REACH
RESOURCES FOR CHILD HEALTH

TECHNICAL ASSISTANCE TO THE GOVERNMENT OF CAMEROON IN DEVELOPING ACTIONS FOR THE CONTROL OF ACUTE RESPIRATORY INFECTIONS

September 16-28, 1991

Yaounde, Cameroon

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LIST OF ACRONYMS

ATU	ARI Training Unit
ARI	Acute Respiratory Infections
CDR	Control of Diarrheal and Respiratory Diseases Division of WHO
CHU	Centre Hopitaliere Universitaire
CUSS	Centre Universitaire de Science et Sante
GTZ	German Technical Cooperation
MOPH	Ministry of Public Health
MSP	Ministere de la Sante Publique
PHC	Primary Health Care
PMI	Protection Materno-Infantile
REACH	Resources for Child Health
SAP	Structural Adjustment Program
SESA	Projet Sante de l'Enfant du Sud et de l'Adamaoua
UNICEF	United Nations Children's Fund
WHO	World Health Organization

1.0 INTRODUCTION

The Ministry of Public Health (Ministere de la Sante Publique or MSP) of the Government of Cameroon first expressed interest in developing a national ARI control program in Cameroon in May 1989, when an inter-country ARI Awareness Conference was held in Douala. Since that time, three Cameroonian physicians have participated in inter-country ARI Programme Manager courses sponsored by the Control of Diarrheal and Respiratory Diseases Division of the World Health Organization (WHO/CDR). Dr. David Awasum, Director of Family and Mental Health, and Dr. Marie-Therese Obama, Coordinator of Pediatrics at the University Hospital, were participants at a course for anglophone Africa in Harare, Zimbabwe in May 1990. They subsequently acted as facilitators at the Kigali, Rwanda course for francophone Africa convened by WHO in February 1991. Dr. Ekambi, Director of Bamenda Provincial Hospital in Northwest Province, also attended the Kigali course as a participant.

Cameroon was the only country at the Kigali workshop to present a draft plan for a national ARI program. The plan had been formally submitted to the Minister of Health in January 1991 for financing. The Inspector General of the MSP wrote in support of the plan, stating that ARI is a priority program for the 1991 Plan of Action for Child Survival in Cameroon. The Director of Hospital Medicine also responded positively to the draft plan and gave his support for putting the program into place in the hospitals. WHO/CDR suggested to Cameroonian officials that if the plan could be further detailed, it would enhance the prospect of external funding.

The Ministry of Public Health (MSP) formally requested technical assistance from WHO for revision of the draft planning document for a national ARI program in July, 1991. In response, WHO fielded a team from the Resources for Child Health (REACH) Project, an A.I.D.-supported project managed by John Snow, Inc. Two REACH technical officers, Dr. Mary Carnell and Ms. Rebecca Fields, assisted in this two week mission, conducted September 16-28, 1991.

At the time of this team's visit, no ARI Programme Manager had been appointed and it had not yet been decided in which directorate the programme would be situated. Awaiting WHO assistance for revision of the draft document, the ministry had not disseminated the document nor held any working groups on ARI prior to the team's arrival. A national policy for ARI control had not yet been elaborated.

Upon arrival, two half-day meetings were organized to introduce an ARI national initiative and encourage discussion. Key persons in the MSP and several donor assisted government projects in Primary Health Care were invited by the Minister of Public Health to attend these sessions.

Persons contacted during the mission are listed in Annex 1.

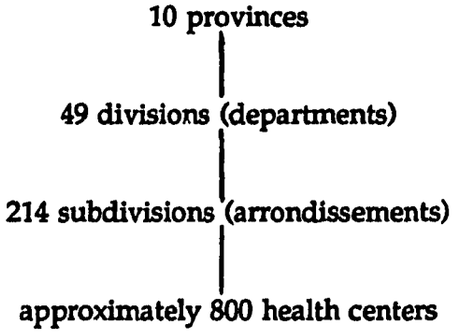
2.0 STRUCTURE OF THE HEALTH CARE SYSTEM

The MSP was reorganized in 1989. The new administrative structure is comprised of a Minister of Public Health, two technical advisors, an Inspector General, a Secretary General, and six directorates, as follows:

- Preventive and Rural Medicine
- Hospital Medicine
- Family and Mental Health
- Pharmacy
- Planning, Studies, and Statistics
- General Administration.

With strong efforts to integrate primary health care services, there is a de-emphasis on placement of vertical programs within a division, and on vertical programs at all. In general, however, infectious disease control programs such as EPI and CDD are administered through the Directorate of Preventive and Rural Medicine. Family planning and MCH services are provided through the Directorate of Family and Mental Health. There is coordination and some overlap between these two directorates, especially at the divisional level (see below); for example, Family Health provides training for some of the technical areas covered by Preventive Medicine.

The administrative structure of the MSP is as follows:



The most peripheral operational unit for health in the government system is now the health district. A health district is composed of the sub-division (arrondissement) hospital and health services and all the health centers in the subdivision. Staffing of the health district, including the hospital, consists of one physician, two-three registered nurses, three to four auxiliary nurses, and approximately ten nurses aides. They are responsible for sub-division hospital and health center activities, as well as supervision of outlying health centers in the sub-division.

The focus for peripheral services has moved away from an emphasis on the village level and is now at the health center level. Staffing at the health center should include one auxiliary nurse, one auxiliary midwife, and three to four nurses aides.

It should be noted, however, that approximately 40% of all health services in Cameroon are provided by non-governmental organizations (NGOs), primarily religious missions.

3.0 PRIMARY HEALTH CARE IN CAMEROON

3.1 Structural Adjustment Program

Since 1987, Cameroon has been in serious economic recession. Marked drops on international markets of the prices of Cameroon's principal exports, including oil, cocoa, coffee and rubber, coupled with increased expenditures for government personnel, increased external loans, and decreased investment accounted, in 1987, for the largest deficit (146 billion CFA or $US 584 million) ever recorded.

In 1989, a Structural Adjustment Program (SAP) was instituted that led to the restructuring of government expenditures, particularly in the education and health sectors. In January 1989, the Government of Cameroon officially adopted a "Reorientation to Primary Health Care" that now dictates much of the operation of existing services and will guide the implementation of any new services.

3.2 Reorientation to Primary Health Care

The reorientation to PHC is central to the changes that have occurred in the MSP. Spurred by the escalating economic recession, this new directive is based on the Bamako Initiative approach. Considerable focus of this reorientation is on decentralization of MSP management to the provincial level, co-financing and co-management of health centers by the communities being served, and the creation of the health district (arrondissement/sub-division) as the basic operational unit. Emphasis has been placed on cost recovery through both fees for services and the sale of drugs; the implications of the latter will need to be taken into account in promoting the rational use of drugs in ARI case management.

Currently, several bilateral and multilateral donor projects are assisting the MSP in putting the reorientation policy into practice. Each project is working in portions of from one to three provinces so that each of Cameroon's ten provinces has project activity, as follows:

Province(s)	Donor and/or Project
Northwest, Southwest, Littoral	GTZ
East, Central, West	UNICEF
Adamaoua, South	USAID, through the Projet Sante de l'Enfant du Sud et de l'Adamaoua (SESA)
Extreme North	USAID, through a joint Save the Children/CARE project
Extreme North	Belgian Cooperation, through the CIM project
North	French Cooperation (FAC)

A description of the scopes of the major PHC projects in included in Annex 2.
Although projects are active in all provinces, less than 10% of the country's population currently has access to project assisted PHC centers. Initial focus of the projects has been on management training at the health center and subdivision levels, with considerable emphasis on drug supply management for cost recovery. Increased attention to technical training in various PHC program areas is planned.

4.0 INTEGRATION OF ARI INTO PRIMARY HEALTH CARE

At the time of this visit, the idea of a national ARI control initiative was in a rudimentary stage. While a plan of operations had been drafted in 1990, as of September 1991, no ARI program manager had not been appointed, a decision had not been made on which directorate would be responsible for the functioning of an ARI program, no ARI advisory committee or planning committee had been formed, and a national policy had not been formulated.

Neither the Ministry of Public Health nor any of the donor agencies working in health in Cameroon are interested in creating any new vertical programs. The Control of Diarrheal Disease Programme (CDD), operating since 1987, has a national focus and will complete training in the last of the ten provinces in October 1991. Both the CDD program and the Expanded Program on Immunization (EPI) have been asked to fully integrate their programs into PHC over the next two years. To date, supplies and logistics for both EPI and CDD have been handled independently. In the future, it is hoped that one comprehensive logistics system will supply all PHC program areas.

There is widespread support that a priority initiative such as ARI control requires a full-time coordinator at the central level. Such support was voiced from the Minister of Public Health, the Inspector General, and the Directors of Preventive Medicine, Family and Mental Health, and Hospital Medicine, as well as the donors involved in PHC projects in Cameroon.

The Director of Preventive Medicine, whose directorate oversees PHC, articulated that although it is essential to have the objective of integration from the outset, there must be a period of central support for two or more years. A new initiative or program requires training of a core of trainers in the technical specifics of that program and time to phase in training to the provinces and divisions.

Although the importance of ARI control in decreasing morbidity and mortality of children in Cameroon is now better appreciated, there is considerable concern about the absorptive capacity of PHC at this time. The same key persons at the central and provincial levels are being called upon to assist with new family planning initiatives, malaria control programs, AIDS prevention, nutrition and breastfeeding programs.

All persons contacted were interested in decreasing the current length of training for each individual technical program area of PHC, so that integrated courses could be offered requiring less time away from work. For example, the five day CDD course has been modified to be covered in three days. Areas common to many programs, such as logistics, drug supplies, supervision, and monitoring, need to be synthesized in order to develop integrated management tools (supervisory checklists, monitoring forms, etc.)

Such a comprehensive approach to integration requires considerable time and resources to develop suitable training materials. Although WHO training modules exist for ARI, CDD, and EPI, they have not been designed to be used in integrated training, so that adaptation will be required. Other PHC program areas also require creation of appropriate training materials for integrated training.

4.1 ARI Statistics from Cameroon

Health statistics on morbidity and mortality are not routinely compiled at outpatient and inpatient facilities in Cameroon. Although reliable and complete nationwide figures from inpatient and outpatient records are not available, data from a variety of sources provide a consistent picture of ARI as a leading causes of morbidity and mortality. In terms of morbidity, service statistics from all reporting facilities in 1986 indicate a combined incidence of pneumonia and bronchopneumonia of 259 per thousand infants, making it the third leading cause of infant mortality after malaria and acute upper respiratory infections. Data from all reporting facilities during the first half of 1989 show pneumonia as the fifth leading cause of morbidity (immediately following acute upper respiratory infections) for all ages of the population. With respect to mortality, data from all reporting facilities in 1986 indicate pneumonia as the second leading cause of death in infants, accounting for over 17% of infant deaths.

This team was allowed access to the outpatient registers at the Protection Maternelle Infantile outpatient clinic adjacent to Yaounde Central Hospital (PMI-Centrale). Staff at the inpatient pediatrics ward of Central Hospital compiled data on pneumonia cases for 1990-1991.

4.1.1 Central Hospital

Central Hospital in Yaounde is more heavily utilized than any other hospital in Cameroon. There are 120 pediatric and 50 neonatal beds with 100% occupancy. There are 50-60 deliveries daily. From January 1990 through September 1991, 17,000 children under five years were treated at the Central Hospital pediatrics ward. Approximately 3,018 or 18% were diagnosed as having pneumonia. No information on case-fatality was available on these cases; however, an analysis of data from Central Hospital during the years 1983-86 showed a case fatality rate of 8.7% for pediatric admissions for ARI.

4.1.2 PMI-Centrale

The team examined one month of records (January 1991) from PMI-Centrale, the largest outpatient MCH center in Cameroon, to assess the magnitude of ARI--both lower and upper--as a health problem in infants and children under five years of age. (Time limitations prohibited the analysis of records from an entire calendar year.) A previous study at the University Hospital demonstrated that the incidence of ARI for the month of January was near the annual median with respect to the seasonal occurrence of ARI.

Three different registers were examined: (1) the "triage" register for children aged 5 months up to five years old; (2) the register from the ORT corner; and (3) the postnatal register for infants less than 5 months of age. Because children under five months and those with diarrhea go directly to specified clinic areas, there is not a problem of double counting when combining data from the three registers.

Consultations were categorized by age and diagnosis. The team's intent was to categorize diagnosis by pneumonia and non-pneumonia ARI. However, PMI staff said that because diagnosis of pneumonia cannot be confirmed during patient registration, the designation of "cough and fever" is usually recorded for suspected cases of pneumonia. For this analysis, diagnoses were therefore classified as either "cough and fever" or "other ARI". The latter category includes such conditions as cough without fever, rhinopharyngitis, and sore throat.

Because the intent was to focus on ARI in children under 5 years old, consultations for children over five were excluded from both the numerator and denominator of all calculations. Results are shown on the next page.

