
C	NIGER	SHIRORO	WHO
C	NIGER	SULEJA	USAID/CCCD
C	SOKOTO	KAURA NAMODA	USAID/CCCD
D	BAUCHI	AKKO	UNICEF
D	BAUCHI	DARAZO	UNICEF
D	BORUO	MAIDUGURI	WHO
D	GONGOLA	GOMBI	UNICEF
D	GONGOLA	MAYO-BELWA	UNICEF
D	KANO	KANO METRO	FMOH
D	PLATEAU	BARAKIN-LADI	USAID/CCCD
D	PLATEAU	PANKSHIN	USAID/CCCD

TABLE 2:

## HEALTH MANPOWER IN NIGERIA, 1985-1989

PARAMETER	1985	1986	1987	1988	1989
Registered Medical Practitioners	14,757	16,003	16,145	17,121	17,954
Nigerian	(11,908)	(12,794)	(13,332)	(14,364)	(15,075)
Non-Nigerian	(2,849)	(3,209)	(2,813)	(2,757)	(2,879)
Registered Dentists	899	1,001	999	1,040	1,088
Nigerian	(694)	(774)	(787)	(842)	(899)
Non-Nigerian	(205)	(227)	(212)	(198)	(189)
Registered Veterinary Surgeons	1,292	1,305	1,363	1,529	1,658
Registered Nurses(RNs/SRNs)	45,976	50,946	56,120	60,462	64,503
Registered Midwives(RMs/SCMs)	39,137	42,423	45,852	49,297	52,378
Grade II Midwives(Sub-Professionals)	(6,078)	(6,078)	(6,078)	(6,078)	(6,078)
Registered Community Midwives(formally Community Nurses)	2,667	2,667	2,667	2,667	2,667
Registered Psychiatric Nurse	1,839	2,061	2,268	2,458	2,610
Regd. Public Health Nurses(Health Sisters)	635	715	1,066	1,257	1,418
Registered Nurse Tutors	1,139	1,222	1,295	1,304	1,360
Registered Midwives Tutors	437	466	490	495	516
Regd. Public Health Nurse Tutors	107	112	120	121	130
Regd. Psychiatric Nurse Tutors	67	71	71	N.A.	N.A.
Registered Nurse-Administrators	524	561	652	698	818
<del>Registered Nurse Anaesthetics</del>	342	368	N.A.	N.A.	N.A.
Newly Admitted Student Nurses	5,095	2,050	1,599	4,336	2,546
Newly Admitted Student Midwives(for R.M. Only)	3,115	2,238	1,567	2,597	1,696
Newly Admitted Student Comm. Midwives	(278)	(278)	(278)	(278)	(278)
Environmental Health Officers	3,968	4,386	4,924	5,322	5,637
Public Health Supt. Tutors from(UCH)	155	170	189	214	237
Registered Pharmacist	3,557	4,080	4,466	4,960	5,318
Regd. Med. Laboratory Technologists	2,558	2,882	3,038	2,735	3,052
Fellows	(413)	(466)	(488)	(518)	(550)
Associates	(1,686)	(1,881)	(2,005)	(2,217)	(2,502)
Provisions	(459)	(535)	(545)	(-)	(-)
Student Medical Lab. Technologists Ordinary Status(3rd & 4th Class-Year)	1,682	1,690	1,863	2,476	2,079
Student Status(1st & 2nd Class-Year)	(256)	(245)	(330)	(486)	(420)
Approval Training Institutions for Medical Laboratory Technologists	(1,426)	(1,445)	(1,533)	(1,990)	(1,659)
Medical Records Officers	23	11	18	18	11
Associates & Fellows	209	211	221	230	255
Affiliates	(249)	(151)	(161)	(170)	(205)
Radiographers	(60)	(60)	(60)	(60)	(50)
Audiologists/Speech Pathologists	486	500	520	545	570
Dietitians	18	20	23	N.A.	N.A.
Physiotherapists	110	120	125	130	137
Dental Technologists	517	564	577	642	685
Dental Therapists	390	318	327	401	401
Community Health Officers	261	293	321	359	367
Community Health Supervisors	1,023	1,201	1,459	1,694	2,068
Com. Health Extension Workers	620	1,120	1,568	2,089	2,512
Jun. Comm. Health Extension Workers	8,664	9,972	11,424	12,545	14,288
Certified Laboratory Assistants	8,758	9,618	10,318	11,096	12,308
	1,274	1,409	1,815	1,662	1,928

Not Available.