PMI-CENTRALE, YAOUNDE
CONSULTATIONS IN CHILDREN UNDER 5 YEARS, JANUARY 1991

Source	No. of Consultations	Cough and Fever (Suspected Pneumonia)		Other ARI	
		< 1 yr	1-4 yr	<1 yr	1-4 yr
Triage Register	1082	78	121	95	182
ORT Corner Register	528	2	2	102	70
Postnatal Clinic Register	269	2	–	115	–
TOTALS	1879	82 (4.4%)	123 (6.6%)	312 (17%)	252 (13%)

205 (11%)

546 (30%)

769 (41%)

In January 1991, a total of 1879 children under 5 years were seen in consultation. Suspected pneumonia cases ("cough and fever") were seen in 205 or approximately 11% of all consultations during this month, while "other ARI" were seen in about 30% of all consultations. Taken together, ARI diagnoses were included in 769 or 41% of all consultations for January 1991.

Of children treated in the ORT corner, 176 or 33% also had ARI symptoms. Of infants under 5 months of age seen in the postnatal clinic, 56% were recorded as having ARI symptoms. In general, this group of young infants is at highest risk of death from pneumonia.

If these data are annualized, approximately 22,500 consultations are made at PMI-Centrale each year. Extrapolating from the above findings, over 9200 ARI diagnoses in this one facility would be made annually, of which roughly 2500 would involve suspect cases of pneumonia.

One cause of concern in reviewing these data is the heavy use of drugs for case management. The "triage" register indicated that virtually every patient seen was given a prescription for one or more medications. The registers from the ORT corner and postnatal clinic did not include information on whether prescriptions were given.

Based on discussions with PMI staff and given the lack of standardization in ARI treatment practices, it is likely that the prescriptions included antibiotics, antipyretics and cough syrups, as well as antimalarials. In combination, these medications are expensive, certain are ineffective, and some may even be harmful--for example, administering cough syrup containing codeine to children.

Because Cameroon is a malarious area, it is highly probable that the current utilization of fever in the diagnosis of pneumonia leads to an overuse of antibiotics. Not only is this an added expense for the families to bear, but such overuse of antibiotics contributes to antibiotic resistance rendering these potentially life-saving medications useless.

4.2 Essential Drug Policy

The Director of Pharmacy has developed an Essential Drug List composed of 70 drugs for central hospitals and 30 drugs for health centers (Annex 3). Antibiotics appropriate for ARI case management, including cotrimoxazole in pediatric and adult tablet forms, ampicillin, benzyl and procaine penicillin, are included on the lists for both health center and hospital levels. This list was submitted for signature of the Minister of Public Health in June 1991; at the time of this team's visit, his decision was pending.

The MSP does not have clear policy guidelines for many technical areas in primary health care. This has led to a lack of standardization throughout the country in diagnosis and treatment of a variety of conditions. In the absence of such guidelines, each PHC project has designed its own guidelines and training materials. Specifically, projects are using different essential drugs lists (at least three exist) and different diagnostic and treatment protocols.

None of the current treatment protocols in use by the various projects follows the WHO recommendations for the diagnosis and treatment of ARI. They vary in degree of complexity, but all attempt to give health workers algorithms to assist them in determining how to approach diagnosis and treatment of common and serious illnesses.

Drugs considered either harmful and/or of little efficacy (wasteful) in the treatment of ARI appear on most lists. The various projects said that they would welcome clear policy guidelines from the MSP regarding essential drugs and diagnostic and treatment protocols for ARI and other common diseases.

4.3 Drug Procurement and Distribution

ONAPHARM, the government agency responsible for drug procurement, is not functioning adequately at present. In the absence of a centralized system, each PHC project has established its own system for procuring and distributing drugs.

For example, UNICEF orders drugs from UNIPAC and distributes them directly to the health centers that are operational in their project area. GTZ has assisted the government to establish propharmacies which manage the drug supply procurement and distribution from the provincial hospital level down to the health centers. The SESA project of USAID uses Ad Lucem, a non-governmental ecumenical consortium, which purchases and distributes drugs to the private sector, including many private mission hospitals and health centers throughout Cameroon.

Approximately 400 propharmacies are currently in operation in the country. GTZ has been particularly successful in assisting the government with propharmacies in the Northwest province. They are currently trying to shift the central distribution in the province from a separate warehouse to the provincial hospital to improve management.

ONAPHARM was intended to be the sole supplier of commodities to propharmacies. However, because it was not functioning well, propharmacies have had to turn to private suppliers. Therefore, the government is not able to control what is stocked in these pharmacies.

The National Order of Pharmacists is a powerful pharmacy society. There are 350 trained pharmacists in the country; 120 private pharmacists and 230 in government and/or wholesale. They hold two annual meetings. The agenda of the 1990 meeting was essential drugs.

Given the current multiplicity of agencies involved in drug procurement, not to mention the commercial private sector, considerable coordination will be required to bring standardization and acceptance of one national essential drug list with diagnostic and treatment guidelines into use.

There is some reported interest from World Bank and the European Economic Community (EEC) to assist the government in renovating ONAPHARM. One of the six studies currently commissioned with World Bank assistance focuses on drug policy.

4.4 World Bank

The World Bank is preparing to loan approximately $US 20 million for the health and population sectors in Cameroon. As background research for this loan, six studies are being conducted:

- human resources
- rationalization of infrastructure
- urban primary health care
- financing
- drug policy
- nutrition and PHC

These studies are in varying stages of preparation, but none has yet been completed.

4.5 Control of Diarrheal Diseases

Lessons learned from the CDD program in Cameroon should assist an ARI initiative. However, because the CDD program, started in 1987, predates the reorientation to PHC, there is no consensus that ARI should be combined with CDD in Cameroon.

CDD has functioned as a vertical government program with assistance from the PRITECH Project, funded by USAID. It has been functioning out of the Directorate of Preventive and Rural Medicine, in parallel to the newly created PHC structure which operates out of the same directorate. CDD is to be fully integrated into PHC over the next two years. In November 1991, the first CDD shortened training course will be offered in some PHC project areas.

Until recently, there were three full-time MSP staff and one long-term external advisor assigned to CDD at the central level; MSP staff included one physician program director and two nurse coordinators. The CDD director was recently transferred to a provincial post and no replacement has been identified.

The CDD program began in 1987 with CAMCORT (Cameroon Conference on Oral Rehydration Therapy) to raise consciousness among medical and public health decision makers about the importance of diarrhea and ORT and the components of a CDD program. It was followed by a series of Training of Trainers (TOT) courses with 3-4 persons/province included in the training. This was followed by training courses in each province; started in 1988, these provincial courses will be completed in October 1991. Approximately 450 persons have been directly trained in these courses.

Three Diarrheal Training Units (DTU) were created, at Yaounde Central Hospital and at Bamenda and Douala Provincial Hospitals. DTUs are divided into in-patient care in the pediatrics ward of the hospital and outpatient ORT corners in the adjoining PMI (MCH) center.

Echo training and ORT corners in the provinces have been encouraged but financing for these activities is not currently provided.

CDD is included in the pre-service curricula of the advanced nursing school courses. Medical students participate in DTU rotations during pediatrics.

CDD staff and advisors identified the following as the most difficult aspects of their program operations:

- convincing physicians to adopt the WHO approach to diarrhea control
- logistics: ONAPHARM does not distribute ORS packets; CDD has distributed all training materials and ORS packets in an ad hoc fashion.

The CDD program conducted a health facilities survey in June 1991. It revealed that few cases of diarrhea are presenting to health centers; only 11 cases of diarrhea were observed during the two week survey involving 70 health facilities.

5.0 MEETINGS TO INTRODUCE ARI INITIATIVE

Two afternoon-long meetings were held on September 24-25, 1991 to introduce the concept of a national ARI initiative, summarize the WHO approach to ARI standard case management, discuss how ARI could be integrated into PHC, and formulate the next steps required to begin ARI programming in Cameroon.

The Minister of Health supported these meetings and signed the formal invitation (Annex 4). These meetings were attended by the Director of Family & Mental Health, the Director of Pharmacy, and the Director of Hospital Medicine; the Coordinator of Pediatrics at University Hospital and the Chief of Pediatrics and of the DTU at Central Hospital; the chief physician at PMI-Centrale; PHC project directors for UNICEF, GTZ, and SESA; country and regional advisors for CDD (PRITECH); the USAID health officer (for part of the time) and the WHO consultant team for ARI (REACH). The Director of Preventive and Rural Medicine and the WHO representative were unable to attend.

A summary of the consultant team's presentation is in Annex 5.

5.1 Response to the W.H.O. Approach to ARI Control

Reactions from participants at the meeting to the WHO approach to ARI control include the following key points:

- MSP needs to develop policy guidelines for diagnosis and treatment of not only ARI but other common diseases responsible for high morbidity and mortality in children and adults.
- Combined training modules for pneumonia, diarrhea, nutrition, vaccination, and family planning are needed for use in both in-service refresher training and pre-service training schools.

- Integrated PHC does not mean that there is no need for an ARI Program Manager; program start-up requires a program manager who can be phased out over time.

- The first level of health services is now considered the health center, as previous attempts to utilize village health workers were not sustainable: it placed too heavy a burden on the village level with inadequate technical and financial support.

- Early detection of cases of pneumonia will be difficult as health education is currently quite limited and behavioral change can only be expected over the long term.

- Will adding an ARI initiative now risk to overburden the same key persons who are being asked to integrate programs for AIDS, family planning, malaria, breastfeeding, etc..?

- ARI ideally should be easy to integrate into PHC as regards drug policy and training.

- Start-up of ARI is only feasible in PHC integrated areas where drug supplies can be assured; PHC projects need to assure that community managed pharmacies stock the appropriate drugs.

- The MSP will need to start with curative care--a problem based approach--with a goal of improving overall quality of care and existing practices.

- There is a need to understand the magnitude of the ARI problem in Cameroon better; although childhood pneumonia mortality is high based on hospital experience in Cameroon, WHO household and health facility study protocols are in progress.

- Supervision and training will be more difficult than for some other PHC program areas, yet must be integrated.

- ARI needs in HIS, logistics, supplies, etc. must be adapted to fit into existing PHC programs; compromise is needed to decrease demands on training, supervision, and monitoring.

5.2 Conclusions from the Meetings

The most important themes to emerge from discussions at the two days of meeting were that:

- Health workers in Cameroon are currently confronted with large numbers of ARI cases daily;

- A standardized approach to ARI case management is needed if improved quality of care and the attendant amelioration in morbidity and mortality is to occur;

- An ARI initiative can be integrated into PHC in the reorientation project areas.

5.3 Financing for ARI

GTZ, UNICEF and SESA all agreed that the costs for integrating ARI into PHC in their respective programs from the provincial level down could be covered by existing budgets. Current budgeted monies are not available to cover central costs such as support for a national level awareness conference, modification of training materials, etc. However, project staff salaries, travel, and per diem for participation in ARI training and meetings could be covered by project budgets.

Therefore, with considerable funding for PHC decentralized and available at the provincial level, additional funds are only required to cover central functions. GTZ was optimistic that if ARI were to become a priority initiative for Cameroon, their two-year budget cycle beginning in 1993 could include assistance for central ARI needs.

5.4 Next Steps to Begin an ARI Initiative in Cameroon

Participants in the meeting identified the following steps that need to be taken to launch an ARI control initiative:

- Identify an ARI program manager and decide which directorate would be charged with responsibility for implementing ARI activities;

- Create an ARI Subcommittee within the National Coordination and Monitoring Committee for Health; the first meeting of the ARI Subcommittee could be held in conjunction with the full Committee meeting in November 1991; the full committee has 40 members representing MSP, NGOs, and multilateral and bilateral donor projects (Annex 6).

- The ARI Subcommittee would be responsible for drafting an ARI policy, revising an ARI national plan of operations, and defining needs for research and technical assistance.

- Use the National Medical Conference, scheduled for March 11-14, 1992, as a cost-effective mechanism to raise consciousness among high level health workers in the public and private sectors; attendance of approximately 350 physicians, nurses, and pharmacists is already supported by the MSP budget (pharmaceutical company financing). ARI could be put on the agenda for a half day.

- Take advantage of the presence of key health workers from around the country at the National Medical Conference to finalize ARI policy; invite key pediatricians and decision makers to an additional one day meeting on ARI.

- Following the National Medical Conference, the ARI Program Manager will work with the PHC projects in their respective provinces to organize provincial level ARI awareness meetings.

- The ARI Program Manager will coordinate provincial level ARI planning meetings where representatives from all participating PHC projects and hospitals will decide how to integrate training, drugs, supplies, logistics, and monitoring needs for ARI into their programs.

- Request WHO/Cameroon to send copies of the ARI Programme Managers Course modules in the quantities shown below to the following agencies to assist in initial sensitization of their staff to ARI:

	English	French
CARE	2	2
CIM	2	2
CUSS	2	2
GTZ	4	4
PRITECH	1	1
SCF	2	2
SESA	2	4
UNICEF	2	5
Total	17	22

- Organize Training of Trainers (TOT) courses for ARI standard case management; two to three persons from each PHC project area and from each province will need to be trained.

- Continue to work towards adoption of a national, government-approved essential drug list for various levels to be used nationwide in PHC projects, health centers, and hospitals with attention to WHO guidelines on ARI drugs. Specifically, the current draft list should be revised to eliminate codeine in cough medications for children, decide if the government will promote a single ingredient cough preparation such as guaiacol, and include recommended antibiotics for young infants and children with pneumonia.

6.0 CONCLUSIONS

ARI pose an enormous problem in Cameroon which has been underestimated to date. A review of clinic registers revealed that symptoms of ARI are reported in over 40% of children under five presenting at the largest outpatient department in the country.

From hospital studies, pneumonia is among the top three causes of hospital admissions and deaths in children under five.

Reorientation to PHC has been the major thrust of the Ministry of Public Health since 1989. ARI must be integrated into the PHC structure and any attempts to create a new vertical program will not be acceptable to the government.

Multilateral, bilateral and NGO assistance to PHC is present in all ten provinces. Therefore, funds can be mobilized at the provincial level to incorporate ARI programmatic needs for provinces into ongoing PHC. Funds to support central functions such as awareness raising, adaptation of training materials, Training of Trainers, creation of ARI Training Units, etc., are not yet identified.

National and provincial awareness raising is needed. Training is a perceived need by all. However, lack of government policy as regards essential drug lists and standardized diagnostic and treatment protocols for ARI is of critical importance and deserves first priority focus. Only with such policies can the various project areas be given clear guidance and standardized training modules be developed.

The Minister of Health has pledged his support for an ARI Initiative. During the debriefing, he stated that he will appoint an ARI Program Manager. In addition to being Minister of Health, he is the Chief Pediatrician in Cameroon. He sees pneumonia as a major cause of childhood illness and death. He is committed to linking curative and preventive care in Cameroon. He would like training modules to be created for pneumonia, vaccination, diarrhea, nutrition, malaria, and family planning which, taken together, would address the majority of public health problems. He hopes such modules would be used at the termination of pre-service training as well as for in-service refresher training.

Future meetings on ARI will need to include representatives from other PHC projects and private and NGO hospitals to stimulate their participation in integrating ARI into their current activities.

Modifications were made in the draft National ARI Plan of Operation in order to reorient the program toward integration into PHC (Annex 7). However, the plan will need to be completed once a national ARI Program Manager is identified and the necessary information from all participating provincial PHC projects is collected. A sample ARI policy from the Philippines is included (Annex 8) to assist the ARI sub-committee that is to be created in the drafting an ARI policy for Cameroon

7.0 RECOMMENDATIONS

1. Appoint an ARI National Program Manager as soon as possible.

2. Get ARI placed on the agenda for the next annual National Medical Conference in March 1992 and plan for extra sessions targeted at sensitizing key health and medical personnel to the national ARI strategy.

3. Identify potential members for ARI subcommittee to be created in conjunction with the Comite Technique de Coordination et de Suivi des Programmes et Projets d'Intervention dans le Domaine de la Sante.

4. Take necessary actions to officially create the ARI Subcommittee.

5. The ARI Subcommittee, once created, should begin with the following priority activities:

   - draft national ARI policy document;
   - review and modify revised National Plan of Operations;
   - identify basic research needs and areas for technical assistance (e.g., Focused Ethnographic Survey, costing and financing study).

6. Request WHO/CDR participation in the National Medical Conference, March 11-14, 1992 and follow-on meeting of key decision makers to finalize the national ARI policy.

7. Request WHO support to assist with conducting a country program managers course in Cameroon with participation of the new ARI manager, and government and non-government representatives from all PHC project areas where ARI will be integrated into PHC services. This course should be conducted following the adoption of national ARI policy guidelines.

8. After adoption of a national ARI policy, the Ministry of Public Health should disseminate standardized ARI diagnostic and treatment guidelines.

9. Adapt WHO training modules for ARI for use in integrated primary health care training courses; explore with WHO, REACH, USAID and other donors the possibility of their financial support and technical assistance to modify modules for use in pre-service and in-service training.

10. The ARI Program Manager or acting responsible official should follow up with GTZ, SESA, and UNICEF to consolidate interest in ARI control and outline next steps for integration of ARI into their current programming.

11. Initiate planning and budgeting process to include ARI in the Ministry of Public Health annual budget for 1992-1993.

PROPOSED EXTERNAL BUDGET FOR THE ARI PROGRAMME
1992-1993
(US DOLLARS)

	1992	1993
POLICY		
Consultant for Medical Conference and ARI Policy Workshop in Yaounde March 1992	3,500	-
(Supplement for 20 persons to attend one day Policy Workshop)	2,000	-
TRAINING		
Consultant for ARI Program Managers Course	3,500	-
Program Managers Course	2,500	
Training of Trainers Course	3,000	
Adaptation of WHO training materials to integrated PHC training modules	4,000	-
Printing of training materials	5,000	5,000
Equipment		
- timers	500	
- ATU	5,000	
COMMUNICATION		
Adaptation and printing of educational materials	3,000	-
TRANSPORTATION		
Program Manager to go from central to provincial levels	1000	1,500
SUPERVISION		
(supplement for per diem and petrol)	500	
	$32,500	$6,500

ANNEX 1

LIST OF PERSONS MET

Ministy of Public Health

Professor Joseph Mbede, Minister of Health
Dr. David Awasum, Director of Family and Mental Health
Dr. Rene Owona, Director of Preventive and Rural Medicine
Dr. Mathieu Kamwa, Director of Hospital Medicine
Dr. T.L. Lapnet, Director of Pharmacy
Inspector General

USAID

Richard Green, Health Population Nutrition Officer

WHO

Dr. Toure, Representative

UNICEF

Dr. Safiou Raimi Osseni, Health Program Administrator

Projet Sante de l'Enfant du Sud et de l'Adamaoua (SESA)

Dr. Claude Bodart, National Coordinator
Ms. Joan Schubert, project officer
Dr. Uwe Brinkmann, project consultant

GTZ

Dr. Bergis Schmidt-Ehry

PRITECH

Mr. Hugh Waters, national coordinator
Ms. Agma Prins, Regional Advisor for East and Central Africa

PMI-Centrale

Dr. Martina Baye, Chief Pediatrician
Mrs. Nzee, Chief Nurse for Triage

Centre Universitaire du Science et de la Sante (CUSS)

Dr. Tetanye Ekoe

Centre Hopitalier Universitaire (CHU)

Dr. Marie-Therese Obama, Coordinator of Pediatrics

ANNEX 2

Current Scope of PHC in Projects Attending ARI Planning Meeting

September 24-25, 1991

GTZ: By mid-1992, 75 reoriented PHC health centers will be operating in the provinces where they are assisting the government; 15 in Littoral Province, 30 in Northwest Province, and 30 in Southwest Province. In addition, 126 propharmacies are operating in these three provinces. With approximately 40% of health care being delivered by private or NGO hospitals, GTZ suggests integrating the private sector from the outset by using these hospitals for first referral and training sites in some areas.

SESA: Currently operational in 8 divisions and 19 sub-divisions; by the end of 1991 will be fully operational in 27 of 80 health centers in Adamaoua Province and 22 of 110 health centers in South Province. They have 12 core provincial trainers who have received training in Training of Trainers, supervisory skills and health center management. Technical training will begin in November 1991; key technical areas are family planning, diarrhea disease control, vaccination, nutrition, and malaria.

UNICEF: Currently operational in 40 health centers; 17 in East Province, 20 in Central Province, and 8 in West Province. They have divided each subdivision into 5 health areas. Phase I includes 20 health areas with a total of 158 health areas targeted over five years (1991-1995). Training in PHC management, EPI, and the utilization of diagnostic and treatment protocols for common illnesses form the core of the program; nutrition will be added.

ANNEX 3

MINISTERE DE LA SANTE
PUBLIQUE

REPUBLIQUE DU CAMEROUN
Paix - Travail - Patrie

LISTE NATIONALE DES MEDICAMENTS ESSENTIELS UTILISES DANS LES FORMATIONS SANITAIRES.

REMARQUE : CETTE LISTE EST PUBLIEE PAR DECISION DU MINISTRE DE LA SANTE PUBLIQUE. ELLE EST REVUE CHAQUE ANNEE ET REVISEE S'IL Y A LIEU.

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
1-ANESTHESIQUES							
1-1-Anesthésiques Généraux et Oxygène							
-DIAZEPAM.....	inj.	5mg / ml		x	x	x	
-HALOTHANE.....	inhalation				x	x	
-KETAMINE.....	inj.	50mg/Ml-F/10ml			x	x	
-OXYGENE	inhalation				x	x	
-PROTOXYDE D'AZOTE	"				x	x	
-THIOPENICOL SODIQUE	poudre	500mg/1g Amp.				x	
1-2-Anesthésiques Locaux							
-BUPIVACAINE CHLORHYDRATE.....	inj.	0,5 %				x	Anesthésie épidurale
-BUPIVACAINE + EPINEPHRINE.....							
-LIDOCAINE.....	inj.	2 %		x	x	x	
-LIDOCAINE + EPINEPHRINE.....	inj.	2 %				x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
2-ANALGESIQUES							
2-1 Non opiacés	inj.	500mg		x	x	x	
- Acide acétylsalicylique	Comp.	500mg	x	x	x	x	
	sachets	150mg	x	x	x	x	
- Allopurinol.....						x	
- Indométacine.....	Gélules	25mg			x	x	
	Comp.			x	x	x	
-Paracétamol.....	Comp.	5ocmg	x	x	x	x	
-Colchicine.....	COmp.	500mg				x	
-Probénécide.....	COmp.	500mg				x	
2-2 - Opiacés							
- Morphine.....	Inj.	10ml/Amp.1ml			x	x	commande spéciale et utilisation en conformité avec la réglementation
- Pethidine.....	Inj.	50mg			x	x	
3- ANTIALLERGIQUES ET MEDICAMENTS UTILISES EN ANAPHYLAXIE							
- Dexaméthasone/bétaméthasone.....	Inj.	4 mg			x	x	
- Hydrocortisone.....	INj.	100 mg		x	x	x	
- Chlorphenamine.....		500 mg		x	x	x	
- Prométhazine.....				x	x	x	

DESIGNATION	FORME	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
4-ANTIDOTES ET AUTRES DANS LES EMPOISONNEMENTS							
4-1 - Généraux							
4-2 - Spécifiques							
- Atropine.....	Inj.	1 mg			x	x	
5 - ANTI-EPILEPTIQUES							
- Diazepam.....	Inj.	5 mg		x	x	x	
- Phenobarbital.....	COmp.	10, 50, 100mg		x	x	x	
6- ANTI-INFECTIEUX							
6-1- Antielminthiques							
6-1-1- Antibel. Intestinaux							
- Mebendazole.....	Comp./Sirop		x	x	x	x	
- Niclosamide.....	Comp.			x	x	x	
6-1-2 - Antifilarien							
- Diethylcarbamazine..	Comp.	100 mg			x	x	
- Ivermectine.....	COmp.	600 mg			x	x	Distribué gratuitement par les Labo MSD.
6-1-3 - Schistocomicides							
- Praziquantel.....	Comp.	600 mg		x	x	x	Médecine Préventive

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
6-2- Antibactérien							
6-2-1- Pénicillines							
- Ampicillines.....	COMp./Gélul.	500 mg		x	x	x	
	Pdre pr sus-p° buv.	125 mg		x	x	x	
	inj.	1 g			x	x	
- Benzathine benzylpéni.	inj.	1,2 M UI		x	x	x	
		2,4 M UI			x	x	
- Benzylpénicilline....	inj.	1 M UI		x	x	x	
- ...	inj.	5 M UI			x	x	
- Procaine benzylpéni..	inj.	1 g		x	x	x	
6-2-2- Autres anti-bactériens							
-Chloramphénicol.....	inj.	1 g ou 750 mg			x	x	
	susp; buv..	150mg/5ml		x	x	x	
-Thiophenicol.....	Gélule	250 mg		x	x	x	
- Gentamycine.....	INj.	10mg			x	x	
		40mg			x	x	
		80 mg			x	x	
		160 mg				x	
- Métronidazole.....	inj.	500 mg				x	
	susp. buv.	200 mg				x	
- Sulfaméthoxazole+.. Triméthoprime.....	Comp.	100 mg + 20mg		x	x	x	
		400mg + 80mg		x	x	x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
-2-3- Antilepreux							
- Dapsone.							concerne Direction
- Rifampine.....							Méd. Prév; et rurale
-2-3- Antituberculeux							
- Ethambutol							- " -
- Isoniazide							
- Rifampicine							
- Streptomycine							
-3 - ANTIFONGIQUES							
- Griseofulvine.....	COmp.	200 mg		x	x	x	
4 - ANTIPROTOZOAIRES							
6-4-1- Amoebicides							
- Metronidazole.....	Comp.	250 mg		x	x	x	
	inj.	500 mg				x	
-4-2 Antileishmaniens							
- Pentanidine.....							concerne Direct Méd)
							prévent; et rurale)
-4-3- Antipaludiques							
- Chloroquine	Comp.	100 mg	x	x	x	x	
- quinine.....	inj.	0,2 g		x	x	x	
		0,4 g		x	x	x	