**TABLE 4: MAIN FEATURES OF AKKO LGA IN BAUCHI STATE (1986).**

Area	4,968 sq. km.
Population	620,455
Largest settlement: Kalshingi	35,000
Annual health expenditure	N.N. 762,659
General Hospitals	2
Cottage Hospitals	3
Health Clinics	3
Dispensaries	40
Maternity Clinics	7
Pharmaceutical Stores	1
Patent Medicine Stores	30
Principal Health Superintendent	1
Community Health Officers	1
Senior Health Superintendent	2
Higher Rural Health Superintendent	3
Nursing Sisters	1
Community Health Supervisors	1
Midwives	16
Rural Health Superintendents	11
Community Health Assistants	3
Rural Health Assistants	38
Community Health Aids	38
Community Health Attendants	17
Sanitary Attendants	36
Dispensary Attendants	39
Leprosy attendants	4

The list includes only health workers paid by the LGA. There may be doctors and senior nurses paid by the State in the General and Cottage Hospitals. Private health facilities and private health workers are not included.

TABLE 5: METHOD FOR THE ESTIMATION OF THE QUANTITY OF ANTIBIOTICS NEEDED FOR PNEUMONIA AT LGA LEVEL, USING A POPULATION OF 100,000 CHILDREN UNDER 5 YEARS AND AN INCIDENCE RATE OF 20 CASES OF PNEUMONIA PER 100 CHILDREN PER YEAR.

A.	Population under 5 years of age	100,000
B.	Expected cases of pneumonia: 20% x A	20,000
C.	Cases with access to health services: 50% x B	10,000
D.	Cases actually using health services: 70% x C	7,000
E.	Cases correctly identified: 80% x D	5,600
F.	Under 2 months of age: 20% x E	1,120
G.	Between 2 months and 4 years: 80% x E	4,480
H.	Treatment at home: 80% of G	3,584
I.	plus 10% of E - H who can not be admitted	202
J.	Total treatments with antibiotics at home: H + I	3,786
K.	Total cases for hospital treatment: E - J	1,814
L.	With benzyl penicillin: 40% of K	726
M.	With benzyl penicillin + gentamicin: 50% of K	907
N.	With chloramphenicol: 10% of K	181
O.	Average number of cotrimoxazole tablets per case	5
P.	Total cotrimoxazole tablets needed: J x O	18,930
Q.	plus 50% for waste and emergency	28,395
R.	Average course of benzyl penicillin in vials	5
S.	Total benzyl penicillin needed in vials: (L+M) x R	8,165
T.	plus 50% for waste and emergency	12,248
U.	Average course of gentamicin in vials	15
V.	Total gentamicin needed in vials: M x U	13,605
W.	plus 50% for waste and emergency	20,408
Y.	Average course of chloramphenicol in vials	5
X.	Total chloramphenicol needed in vials: N x Y	905
Z.	plus 50% for waste and emergency	1,358

Costs can be easily calculated multiplying the quantities needed by the unit cost of each antibiotic. The parameters used can be changed if local information is available.

**ANNEX 1: WORKPLAN AND BUDGET (1 US \$ - 10 NAIRA)**

ACTIVITY	RESPONSIBLE	TIMING	BUDGET (NAIRA)	SOURCE	COMMENTS
1.1 Finalize ARI policy and plan	FMOH	Jun 91	50,000	UNICEF CCCD	workshop 2 weeks 10 people
1.2 Review ARI policy, plan with PHC zones states, LGAs	FMOH WHO UNICEF CCCD	Jul 91	25,000	FMOH WHO UNICEF CCCD	2 days meeting for 20 people
1.3 Technical Advisory Group to advise and review NARIP	FMOH WHO UNICEF CCCD	Dec 91 Dec 92	100,000	FMOH WHO UNICEF CCCD	2 x 2 d. meetings for 16 people
2.1 Assessment of ATUs in 4 PHC Zones	FMOH	Aug 91			suitability of DTUs
2.2 Establishment of 4 ATUs	FMOH LGA	Sep 91 Aug 92	200,000	WHO UNICEF CCCD	equip as needed
3.1 National course for programme management and supervision	FMOH WHO UNICEF CCCD	Aug 91	75,000	FMOH WHO UNICEF CCCD	initial training for PHC states and LGAs
3.2 National course in case management	FMOH WHO UNICEF CCCD	Sep 91	50,000	FMOH WHO UNICEF CCCD	training of train- ers in ATU/LGA
3.3 3 days courses in case management at LGAs	FMOH WHO UNICEF CCCD	Nov 91 Dec 92		FMOH WHO UNICEF CCCD	12 health workers per course
3.4 Supply of training documents and materials	FMOH WHO	Aug 91 Dec 92		FMOH WHO UNICEF	WHO modu- les plus printing of charts
4.1 Communi- cation	FMOH WHO CCCD	Oct 91 May 92	100,000	WHO CCCD UNICEF	KAP/FES studies

### Annex III

#### Revisions to WHO Standard Case Management Guidelines For Nigeria

1. Management of wheezing and of ear and throat infections should not be taught, because the NARIP in the initial stage will emphasize management of the child with cough or difficult breathing. All sections of the WHO modules and charts, including the annexes, referring to the above-mentioned conditions should not be used for case management training in the initial phase of the program.
2. For the assessment of the child with cough or difficult breathing, health workers should be trained to make sure, when taking the history, that force-feeding does not mask the child's inability to drink, an important danger sign. A specific recommendation to avoid force-feeding the children should also be introduced in the chapter on home care.
3. For the home treatment of pneumonia, training should focus only on the use of cotrimoxazole tablets for adults. Any mention of the use of other antibiotics should be omitted. Examples and exercises should be modified accordingly. Mothers and childminders should be taught to mix crushed tablets with small amounts of water, breast milk, milk or other fluids and to administer this compound to children with a teaspoon. Instructions on home treatment should be made specific for cotrimoxazole tablets for adults and simple drawings should be used instead of written instructions. A child with pneumonia not getting better after 2 days should be referred to a hospital, if the health worker can ascertain that the treatment has been administered properly. If this is not the case, the same treatment with cotrimoxazole should be prescribed with more emphasis on compliance and follow-up.
4. Cough and cold remedies should not be provided to health facilities. All the sections of the WHO module and chart, including footnotes and exercises, referring to soothing remedies should not be used in training. The NARIP will investigate the possibility of recommending the use of a safe home remedy. A long-term objective of the NARIP will be the education of parents, health workers and drug dealers to avoid the use of cough and cold remedies. Harmful practices, such as putting mentholated balms into the nostrils or giving hot pepper to children with stomatitis, need to be discouraged and should therefore be mentioned in the training on home care advice.

Annex III  
Page 2  
Revisions to WHO Standard Case Management Guidelines  
For Nigeria

5. Referral to hospitals may be difficult for structural, functional or cultural reasons (mothers often have to return home and obtain authorization to go to a hospital). Severe cases should therefore receive a dose or a full course of the available antibiotic, if referral is delayed or considered to be unlikely. If referral is not feasible, one of the alternatives listed in Annex B of the WHO module should be used according to the level of training of the health worker and to the availability of drugs and equipment. If referral is feasible, the home-based record, or a simple piece of paper in its absence, should be used as a referral note. Detailed referral instructions need to be LGA-specific, due to the variability between LGAs.
6. Low-reading rectal thermometers should be included in the supply list for first-level health facilities and first-referral hospitals to enable trained health workers to detect danger signs and manage fever. The guidelines on the management of fever issued by the national malaria program should be incorporated into the ARI standard case management guidelines.
7. Health workers in first-level health facilities and first-referral hospitals trained in the use of the ARI standard case management guidelines should be provided with a sounding timer for counting the respiratory rate in children.
8. The drawings in the WHO modules and charts should be adapted to Nigerian cultural patterns when training materials are prepared and printed in Nigeria.

ANNEX IV

Members of the Nigeria National  
ARI Planning Committee

Dr. (Mrs.) M. D. Adedeji	FMOH
Mrs. N. Smith	FMOH
Dr. T. Adegboyega	FMOH
Mrs. S. O. Lawani	FMOH
Mrs. T. A. Adeyi	FMOH
Dr. 'Doyin Fabule	Consultant
Dr. C. O. Oyejide	Consultant
Ms. Anne Rodman	USAID/Lagos/CCCD
Dr. Frank Mueke	WHO/Lagos
Dr. K. Mung	UNICEF/Lagos

ANNEX V

Contacts-Nigeria

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WHO Representative Nigeria  
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Other