	GALENIQUE		NIVEAU DE FORMATIONS SANITAIRES				observations
			POSTE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT	HOPITAUX CENTRAUX ET PROVINCIAUX	
- Sulfadoxine + Pyriméthamine.....	Comp				x	x	
6-4-4- Trypanocides							
- Melarsoprol.....							concerne Direct. Lutte Prévent. et Rurale
- Pentamidine.....							
7- ANTIMIGRAINEUX							
- Acide Acetylsalicylique	Comp	500 mg	x	::	x	x	
- Paracetamol.....	Comp	500 mg		::	x	x	
8- MEDICAMENTS ANTINEOPLASIQUES ET IMMUNOSUPPRESSIFS							
8_1- Medicaments immunosuppresseurs							
- Néant							
8-2- Cytotoxiques							
- Cyclophosphamide.....					x	x	
- Methotrexate.....						x	
9- ANTI PARKINSONIENS							
10- MEDICAMENTS AFFECTANT LE SANG							

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE [illegible]	CENTRE DE [illegible]	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
10-1- Anti-anémiques							
- Acide folique.....	COmp.	5 mg	x	x	x	x	
- SEl ferreux.....	Comp.		x	x	x	x	
10-2- Anticoagulants							
- Héparine.....						x	+ Ecp. Départ;
-Protamine sulfate.....						x	+ Hôp. Départ.
10-3- Hemostases							
--Vit. K1.....						x	+ Hôp. Départ.
- Carbazochrome.....						x	"
- Ethamsylate.....						x	"
11- PRODUITS DERIVES DU SANG ET SUBSTITUTS							
- Substituts du Plasma							
- Dextran.....						x	
- Geloplasma.....					x	x	
12- CARDIOVASCULAIRES							
- Quinine.....	Comp.	200 mg		x	x	x	
- Hydrochlorothiazide..	Comp./Inj.				x	x	
- Propanolol.....	COmp.	80 mg				x	
- Methyldopa (en petite quantité).....	COmp.	250 mg			x	x	
- Digoxine.....	Comp.	250 mg				x	+ Hôp. Départ.
- DOpamine.....	Inj.	40 mg				x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX S'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
13- DERMATOLOGIQUES							
- Benzoate de benzyle....	Lotion		x	x	x	x	
- Violet de gentiane.....	Lotion		x	x	x	x	
14- MEDICAMENTS A USAGE DIAGNOSTIQUE							
15- DESINFECTANTS							
- Iode ou chlorhexidine	Solution				x	x	en chirurgie et
- KMN 04.....	Solution		x	x	x	x	en dermatologie
16- DIURETIQUES							
- Furosemide.....	Comp.	40 mg		x	x	x	médicament complé-
- Kcl.....	Comp.			x	x	x	mentaire
	Inj.	20 mg			x	x	
17- MEDICAMENTS GASTRO-INTESTINAUX							
17-1- Antiacides et autres Antiulcéreux							
- Cimétidine.....	COmp.					x	
- Hydroxyde d'aluminium.	Sachets		x	x	x	x	
17-2- Anti-emetiques							
- Metroclopramide.....	Inj.			x	x	x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
17-3- Antihemorroïdaires							
- Un antihemorroïdaire avec anesthésie locale	Suppo			x	x	x	n'existe pas en pro
	Pommede			x	x	x	duit générique
17-4- Anti-inflammatoires							
- Voir dans 3							
17-5- Antispasmodiques							
- Voir dans 4-2 + Hyoscine Butyl Bromide.....	Comp / Inj					x	+ Hôp. Départ.
17-6- Cathartiques							
17-7- Anti-diarrhéiques							
- S.R.O.	sachets		x	x	x	x	
18- HORMONES, AUTRES MEDICAMENTS ENDOCRINES ET CONTRACEPTIFS							
18-1- Hormones, Adrénergiques et substituts synthétiques							
- Voir dans 3							

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
16-2-Androgènes :							
- Testérone.....						x	
16-3-Contraceptifs:							Le DSFM, conjointement avec le FNUAP,
16-3-1-Contraceptifs hormonaux							ont un programme de
- Ethinylestradiol + Levonorgestrel.....	comp.	30mg +150mg	x	x	x	x	
	COMP.	50mg + 250mg	x	x	x	x	
- Enantate de noréthistérone.....	poudre pour usage parutéral	200mg en flacon				x	
16-3-2-Dispositifs intra-utérins contenant DU CUIVRE					x	x	
16-3-3- Contraceptifs mécaniques							
- Préservatifs masculin			x	x	x	x	
16-4- Estrogènes						x	
16-5- Insulines et autres antidiabétiques							
- Insuline ordinaire...	Inj			x	x	x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
16-4- Betrogenes							
16-5- Insuline et sucres Antidiabétiques							
- Insuline ordinaire....	inj			x	x	x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
18-6- Hormones thyroïdiennes et médicaments antithyroïdiens							
- Potassium Iodé		60 mg		x	x	x	
- Lévothyroxine.....	Comp.	60 mg			x	x	
- Carbamazole.....	Comp.	50 mg			x	x	
- Propylthiouracil.....	Comp.	50 mg			x	x	
19- IMMUNOLOGIE							
19-1- Sérums et Immunoglobulines							
- Sérum antivenimeux...	Inj.			x	x	x	
19-2- Vaccins							
- BCG.....	INJ			x	x	x	
- DTCP.....	INJ			x	x	x	
- Rougeole.....	Inj			x	x	x	
- Antitétanique.....	Inj			x	x	x	
- Antiméningococcique..	Inj				x	x	
- Antirabique.....	Inj				x	x	
- Antihépatite B.....	Inj			x	x	x	
20- PREPARATIONS OPHTALMOLOGIQUES							
- Rifamycine.....	Collyre Pde			x	x	x	
- Tétracycline.....	Pommade		x	x	x	x	
20-1- Anti-infectieux							
- Nitrate d'argent.....	Gouttes		x	x	x	x	
- Tétracycline.....	Pommade	1 %	x	x	x	x	

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATION SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
20-1- Anesthésiques locaux:							
- Tétracaïne.....	Collyre	5 %				x	
- Pilocarpie.....	Gouttes					x	
- Acetazolamide.....	Comp.	250 mg				x	
20-3- Mydriatiques							
- Epinephrine.....	Collyre					x	
21- OCYTOCIQUES ET ANTI-OCYTOCIQUES							
21-1- Oxytociques							
- Oxytocine.....	inj				x	x	
- Ergométrine.....	inj				x	x	
21-2- Antiocytociques							
- Salbutamol.....	inj			x	x	x	
	comp			x	x	x	
22- PSYCHOTROPES							
- Fluphenazine.....	inj	25mg/1ml			x	x	Décoinate
- Chlorpromazine.....	comp	100mg/cp	x	x	x	x	Remplace le valium pr les urgences sauf indication médicale
	inj	25mg/amp			x	x	
- Amitriptyne.....	comp	25 mg		x	x	x	pression

DESIGNATION	FORME GALENIQUE	DOSAGE	NIVEAU DES FORMATIONS SANITAIRES				OBSERVATIONS
			CASE DE SANTE	CENTRE DE SANTE	HOPITAUX D'ARRONDISSEMENT ET DEPARTEMENTAUX	HOPITAUX CENTRAUX ET PROVINCIAUX	
23- MEDICAMENTS DE L'APPAREIL RESPIRAT.OIRE							
23-1- Antiasthmatiques							
- Aminophylline.....	inj			x	x	x	
	comp			x	x	x	
- Salbutamol.....	inj			x	x	x	
23-2- Antitussifs							
- Codéine phosphate.....	comp	10 mg	x	x	x	x	
	sirop	10 mg	x	x	x	x	
24- SOLUTES PHYSIOLOGIQUES							
- Lactate.....	Perfusion			x	x	x	
- Glucosé 5 %.....	perfusion			x	x	x	
- Chlorure de potassium..	perfusion				x	x	
- Bicarbonate de sodium..	perfusion				x	x	
- Chlorure de sodium.....	perfusion	9 %.		x	x	x	
25 - VITAMINES ET MINERAUX							
- Un complexe vitaminique	comp		x	x	x	x	
	sirop		x	x	x	x	
- Vitamine A.....			x	x	x	x	

ANNEX 4

MINISTERE DE LA SANTE PUBLIQUE

N° [illegible] /T/MSP/SG/DSF[illegible]

REPUBLIQUE DU CAMEROUN
Paix - Travail _ Patrie

MESSAGE - PORTE

Les destinataires du présent Message Porté sont conviés à une réunion qui se tiendra du 24 au 25 Septembre à partir de 15 Heures précises dans la bibliothèque de la Direction de la Médecine Préventive et de Santé Publique.

L'ordre du jour comporte l'élaboration des stratégies de l'intégration de la lutte contre les Infections Respiratoires Aiguës dans le programme des Soins de Santé Primaires.

DESTINATAIRES :

- DFH
- DSTM
- REPRESENTANT OMS
- COORDINATEUR GTZ/CESA
- CHEF DE PROGRAMME UNICEF
- CHEF DE PROGRAMME USAID
- [illegible]
- COORDINATEUR PRITECH
- DR OBAMA Marie-Thérèse CPH
- DR TETANY FCY

YAOUNDE, le 20 SEPTEMBRE 1991
LE MINISTRE DE LA SANTE PUBLIQUE

Pr Joseph MBE[illegible]

REPUBLIQUE DU CAMEROUN
MINISTERE DE LA SANTE PUBLIQUE
DIRECTORATE OF PUBLIC HEALTH

AMPLIATIONS :

- [illegible]
- [illegible]
- [illegible]
- ARCHIVES
- [illegible]

ANNEX 5

ARI CONTROL PROGRAMS

(presentation by Mary Carnell, September 24, 1991)

1. BACKGROUND

- ARI is a major cause of morbidity and mortality. Pneumonia accounts for approximately 30% or mortality in children under five years of age.

- ARI is a major economic drain

  * inappropriate drugs
  * wasteful use of important antibiotics

  Only 2-3% of ARI are actually pneumonia.

- ARI is a crucial element of primary health care.

  The primary objective of ARI control programs is to decrease mortality due to pneumonia.

  The secondary objectives are to rationalize antibiotic use and to standardize diagnosis and treatment.

  That is, the objectives are to reduce the incidence of acute lower respiratory infections (ALRI), i.e., pneumonia, and to decrease the severity of acute upper respiratory infections (AURI).

2. STRATEGIES FOR CONTROL OF ALRI (flow diagram of evolution of ARI)

Vaccination against measles, pertussis, and diphtheria can prevent up to 25% of pneumonia cases.

There are an average of 5-6 ARI cases per child per year. Most of these resolve spontaneously, but some develop into pneumonia.

The WHO standard case management (SCM) protocol can cure most cases on an outpatient basis. Those cases that develop into severe pneumonia need to be referred to hospital for a more intensive form of SCM. Most of these cases are cured. However, in some cases, referral to specialized facilities is needed, where specialized diagnosis and treatment are required. Still, in some cases, death from severe pneumonia cannot be averted.

3. STANDARD CASE MANAGEMENT

Standard Case management (SCM) refers to a standardized set of diagnostic and treatment actions. Two assumptions are inherent in SCM:

A. High prevalence of bacterial pneumonia at first level facilities; and

B. Risk factors for pneumonia are relatively common, and include malnutrition and low birthweight. These increase pneumonia-specific mortality.

Two management decisions must be made in carrying out SCM:

First, whether or not to use antibiotics, and
Second, whether home or hospital treatment is appropriate.