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Dr. Ogunleje

President Nigerian Pediatric Society  
Acting Director Massi Street Hospital

ANNEX VI

Model LGAs in Nigeria Supported by WHO, UNICEF, and USAID/CCCD

ZONE	STATE	LGA	MODEL FOR
A	ANAMBRA	NSUKKA	USAID/CCCD
A	BENUE	IDEH	WHO
A	BENUE	KWANDE	UNICEF
A	BENUE	OFU	UNICEF
A	BEUUE	to be chosen	WHO*
<u>A</u>	<u>CROSS RIVER</u>	<u>OGOJA</u>	<u>UNICEF*</u>
A	IMO	UKWE	WHO
B	LAGOS	OJO	USAID/CCCD
B	OGUU	IJEBU-ODE	WHO
B	ONDO	OWO	UNICEF*
B	ONDO	IDANRE OR IFEDORE	UNICEF*
<u>B</u>	<u>OYO</u>	<u>IFE-CENTRAL</u>	<u>USAID/CCCD</u>
<u>B</u>	<u>OYO</u>	<u>ORIADE</u>	<u>UNICEF</u>
B	OYO	ISEYIN	UNICEF
B	OYO	EJIGBO	UNICEF
B	OYO	IFELOJU	UNICEF
C	KADUNA	IKARA	UNICEF
<u>C</u>	<u>KADUNA</u>	<u>JEMA'A</u>	<u>UNICEF</u>
<u>C</u>	<u>NIGER</u>	<u>AGAE</u>	<u>UNICEF</u>
C	NIGER	CHECHENGE	WHO
C	NIGER	LAPAI	USAID/CCCD
C	NIGER	SHIRORO	WHO
C	NIGER	SULEJA	USAID/CCCD
C	SOKOTO	KAURA NAMODA	USAID/CCCD
D	BAUCHI	AKKO	UNICEF
<u>D</u>	<u>BAUCHI</u>	<u>DARAZO</u>	<u>UNICEF</u>
D	BORUO	MEIDUGURI	WHO
D	GONGOLA	GOMBI	UNICEF
D	GONGOLA	MAYO BELWA	UNICEF
D	KANO	KANO METRO	FMOH
<u>D</u>	<u>PLATEAU</u>	<u>BARKIN-LADI</u>	<u>USAID/CCCD</u>
D	PLATEAU	PANKSHIN	USAID/CCCD

\* Provisional Choices

Bold = LGAs proposed for the start of NARIP

**INTERCOUNTRY MEETING FOR NATIONAL  
ACUTE RESPIRATORY INFECTIONS (ARI)  
PROGRAMME MANAGERS**

16 June 1991

Tunis, 17-20 June 1991

EM/INC.MTG.ARI/1

**PROVISIONAL PROGRAMME**

Monday, 17 June 1991

- 08.00 - 09.00           Registration
- 09.00 - 09.30           Opening session:  
Address by Dr H.A. Gezairy, Regional Director,  
WHO/EMRO  
Inaugural address by H.E. The Minister of Public  
Health of Tunisia.
- 09.30 - 10.00           Coffee break
- 10.00 - 10.15           Introduction of participants  
Election of officers  
Objectives of the Meeting, Dr M. Lichnevski, Regional  
Adviser, ARI, WHO/EMRO  
Adoption of Provisional Agenda
- 10.15 - 11.00           Plenary: Global overview of ARI Programme operations  
and research - Dr A. Pio, ARI Programme Manager,  
ARI/HQ, Geneva
- 11.00 - 11.30           Regional overview of ARI Programme operations -  
Dr M. Lichnevski, Regional Adviser, ARI, WHO/EMRO
- 11.30 - 12.00           UNICEF Regional collaboration in National ARI  
Programmes - UNICEF Regional Office staff
- 12.00 - 13.00           Plenary: Review of Key Policy Areas and Options in ARI  
Programmes, Dr A. Pio, ARI Programme Manager, ARI/HQ,  
Geneva
- Plenary: Planning of National ARI Programmes,  
Dr N. Guerin, WHO Temporary Adviser
- 13.00 - 13.30           Coffee break
- 13.30 - 15.30           Groups: Discussion of Planning National ARI Programmes  
(Individual consultations of National Managers with  
WHO Secretariat)

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Tuesday, 18 June 1991

- 08.30 - 10.30      Groups: Discussion of ARI Policy Options
- 10.30 - 11.00      Coffee break
- 11.00 - 12.00      Plenary: WHO ARI Training Materials and Preparing a National Training Plan, Dr V. Kumar, WHO STC
- 12.00 - 13.00      Groups: Discussion on preparation of National ARI Training Plan
- 13.00 - 13.30      Coffee break
- 13.30 - 15.30      Groups: Discussion on preparation of National ARI Training Plan (continued)
- (Individual consultations of National Managers with WHO Secretariat).

Wednesday, 19 June 1991

- 08.30 - 09.30      Plenary: Development of communication materials for use in ARI programmes, Dr A. Pio, ARI, WHO/Geneva
- 09.30 - 10.30      Groups: Development of communication materials
- 10.30 - 11.00      Coffee break
- 11.00 - 13.00      Plenary: Individual country presentations (15 minutes per presentation) - National Managers
- 13.00 - 13.30      Coffee break
- 13.30 - 14.30      Plenary: Individual country presentations, National Managers
- 14.30 - 15.30      Plenary: Identification of implementation problems, causes, seeking solutions, Dr V. Kumar, WHO/STC
- (Individual consultations of National Managers with WHO Secretariat)

Thursday, 20 June 1991

- 08.30 - 10.00      Groups: Problem solving
- 10.00 - 10.30      Evaluation of meeting/future plans - Mr P. Crippen, Technical Officer, ARI, WHO/EMRO
- 10.30 - 11.00      Coffee break
- 11.00 - 12.00      Proposed recommendations - Dr M. Lichnevski, Regional Adviser, ARI, WHO/EMRO
- 12.00 - 13.00      Discussion/approval of draft report.