<u>There are four main groups of cases:</u>

1. Severe/very severe (includes <u>all</u> infants <2 mo. with pneumonia)	--------->	Refer to hospital for parenteral antibiotics penicillin, gentamicin chloramphenicol and oxygen, if needed
2. Pneumonia (non-severe)	--------->	<u>home antibiotics</u> (cotrimoxazole)
3. Simple cough and cough	--------->	<u>home care</u>
4. Other ARI (wheezing, ear infection, strep. pharyngitis	--------->	adjunct protocols

4. SPECIAL CONSIDERATIONS -- INFANTS LESS THAN 2 MONTHS OLD

- Increased pneumonia-specific mortality
  -->20-30% pneumonia deaths occur in <5 years group
- different presenting symptoms
- <u>rapid progression to death from bacterial infections</u>
- <u>home treatment</u> with antibiotics is <u>much less effective</u> in this age group

5. OTHER ARI CONTROL STRATEGIES

- Decrease <u>low birth weight</u>
- Improve <u>nutritional</u> status
- decrease indoor air pollution (suspect risk factor)
- protect child from chilling (suspect risk factor)
- new vaccines (Haemophilus influenza, Strep. pneumonia)

6. DIAGNOSIS

Simple: fewest number of criteria to adequately diagnose

Sensitive: Assure that antibiotics given to most children in early stages of pneumonia

Focus: Breathing rate, with or without chest indrawing

--> Respiration rate and chest indrawing more often identify children with pneumonia than other diagnostic criteria

Severity of cough and fever are not sensitive criteria: if used, they lead to overtreatment with antibiotics, especially in malarious areas

7. 3 ESSENTIAL STEPS FOR SCM PNEUMONIA

A. Entry criteria for possible pneumonia

* cough with or without difficulty breathing

B. Identify pneumonia cases:

* count respiratory rate

0-2 months	$\geq$ 60/minute
2-12 months	$\geq$ 50/minute
1-4 years	$\geq$ 40/minute

AND/OR

* chest indrawing (subcostal retractions)

C. Treat

8. ARGUMENTS FOR STANDARD CASE MANAGEMENT FOR PNEUMONIA

- Intervention with highest proven impact to decrease pneumonia mortality due to ARI - 40-60% decrease
- Only antibiotics cure pneumonia. Training and supervision are needed to assure correct utilization.
- Early treatment is needed to
  * reduce need for referral of severe cases
  * decrease drain on health staff time and costs for hospital care

- Emphasize <u>non-administration</u> of antibiotics for simple ARI, in order both to

  * reduce costs, and
  * decrease antibiotic resistance

- Contributes to overall Primary Health Care

  * increase credibility of health services
  * raise mothers' receptivity to preventive services

9. IMPORTANT CONSIDERATIONS FOR SUCCESSFUL PNEUMONIA CONTROL

- EARLY treatment is required

  * 50% of cases die within 3-4 days of onset of symptoms

  * Care seeking behavior of mothers needs careful study (Focused Ethnographic Survey)

  * Communications messages to allow mothers to recognize pneumonia and seek prompt care

- PRACTICAL training and supervision

  * necessary to change deeply ingrained attitudes and practices of health workers

  * didactic training has not proven to be sufficient

  * evaluation of quality of care needed 6 months after training

10. TECHNICAL BASIS FOR STANDARD CASE MANAGEMENT

A. Increased importance of bacterial pneumonia in developing countries

  * lung aspirates and blood cultures indicate that 2/3 of cases are due to H. influenzae and S. pneumoniae

  * <u>no alternative</u> to antibiotic therapy

B. SCM proved effective in 7 country intervention trials (Tanzania, India, Indonesia, Pakistan, Nepal, Philippines, Bangladesh)

C. SCM also effective in high risk group areas where:

  * low birthweight is prevalent

  * high infant mortality

* malnutrition is common

* only CHWs and home treatment are available because referral to hospital is difficult

D. Empirical use of antibiotics worldwide

* age is the most important variable to determine causative agent

11. ANTIBIOTIC CHOICE - Evidence from The Gambia

- Cotrimoxazole for 5 days, or
- Procaine penicillin, single injection for 5 days, or
- Oral ampicillin for 5 days
- Results indicate 90% cure rate with above regimens
- No significant differences in outcomes with different regimens
- Other considerations

  * cost
  * number of times per day (compliance)
  * local patterns of antibiotic resistance

ANNEX 6

REPUBLIQUE DU CAMEROUN
Paix - Travail - Patrie

MINISTERE DE LA SANTE PUBLIQUE

REPUBLIC OF CAMEROON
Peace - Work - Fatherland

MINISTRY OF PUBLIC HEALTH

N° 0119

ARRETE N° /A/MSP/CAB DU 03 AVR. 1991

PORTANT CREATION D'UN COMITE TECHNIQUE DE COORDINATION ET DE SUIVI DES PROGRAMMES ET PROJETS D'INTERVENTION DANS LE DOMAINE DE LA SANTE.

LE MINISTRE DE LA SANTE PUBLIQUE,

VU le décret n° 88/772 du 16 mai portant organisation du Gouvernement ainsi que des modificatifs subséquents ;

VU le décret n° 89/011 du 5 janvier 1989 portant réorganisation du Ministère de la Santé Publique ;

VU le décret n° 88/774 du 16 mai 1988 nommant les membres du Gouvernement ;

A R R E T E ;

ARTICLE 1er.- Il est créé au sein du Ministère de la Santé Publique, un Comité Technique Elargi de Coordination et de Suivi des Programmes et projets de santé, ci-après désigné le Comité Technique.

ARTICLE 2.- 1°) Le Comité Technique est chargé :

- d'assurer la planification des interventions en matière de santé ;
- d'assurer la coordination et le suivi de l'exécution des projets et programmes de santé ;
- d'harmoniser les interventions et les stratégies en matière de santé ;
- de veiller à l'utilisation judicieuse des ressources et/ou des fonds alloués aux projets, aux fins de maximiser leur rendement.

2°) Il est en outre appelé à veiller à l'amélioration des mécanismes et stratégies mis en place pour accélérer la réalisation des programmes. A cet effet, il organise des missions d'enquêtes périodiques auprès des usagers afin d'apprécier l'impact des programmes en cours de réalisation et d'introduire, le cas échéant, les

ARTICLE 3.- Le Comité Technique de coordination et de suivi des projets et programmes peut disposer en son sein de sous-comités chargé de problèmes spécifiques. L'organisation et le fonctionnement de ces sous-comités seront définis par décision du Ministre de la Santé Publique.

ARTICLE 4.- Présidé par le Ministre de la Santé Publique, le Comité Technique comprend les membres ci-après :

- *l'Inspecteur Général de la Santé Publique ;*
- *les Conseillers Techniques du Ministère de la Santé Publique ;*
- *les Directeurs des services centraux du Ministère de la Santé Publique*
- *les Délégués Provinciaux de la Santé Publique ;*
- *un représentant du Ministère du Plan et de l'Aménagement du territoire ;*
- *un représentant du Ministère des Finances ;*
- *un représentant du Ministère des Affaires Sociales et de la Condition Féminine ;*
- *les responsables des organismes bilatéraux et multilatéraux de coopération en matière de santé ;*
- *les responsables des organisations non gouvernementales intervenant dans le domaine de la Santé.*

Le Comité Technique peut, en ces de nécessité, s'adjoindre des responsables des départements ministériels ou d'autres organismes dont les activités sont apparentées à la santé.

ARTICLE 5.- 1°) Le Comité Technique se réunit au moins une fois par semestre sur convocation de son Président.

2°) Les fonctions de membre du Comité Technique sont gratuites.

ARTICLE 6.- Le Comité Technique soumettra aux autorités compétentes des rapports semestriels sur les programmes en cours, assortis des mesures nécessaires pour l'amélioration de la qualité des services de santé.

ARTICLE 7.- Le présent arrêté sera enregistré, puis publié selon la procédure d'urgence, puis inséré au Journal Officiel en français et en anglais./-

VISA 26 MAR. 91

YAOUNDE, le 03 AVR. 1991

Pr. Joseph MBEDE

ANNEX 7

DRAFT

REPUBLIC OF CAMEROON

MINISTRY OF PUBLIC HEALTH

PROGRAMME FOR THE CONTROL OF ACUTE RESPIRATORY INFECTIONS IN CHILDREN

PLAN OF OPERATIONS 1992-1993

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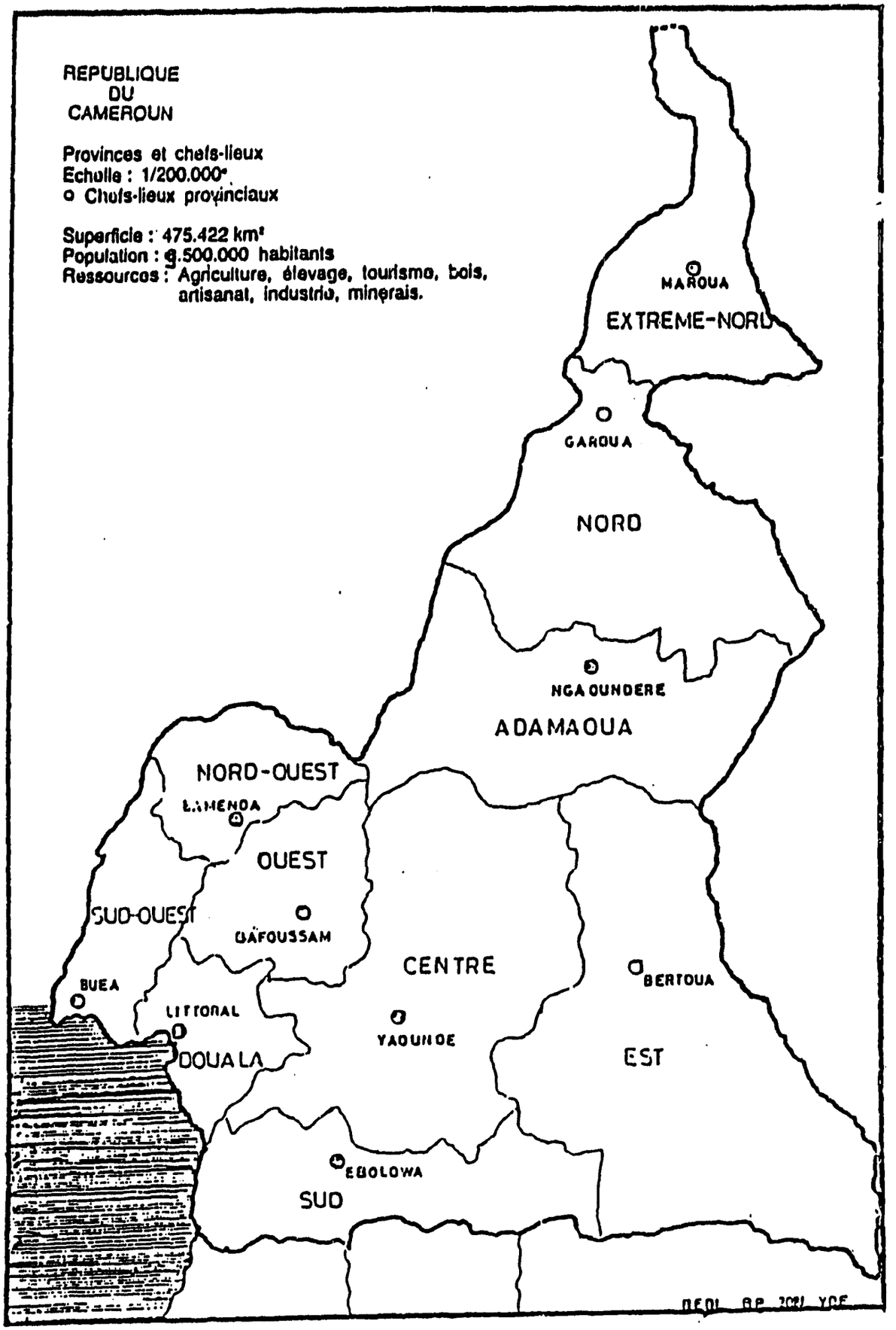
LES 10 PROVINCES EN 10 CARTES



LIST OF ACRONYMS

ARI	Acute Respiratory Infections
CDD	Control of Diarrheal Diseases
CDR	Control of Diarrheal and Respiratory Diseases Division of WHO
CHU	Centre Hopitaliere Universitaire
CUSS	Centre Universitaire du Science et de la Sante
DMPR	Direction de la Medicine Preventive et Rurale
DSFM	Direction de la Sante Familiale et Mentale
DPH	Direction de la Pharmacie
DMH	Direction de la Medicine Hopitaliere
EPI	Expanded Programme on Immunization
FES	Focussed Ethnographic Survey
GTZ	German Technical Cooperation
MCH	Maternal and Child Health
MOPH	Ministry of Public Health
MSP	Ministere de la Sante Publique
NGO	Nongovernmental Organization
PHC	Primary Health Care
PMI	Protection Materno-Infantile
SESA	Projet de la Sante de l'Enfant du Sud et de l'Adamaoua
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

I. INTRODUCTION

The Ministry of Public Health (MOPH) of Cameroon accorded high priority to the control of Acute Respiratory Infections (ARI) as a child survival strategy in its 1990 Action Plan. Pneumonia has been implicated as the second leading cause of death in infants in Cameroon, accounting for 17% of infants deaths, according to 1986 figures. ARI in general accounts for a large proportion of hospital admissions and, along with malaria, represents a leading cause for attendance at outpatient clinics. The Government of the Republic of Cameroon thus considers an ARI control plan integrated within the primary health care structure (PHC) as a sine qua non of any strategy aiming to reduce infant and child morbidity and mortality.

ARI infections place an economic burden on most Cameroonian families. In the absence of a standardized approach throughout the country to diagnosis and treatment, inappropriate drugs are often used to treat children with ARI, and helpful drugs tend to be overused, being given to cases that do not need them. Thus, large amounts of money are spent by families and the Government of Cameroon without benefit.

The MOPH has expressed interest in launching an ARI control strategy for at least two years. Two senior officials, one from the Directorate of Family and Mental Health, and the other from Centre Universitaire de Science et de la Sante (CUSS) have been trained as ARI managers, as has a third from the Northwest provincial hospital. In 1990, the MOPH developed a draft plan of operation for an ARI control program and subsequently requested technical assistance from the World Health Organization (WHO) to elaborate on the plan.

The present plan, contained herein, was developed based upon meetings in September 1991 with several individuals, including Professor Joseph Mbede, Minister of Public Health; Dr. David Awasum, Director of Family and Mental Health; Dr. Owona, Director of Preventive and Rural Health; Dr. Kamwa, Director of Hospital Medicine; Dr. Lapnet, Director of Pharmacy; Dr. Tetanye, CUSS; Dr. Obama of Centre Hopitaliere Universitaire (CHU); representatives of primary health care (PHC) projects supported by UNICEF, GTZ, and USAID; and Dr. Mary Carnell and Rebecca Fields of the Resources for Child Health (REACH) Project, on behalf of WHO.

This plan represents a first approach which will require considerable further development upon designation, by the MOPH, of an ARI program manager, a directorate within the Ministry of Public Health (MOPH) charged with responsibility for managing ARI activities, a technical advisory group and a working group, and the development of a national policy for ARI control.

II. GEOGRAPHY AND DEMOGRAPHY

The Republic of Cameroon is situated in the Central African region and has a surface area of 475,442 square kilometers. The northern provinces of the country lie in the Sahel region, while the Southern Provinces contain dense equatorial forests and Bantu grasslands.

As of the end of 1989, the population of Cameroon was estimated at approximately 11,220,000. The population density is approximately 24 persons per square kilometer. Estimates of the percentage of the population living in urban areas range from 33-49%. The annual rate of growth in urban areas has been approximated at 5.53%, as opposed to 1.83% in rural areas.

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Some major demographic indicators are as follows:

annual growth rate	2.7-2.9%.
crude birth rate	43 per thousand population
crude death rate	14.9 per thousand population
infant mortality rate	94 per thousand live births
<5 mortality rate	156 per thousand live births
maternal mortality rate	420 per 100,000 live births
life expectancy at birth	53-55 years
population < 15 years	4.9 million
% of population with access to potable water	48% in urban areas 31% in rural areas
adult literacy	56% for men and women 70% for men 50% for women

The population of Cameroon is comprised of over 200 tribes, with an equal number of local languages. French and English are the official languages of the Republic of Cameroon.

As of 1989, the per capita gross national product was estimated at $800.

III. GOVERNMENT ADMINISTRATION

Cameroon is administratively divided into ten provinces, each directed by a governor; 49 departments, placed under the authority of prefects; and 183 arrondissements, each governed by a subprefect.

The national government is directed by the President of the Republic, representing the Partie de Rassemblement Democratique du Peuple Camerounais. Key governmental bodies include the National Assembly and the Economic and Social Council.

IV. HEALTH SYSTEM

A. Organization of Services

Central level. The national health system is under the administrative control of the Minister of Public Health. In 1989, the MOPH was reorganized to create six directorates at the central level:

- Hospital Medicine
- Preventive and Rural Medicine
- Family and Mental Health
- Pharmacy
- Studies, Planning, and Health Statistics
- General Affairs

In addition, at the central level there are offices for the Secretary General, the Inspector General, and two technical advisors. A number of specialized units add to the central level directorates: the University Teaching Hospital, the Yaounde Central Hospital, and two General Hospitals (one in Yaounde and the other in Douala). All of them serve as tertiary referral hospitals.

Intermediate levels. Health services are decentralized on a provincial basis. There are ten provinces and health management at this level is under the direction of a provincial Delegate of Health, assisted by a team of provincial chiefs of services. There are ten provincial hospitals, reasonably equipped to receive all types of emergencies in the province.

Provinces are further subdivided into 49 divisions (departements) and approximately 210 subdivisions (arrondisements), functionally equivalent to districts. Each division and subdivision is equipped with a hospital that serves as a referral facility for the level immediately more peripheral to it.

Peripheral Level. This is the outermost area which includes the health centers and which, in terms of management, extends to the subdivisional and divisional hospitals. There are roughly 900 health centers located throughout the country. The health center is considered the backbone of the peripheral level. Health delivery and management is on a three-tier level, linked one to another by a referral system. Subdivisional hospitals are responsible for furnishing supervision and supplies to the health centers in their catchment areas. Service delivery at the periphery is often constrained by limited supervision due to shortages of vehicles, fuel, and finances for per diem allowances.

The ratio of population to a hospital is 1:47,428, and there are approximately 12,000 people per health center. There are about 232 public and private hospitals and 917 health centers. There are 11,900 people to a doctor. The average government per capita expenditure for health care was 294 CFA in 1990/91 (approximately 275 CFA = US$1.00 in 1991). An estimated 40% of health care is provided by private and nongovernmental sources.

B. Health Policies

In the second half of the 1980s, the economy of Cameroon entered into a crisis situation, caused by precipitous drops on the international market in prices for Cameroon's principal exports: oil, coffee, rubber, cocoa. The government undertook a stringent structural adjustment plan, the features of which included restructuring expenditures in health and education. Following the adoption of this plan, the Government of Cameroon issued a policy in 1989 calling for the reorientation of primary health care (PHC), a strategy designed to achieve the overall community objective of health for all.

In this reorientation toward PHC, the intent is to involve the community in such as way as to take responsibility for its own health. The principles of community involvement and the recognition of the direct connection between health and development constitute the basic elements of the approach. Fundamental tenets of the reorientation include decentralization of planning and management, community participation in financing and management of health services and drugs, technical support and referral between different levels of the health system, and integration of health interventions. Thus, the "free for service" basis has yielded place to a "fee for service" approach, and tariffs for both drugs and services are being phased-in in different parts of the country.

At present, the integrated delivery of PHC services in Cameroon is augmented by technical assistance projects supported by multilateral and bilateral donors. These are active in the country's provinces as follows:

Province(s)	Donor and/or Project
Northwest, Southwest, Littoral	GTZ
East, Central, West	UNICEF
Adamaoua, South	USAID, via Projet de la Sante de l'Enfant du Sud et de l'Adamaoua (SESA)
Extreme North	USAID, via joint Save the Children/CARE project
Extreme North	Belgian cooperation, via CIM Project
North	French Cooperation (FAC)

Of these, the largest are the GTZ assistance in three provinces, UNICEF assistance in three provinces, and USAID (SESA) project activities in two provinces. Each of the projects provides technical and financial support for selected areas of each province, rather than covering all activities in the entirety of each province.

While the above projects generally follow government policies and guidelines, they are characterized by some diversity in approach and operations. For example, in the absence of a functioning national, public sector procurement mechanism and an approved essential drugs list approved by the government, each project procures its drugs independently, according to separate essential drugs lists (at least four exist). Likewise, the PHC projects have evolved their own diagnosis and treatment protocols, resulting in different case management approaches in different parts of the country.

Attempts are being made to standardize some elements of PHC. The government has developed, but not yet approved, a draft essential drugs list comprised of sub-lists applicable to different levels of the health structure. However, until ONAPHARM, the government unit charged with responsibility for centralized drug procurement, is revitalized, it will be impossible to ensure that a single essential drug list is respected. In 1990, the National Committee for Coordination and Monitoring in Health was formed with an intent of improving communication and coordination among the various parties active in PHC. Two subcommittees have also been formed, one for family health and the other for the management of health information.

VI. MAGNITUDE OF THE ARI PROBLEM

While ARI is a priority problem in child health in Cameroon, there is scant information available to describe its magnitude. Nevertheless, routine statistics, which no doubt underestimate the problem, provide a consistent picture of the importance of ARI.

Morbidity. Hospital and health center data from a variety of sources show that ARI is second to malaria as a cause of illness among the population under five years old in Cameroon. Service statistics from all reporting health facilities in 1986 indicate a combined incidence of pneumonia and bronchopneumonia of 259 per thousand infants, making it the third leading cause of infant

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morbidity, immediately following malaria and acute upper respiratory infections. Data from all reporting facilities during the first half of 1989 show pneumonia as the fifth leading cause of morbidity, immediately following acute upper respiratory infections, for all ages of the population, with over 122,000 cases reported.

In a recent review of figures for pediatric admissions from Hopital Centrale in Yaounde, a major public health hospital, ARI was listed as the third leading cause of admissions, with a case fatality ratio of 8.7%. An analysis of pediatric diagnoses during the years 1983-1986 at Centre Hopitaliere Universitaire (CHU) in Yaounde showed the category "afflictions pulmonaire", largely comprised of acute lower respiratory infections, consistently within the four most frequently cited reasons for hospitalization.

An analysis of outpatient data from the Protection Materno-Infantile at Hopital Central (PMI-Centrale) for the month of January 1991 showed that approximately 41% of the 1879 consultations conducted that month included symptoms for acute upper and lower respiratory infections. In the absence of confirmed diagnoses at the time that registry entries are made, PMI staff routinely record "cough and fever" for suspect pneumonia cases. For the month in question, considered typical with regard to ARI incidence, over 11% of all consultations included a diagnosis of cough and fever. Annualizing these data indicates that of some 22,500 consultations conducted annually, over 9800 would involve ARI of some sort, and nearly 2500 would be suspect pneumonia cases.

Mortality. Few attempts have been made to ascertain the cause of death in children due to ARI. However, available data indicate that ARI accounts for high mortality both in infants and among all ages taken together. Data from 1986, taken from hospitals and public health facilities, show that pneumonia (including bronchopneumonia) was the second leading cause of death in infants, accounting for over 17% of deaths. Routine statistics from the first half of 1989 implicate pneumonia as the fourth leading cause of mortality among all ages of population.

VII. OBJECTIVES

The objectives of ARI control activities in Cameroon are as follows:

1. To reduce the mortality attributable to pneumonia in children under five years of age.

2. To decrease the inappropriate use of antibiotics and other drugs for treatment of ARI in children.

3. To reduce the incidence of acute lower respiratory tract infections, especially pneumonia, in children.

The attainment of these objectives will require the uninterrupted availability of first line antibiotics at the PHC level and of second line antibiotics and other essential drugs at first and higher level referral hospitals. As well, it will be necessary to develop, among existing PHC staff, a cadre of trained personnel who have the knowledge and skills to implement ARI control activities.

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VIII. STRATEGIES

Correct case management is the appropriate control strategy to achieve the first and second objectives.

Three acute lower respiratory infection syndromes can cause death: pneumonia, wheezing conditions, and acute obstructive laryngitis (stridor). Pneumonia is by far the most important cause of ARI mortality. Although there is no recent information on the etiology of community acquired pneumonia in children in Cameroon, it is assumed that most of them are caused by S. pneumoniae and H. influenzae. This has been shown to be the case in developing countries where detailed etiologic studies have been conducted. These bacteria have been demonstrated to be very prevalent in the nasopharynx of children.

The high incidence of bacterial pneumonia justifies the empirical antibiotic treatment of all clinical cases of pneumonia in children. Intervention studies supported by WHO and other agencies in several developing countries in recent years have strengthened the public health evidence that proper case management can contribute to reducing child mortality from pneumonia.

The target group for the case management strategy is children less than five years of age, because almost all childhood deaths from pneumonia are in this age group. As a general observation, the younger the child, the higher the mortality from pneumonia. A significant proportion of childhood pneumonia deaths (20-30% in some developing countries) occur in infants less than two months of age.

To achieve the objective of reducing child mortality due to pneumonia, the early recognition of all pneumonia cases and the timely application of appropriate therapy will be critical strategies. Appropriate case management will effectively reduce the indiscriminate and unnecessary use of antimicrobials for coughs and colds in Cameroon.

The single most effective strategy to attain the third objective is timely, effective vaccination to prevent ARI caused by measles, pertussis, and diphtheria. Data from a nationwide 30-cluster coverage survey carried out in late 1990-early 1991, indicated that documented, corrected coverage for measles and DTP3 by one year of age was 38% and 44%, respectively. ARI control efforts will stress the need for and benefits of high immunization coverage for the prevention of ARI and will include educational activities addressed to mothers concerning the timely vaccination of children.

The ARI program will also reinforce the educational messages of nutrition and maternal and child health, including family planning programs, since malnutrition and low birth weight are important risk factors for pneumonia in children.

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IX. STAGES OF THE PROGRAM

ARI control efforts will be implemented in a phased manner, starting in provinces with health facilities functioning within integrated PHC project areas. These provinces have both the technical and financial support to assure a continuous supply of antibiotics at health facilities and functioning services to provide training to various levels of personnel. Therefore, the ARI control intervention will begin in areas within the provinces of Adamaoua, South, Northwest, Central, East, and West. After two years, ARI control activities will be evaluated and reviewed in light of the best ways of replicating them throughout these provinces and in other provinces.

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.

During early stages, 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 areas will be facilitated.

In this initial stage, communication activities will be limited to face-to-face education of mothers and other caretakers on home care and recognition of signs of pneumonia. When standard case management becomes accessible to more than 50% of the population, use of mass media may be considered as a means to communicate important messages.

X. POLICIES AND APPROACHES

A. Organization

The national reorientation towards primary health care strongly supports the integrated delivery of services. To work within this framework, the implementation of ARI control activities will be carried out in an integrated manner, rather than through the creation of a new vertical program. Common reporting forms, joint training courses, and joint supervisory visits will be developed, possibly with the diarrheal disease control program in initial stages, and subsequently with other child survival programs.
To ensure that the new ARI intervention receives proper technical support from the central level, however, a manager will be designated. It will be this individual's responsibility to ensure that the ARI agenda moves forward in a manner integrated with other interventions and coordinated with PHC projects.

At the peripheral level, initial ARI control efforts will involve health center staff (nurses, technicians de sante, aides soignant) in carrying out standard case management. Extension of ARI control activities to villages and hamlets outside the PHC structure will initially consist of community sensitization and education. In later phases, consideration may be given to training of village health workers and traditional birth attendants in case identification and referral.

B. Policy

A national policy for ARI will be an essential early development, needed to ensure that health providers throughout the country have consistent guidelines to follow which are sanctioned by the government. Even if the policy cannot be put into immediate practice in all provinces, such a policy will provide the foundation for a standardized approach to ARI control.

The ARI policy document will specify such areas as the program objectives and strategies, case management (including drugs and equipment to be used at different levels of the health system, monitoring of drug resistance, whether the management of wheeze will be included as part of ARI control at this time), types of training at different levels, establishment of ARI training units, communications strategies, phasing of implementation, and approaches to monitoring, evaluation, and supervision. An outline of a national ARI policy is included in Appendix 1.

C. Case management

The guidelines on case management will be broadly in line with the WHO recommendations, with some local modifications to suit the particular conditions of Cameroon. Infants and young children will be the target group. The standard dosage regimens recommended by WHO will be promoted for the use of all antibiotics used in ARI case management. The main focus of the health worker's child assessment guidelines will be to make management decisions rather than to establish a diagnosis of the type of ARI. Entry criteria will be a child under five years of age with a cough or reported difficult breathing.

The guidelines will limit the use of antibiotics to pneumonia and possibly acute otitis media and suspected streptococcal pharyngitis. The MOPH will discourage the use of antibiotics for the vast majority of acute respiratory infections, which are classified as coughs and cold, because they are self limiting, mild viral infections.

The essential drugs list drafted by the MOPH in 1991 contains cough syrup containing codeine as an antitussive. WHO strongly discourages the use of cough syrups with codeine, for young children because codeine produces respiratory depression, constipation, and sedation. In fact, no cough suppressants should be given to children, because cough should be seen as a defensive physiological reflex that should not be suppressed. If it is felt that mothers will demand medication of some type even for mild respiratory infections, then the MOPH will consider the selection of a single ingredient, inexpensive, safe expectorant (e.g., glyceryl guiacolate) for use in children with coughs and colds. Home made cough syrups and warm herbal teas which have a soothing effect on the throat will also be recommended where they are acceptable to mothers.

D. Surveys and Research

Information required to direct and assess operational aspects of the program will be collected through surveys and research, conducted in collaboration with the CDD program when appropriate. Data will need to be collected by the following means:

- household morbidity and treatment surveys;
- surveys on the clinical management of ARI at peripheral health facilities, subdistrict and provincial hospitals;
- qualitative and quantitative research on health care seeking behavior and attitudes of health workers in relation to ARI in children.

Analysis of these data will be the responsibility of the Family and Mental Health Directorate, with advising from the health statistician.

Neither vital registration nor mortality surveillance systems are sufficiently developed in Cameroon to allow assessment of the impact of the ARI program on mortality. However, it is proposed to assess the impact on mortality in the provinces where GTZ provides technical assistance through the use of the health management information system (HMIS). The assessment would involve comparisons of childhood mortality before and after program implementation, and also between PHC and non-PHC districts/villages during the period following introduction of ARI control activities.

E. Communications

Unlike CDD programs, where communications activities promote health care practices in the home that can themselves reduce diarrheal mortality, ARI programs seek to reduce pneumonia mortality by promoting early recognition of signs and prompt care seeking outside the home. This dependence on the use of health services means health workers should be adequately trained and health facilities must be provided with antibiotics before mass communication activities promote their services for treatment of ARI.

In early stages of ARI control efforts, printed materials and audiovisual materials may be developed to help all health staff undertake face to face or interpersonal communications with families. The messages to communicate will be based on the informal knowledge that health personnel have about mothers' perceptions of signs of pneumonia and home care practices regarding ARI in children. Later, this information can be improved through the results of KAP surveys or focussed ethnographic survey(s) (FES), which can be carried out using the WHO protocol. WHO/CDR has suggested that the use of the FES not occur before mid-1992, in order to permit the data collected to date through this instrument, as well as the instrument itself, to be fully analyzed.

The next annual National Medical Conference, scheduled for March 11-14, 1992, will be attended by approximately 350 physicians, nurses, and pharmacists, with financial support from the MOPH and the pharmaceutical industry. Placing ARI on the agenda for a half day will afford an opportunity to raise consciousness among high level health professionals in the public and private sectors. A one day meeting will be added to further inform and enlist the support of key decision-makers.

To create community awareness and support, the information and communication activities in the first areas to participate in ARI control will focus on:

- information sessions in towns and main villages to explain to community leaders about the pneumonia problem in children, the services which are being provided and how the community can be involved;

- educational sessions for mothers and other caretakers at subdivisional hospitals and health centers. Staff at these levels will need to be trained in how to conduct these sessions;

- information about the recognition of signs of pneumonia in young infants and on practical ways of protecting them from exposure to cold and chilling (if and where appropriate, geographically).

F. Training

The MOPH has expressed its strong commitment to carrying out training for ARI in a manner that is as integrated with PHC as possible. Therefore, the categories of training outlined below will need to be adapted to be carried out within an integrated PHC training structure, but without the key technical or managerial areas being compromised.

The following types of training will be carried out:

1. Program managers' course:

   A course on program policies and planning, monitoring, and evaluation of control activities will be organized for health officers responsible for ARI management at the central and provincial levels. This course will be conducted in Yaounde by central level staff, with technical assistance from WHO/CDR. The national technical guidelines and, to the extent possible, the national plan of operations will be taught in this course.

2. Clinical case management training of trainers:

   Decisions will need to be made by the MOPH on the establishment of special ARI Training Units (ATUs) to train pediatricians, clinical officers, and registered nurses from the provincial and district levels. A course to train the personnel of these units will be organized with assistance from a WHO consultant.

3. Case management training for doctors:

   Courses on clinical management for doctors who provide care to children at subdivisional hospitals will be conducted at the ATUs. The content of courses will be the guidelines on case management, and most time will be devoted to practical work in the outpatient department and on the ward. The training will include the diagnosis and treatment of the main ARI syndromes, criteria for admission, administration of oxygen, and possibly the use of bronchodilators.

4. Case management and supervision training for clinical officers and registered nurses:

   Courses on case management for clinical officers and registered nurses working in subdivisional hospitals and health centers will be organized by subdivisional hospitals and will focus on the case management activities which they are expected to perform, as well as communication and supervision of health staff. The materials for these courses will be based on the WHO ARI Supervisory Skills Module "Management of the Young Child with an Acute Respiratory Infection" and the WHO ARI Outpatient Clinical Training Course.

5. Case management training for auxiliary nurses and health assistants:

   These staff will be trained in case management of pneumonia at subdivisional hospitals and health centers. The teaching will include information and practice on (i) the recognition of signs of pneumonia, referral for severe pneumonia, oral antimicrobial treatment for pneumonia and home care; and (ii) education of mothers about ARI. The materials for these courses will be based on the WHO ARI module "Management of the Young Child with an Acute Respiratory Infection". The clinical practice will be organized along the lines of the WHO ARI Clinical Instructor Guide.

The sequence of events with regard to training activities will be that a program managers' course will be conducted in the first or second quarter of 1992, followed by a clinical training of trainers course. This cadre of ARI trainers can then help the MOPH address the considerable task of adapting the standard ARI training materials developed by WHO/CDR to fit within the framework of integrated PHC training. It may be possible, for example, to shorten the training for some staff at subdivisional and health center levels, to two days: one and a half days for clinical training, and a half day for planning. For those staff who do not have responsibility for setting targets or who already have a strong grounding in management because of previous PHC training, this reduction of the training component pertaining to planning may be appropriate.

G. Logistics

There will not be a separate system for the procurement, storage and distribution of drugs and equipment; existing facilities and logistic support through the MOPH and PHC projects will be utilized. The ARI manager and the ARI subcommittee will need to coordinate and ensure that antibiotics and other supplies are being distributed in a timely and reliable fashion. The issues of which drugs are to be supplied to specific levels of the health system will have to be addressed in the ARI policy, a necessary antecedent to carrying out operational level planning.

In addition to drug supplies, other supplies will need to be distributed, particularly oxygen to subdivisional and higher level hospitals and timing devices for respiratory rate. The MOPH will determine if oxygen concentrators will be a more efficient means of supplying oxygen than cylinders of oxygen, especially at hospitals located far from urban centers. The oxygen concentrator is an electrically powered device which converts air into a continuous supply of more than 90% pure oxygen at a flow rate of up to four liters per minute. At present, there is at least one model on the market which meets the WHO/CDR internal standard, i.e., suitable to perform satisfactorily under the working and environmental conditions encountered in small

hospitals in developing countries. This oxygen concentrator is currently being made available (together with a two year supply of spare parts and relevant training materials) by the UNICEF Package and Assembly Center (UNIPAC).

A timer of some sort will be needed at all health facilities where standard case management is being carried out to measure the duration of 30 and 60 seconds for counting respiratory rate. The MOPH and ARI Subcommittee will need to decide which levels of staff can use personal watches, and which staff will be provided with a sounding timer device and trained in its use.

If it is decided that the management of wheeze is to be included in ARI control, then decisions will be needed on the types of equipment needed at health center and subdivisional hospital levels: electric nebulizers, mechanical nebulizers or footpumps, metered-dose inhalers, and spacing devices (for infants).
For ARI training activities, furniture, space, and equipment will need to be allocated. Blackboards, flip charts, video players, slide projectors, and overhead projectors will be needed, at least at the provincial level.

XI. SUBTARGETS

Subtargets for training, needs of drugs, communication, access and use rates, as described below, will be established by the ARI manager, working in conjunction with provincial staff and staff from integrated PHC projects in each province. A detailed plan of action for each province initially selected will need to be formulated.

A. Training

This subtarget refers to the proportion of each category of health worker requiring training in case management of children with cough or difficult breathing by a certain time in each province. A list of all 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 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 (province) will be trained in the case management of children with cough or difficult breathing."

B. Drug Needs

This subtarget refers to the proportion of each category of health facility that has to be regularly supplied with standard antibiotics by a certain time in each province. A list of all the health facilities providing care to children. The subtarget is then established in coordination with PHC services in the province. It can be phrased as follows: "By (month)(year), (number)(category of health facilities), corresponding to (%) of the total in (province) 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.

C. Communication

The communication subtargets refer to the proportion of mothers or caretakers attending the health facilities. In a subsequent stage, when mass media may be used to communicate these messages (if this is deemed appropriate), 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 (province) 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.

D. Access

This subtarget refers to the proportion of children under 5 years of age in a given province having access to a health facility 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 with five kilometers or one hour from a health facility. 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 (province) will have access to standard case management".

E. Use

This subtarget refers to the proportion of cases of pneumonia in children being actually given standard case management in a given province: having access is not enough, children with pneumonia have to be taken to the health facilities 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 (province) 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 1, for example.

XII. TARGETS

Because data on pneumonia mortality in children under 5 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.

Attempts should be made by officials responsible for ARI management to assess trends in the use of antibiotics and other drugs used for ARI 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.

TABLE 1: EXAMPLE OF METHOD FOR ESTIMATING THE QUANTITY OF ANTIBIOTICS NEEDED FOR PNEUMONIA, 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% of 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% by D	5,600
F.	Infants 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 cannot 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 + gentamycin: 50% of K	907
N.	With chloramphenicol: 10% of K	181
O.	Average number of cotrimoxazole tablets per case	5
P.	Total cotrimoxazoletablets 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
X.	Average course of chloramphenicol in vials	5
Y.	Total chloramphenicol needed in vials: N x X	905
Z.	plus 50% for waste and emergency	1,358

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

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XIII. MONITORING AND EVALUATION

Responsibility will need to be assigned to the ARI program manager and appropriate designated personnel to monitor ARI control activities. This will require periodic monitoring of records on training and supervision, and of other records on where cases are seen and care is provided. At the provincial level, routine supervision will be integrated into the PHC supervisory system.

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

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

The ARI program manager will also need to work with a technical advisory group to develop a plan for the surveillance of the sensitivity of S. pneumoniae and H. influenzae to the standard antibiotics.

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

It will be important to collect data on cases and deaths due to pneumonia seen in health facilities. These data 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 per year. The data can also be used to calculate the hospital case fatality ratio, a proxy indicator of the quality of case management.

The following indicators are essential for the evaluation of the program and are feasible to collect:

1. The proportion of health workers trained in the case management of children with cough or difficult breathing, by province. Each province initiating 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 regularly supplied with standard antibiotics, by province. Each health facility should have a routine system for recording and reporting on stocks of these antibiotics.

3. The proportion of children under 5 with access to a health facility with at least one health worker trained in case management and regularly supplied with standard antibiotics, by province. The data for this indicator can be derived from the routine information system mentioned above.

4. The proportion of children under 5 with pneumonia who use the health facilities capable 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 organized for this purpose. It is suggested to conduct such a survey in provinces with ARI activities approximately three years after the initiation of ARI control efforts.

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 MOPH to supply standard antibiotics to the health facilities. It is hoped that the rational use of drugs will decrease costs. If possible, data on procurement and distribution of antibiotics in selected PHC project-assisted areas can be elaborated annually by the projects and used to calculate costs.

XIV. ACTIVITIES IN THE PERIOD 1991-1993

Activities for the period October 1991 - June 1992

A. Planning

1. Designate an ARI manager.

2. Specify the MOPH directorate from which ARI activities are to be managed.

3. Establish an ARI Subcommittee to the National Committee for Coordination and Monitoring in Health to act as an ARI working group. Key issues for the Subcommittee to address include preparation of a national ARI policy document (see #5 below); identification of basic research needs and areas for technical assistance (e.g., ethnographic research, costing and financing study); review and modification of draft national plan of operations.

4. Within the ARI subcommittee, designate a small group to act as a technical advisory group for ARI.

5. Develop a national ARI policy, with additional assistance from WHO/CDR, if necessary. Secure approval for the policy from the Minister of Health.

6. The MOPH should follow up with GTZ, SESA, and UNICEF to consolidate interest in ARI control and outline next steps for integration of ARI into their current programming. This will include deciding which PHC-reoriented subdivisions in selected in ARI control efforts. Facilities and personnel at all levels to be involved in ARI control will need to be identified.

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7. Plan a half day session on ARI control for the agenda of the National Medical Conference for March 1992. Plan an additional day for key decision makers to work on development of ARI policy and plans. Request WHO/CDR participation in the National Medical Conference and following session.

8. Initiate planning and budgeting process to include ARI in the MOPH annual budget for 1992-1993.

B. Communications

1. Define content of ARI educational messages and intended audiences.

2. Decide on appropriate types of materials to be developed for different messages, and how they will be integrated with other PHC materials.

3. Design and produce educational materials (e.g., posters, flip charts).

4. Plan information sessions for community leaders.

5. Plan educational sessions for mothers in subdivisional hospitals, health centers, and other appropriate health facilities.

6. Plan promotional seminars for professionals; e.g., include a session on ARI at the next semiannual meeting of the National Order of Pharmacists.

C. Training

1. Conduct an ARI program managers' training course in Yaounde for key physicians and health policy makers in Cameroon. Technical assistance may be available from WHO/CDR for this.

2. Take an inventory of staff at all levels in participating provinces and develop a comprehensive training plan to decide which types of training will necessary at which levels of the health system.

3. Formulate an implementation plan for training of trainers: both how trainers themselves will be trained, and how they will be deployed in training of other staff.

4. Decide on how and where ARI Training Units (ATUs) will be established to ensure that skill-based clinical training can be conducted.

5. Adapt WHO training modules to fit the situation in Cameroon with respect to integrated PHC training. This will require modification of materials for several levels, including doctors, registered nurses, auxiliary nurses, and health assistants.

6. Conduct training for all levels of staff in accordance with comprehensive training plan.

D. Logistics

1. Decide policies on standard antibiotics and cough/cold medicines;

2. Estimate needs for standard antibiotics for ARI control activities, based on participating provinces and districts;

3. Ensure that procurement and distribution of standard antibiotics for 1992-93 are included in budgets by all PHC projects participating in ARI control activities;

4. Secure purchase of equipment from external sources (timers, training equipment).

E. Monitoring and Evaluation

1. Review reports from health facilities to see whether modifications are needed (information on pneumonia in children);

2. Select a core of operational indicators and establish a plan to collect and analyze the information to evaluate the indicators.

F. Supervision

1. Decide upon items specific to ARI to be added to integrated PHC supervisory checklists for subdivisional hospitals and health centers.

2. Ensure that schedules for integrated supervisory visits includes allocation of time and resources to include ARI supervision.

V. BUDGET

A complete budget will be developed once sites have been selected and workplans have been elaborated.

APPENDIX 1

ELEMENTS OF NATIONAL ARI POLICY

(Example)

1. Introduction

   * recognition of problem by government and MOH
   * declaration of creation of program and from which unit it will be administered

2. Objectives of program

3. Strategies for meeting objectives

4. Case management

   * drugs to be used
   * coordination with appropriate programs, e.g., Essential Drugs program, in assuring drug supply
   * policy regarding use of home remedies, cough syrups, etc.
   * use of oxygen in hospitals
   * availability of standard antibiotics at different levels of health system
   * inclusion (or not) of ear and throat infection management in ARI program
   * monitoring of drug resistance

5. Training

   * training package to be developed, and grouping of different levels of health workers for training in standard case management
   * ARI supervisory skills training for supervisors and managers

6. ARI Training Units

   * how many
   * where
   * purpose

7. Information, Education, and Communication

   * purpose
   * phased approach
   * guidelines on use of mass media
   * key messages

8. Phasing of Implementation

   * initially in selected areas only
   * eventual expansion

9. Supervision and Monitoring

   * integrated reporting, monitoring, supervision
   * types of records to be used
   * assignment of responsibilities for monitoring and supervision

10. Evaluation

   * collection of baseline data (if appropriate)
   * Technical Advisory Group meetings--composition of TAG and frequency of meetings
   * terms of reference for TAG
   * scheduling of comprehensive program review

ANNEX 8

-B

Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY

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TEL. NO. 711-60-60

April 12, 1991

DEPARTMENT ORDER
NO. 110-E s, 1991

SUBJECT : Instituting the National Control of Acute Respiratory Infections (CARI) Program as an Impact Program of the Department of Health (DOH).

The National Control of Acute Respiratory Infections (CARI) Program is hereby instituted as one of the impact programs of the Department of Health. The attached policy statements shall govern the strategies and activities of this program.

General Policies

1. The program to control acute respiratory infections will be an impact program of the Philippines. It shall be called the Control of Acute Respiratory Infection (CARI) Program. Its primary objective for the next 5 years is to reduce mortality due to pneumonia among children under five years old.

2. The main strategy to reduce mortality shall be the early detection and treatment of pneumonia cases among underfive year olds through the institutionalization of a Standard ARI/Pneumonia Case Management Plan. Details of this plan are attached as Annex I.

3. The process of improving the ARI/Pneumonia Case Management in all DOH and private health facilities shall be the focus of the initial 5 years of the CARI program. This process shall include capability-building such as: training; provision of essential equipments, antibotics, oxygen and other supplies; upgrade of health centers and hospital facilities; and refinement of management systems such as drug procurement and distribution, field supervision and monitoring and referral systems.

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Standard ARI/Pneumonia Case Management

1. The following drugs shall be made easily and regularly available in all DOH facilities for each appropriate ARI case: (1) co-trimoxazole adult tablets in Rural Health Units (RHU) and Barangay Health Stations (BHS) (2) injectable penicillin, IM gentamycin and IM chloramphenicol in hospitals.

2. To assure the steady supply of antibiotics, priority shall be given to procurement of antibiotics for ARI cases as specified in the standard case management plan. No DOH fund shall be used at any level to regularly provide cough medicines such as mucolytics, antitussives, expectorants, antihistaminics and mixtures of these. Cough medicines may be procured or prescribed on a case to case basis and only for the following emergency conditions:

   a) single ingredient cough suppressant for severe pertussis

   b) single ingredient antihistamine for confirmed allergic conditions only such as allergic rhinitis

3. Delivery of oxygen is a life-saving measure for a child with pneumonia. Oxygen and functional flowmeters should then be regularly available in all hospitals. Oxygen shall be delivered properly according to the standard ARI/pneumonia case management plan.

4. To make sure children with pneumonia get antibiotic treatment as soon as possible especially in far-flung areas, all midwives shall dispense oral co-trimoxazole according to the standard ARI treatment chart. Children found to have severe pneumonia and very severe pneumonia, wheezing, otitis media, streptococcal sore throat shall be referred to the municipal health officer or hospital physicians for proper management according to the referral scheme in the standard ARI/pneumonia case management plan.

5. The sensitivity of local bacteria to the standard antibacterial drugs for pneumonia shall be monitored regularly by intermittent sampling in selected hospitals. This shall be spearheaded by the Research Institute for Tropical Medicine (RITM) in coordination with the Bureau of Research and Laboratories (BRL) and professional groups such as Philippine Society for Microbiology and Infectious Diseases (PSMID).

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Training

A training package appropriate for each staff level shall be designed adapting WHO modules. All these courses shall incorporate actual hands-on management of patients using appropriate case management procedures. Below are the target sectors and appropriate training content and objectives:

1.1 Rural Health Midwives (3-day Pneumonia Management Course) - to equip midwives with skills to recognize signs of early pneumonia and manage these with oral co-trimoxazole. Severe and very severe pneumonia are to be referred to hospitals.

1.2 City Health Officers, Physicians of City Health Offices Municipal Health Officers, Rural Health Physicians, Public Health Nurses (3-day ARI Case Management Course) to equip the staff with skills to manage early pneumonia and most ARIs such as acute and chronic otitis media, streptococcal sore throat and wheezing (e.g. asthma).

Severe and very severe pneumonia are to be referred to hospitals.

1.3 Senior Resident Physicians and Medical Specialists in hospitals handling ARI cases among 0-4 years old (5-day Clinical Management Training Course) to equip them with skills to manage outpatient and inpatient ARI cases of all types and severity. These shall be held in ARI Training Units.

ARI Training Units (ATUs)

1. ATUs shall be developed in large and medium-sized hospitals for the following purposes:

   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

   c. to serve as venue for ARI-related researches

These ATUs shall organize a hospital medical-nursing team that will oversee the implementation of the program and will coordinate with the National ARI Committee (NAC).

The San Lazaro Hospital (SLH) is hereby designated as the National ATU to assist the DOH in implementing CARI. The Department selected SLH because it has:

1) adequate number of pneumonia patients
2) staff with a high level of commitment to CARI
3) facilities resembling other hospitals

Details of cooperation should be formalized in a Memorandum of Understanding.

Other Regional ATUs shall be set up as the need to train more health staff arises. It is targetted to have at least one Regional ATU per region.

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 first 5 years, as training on new standard case management protocols are still under way, only one-on-one and group health education shall be conducted using IEC materials designed for midwives such as leaflets and flowcharts. By about the 6th year of implementation, IEC activities shall be expanded to reach larger audiences through mass media. This shall be done only when 60-70% of DOH facilities have already adopted the new standard case management plan.

3. The following basic messages shall be emphasized in health education materials:

   a. That most ARIs are viral and do not require antibiotics

   b. Home management of simple coughs and colds without use of cough and cold medicines

   c. Detection of early pneumonia using simple signs such as rapid breathing and chest indrawing

   d. Information on when, where and how to bring the child with pneumonia for treatment

   e. Information on how to properly give oral antibiotics for early pneumonia at home

Phasing of Implementation

1. National Capital Region (NCR) and Region 8 are the regions for intensive implementation and observation to precipitate experiences and to guide writing of manual of operations.

2. By 1992, at least one province per region shall have fully implemented CARI in all its facilities.

   By 1993, all provinces/cities should have started training and by 1995, all Rural Health Midwives (RHMs) should have been trained.

Supervision and Monitoring

1. Reporting, monitoring, supervision and referral shall be integrated with the Underfive Clinic Systems.

2. The growth monitoring chart (GMC) shall be used to record all ARI cases seen at health facilities. The GMC shall be the official referral form.

3. ARI cases seen in health facilities shall be logged in at the prescribed FHSIS forms following the attached format, Annex A.

4. Monitoring visits of each level will be done by higher level supervisor to include areas of training, case management and referral, procurement and distribution of drugs and other essential ARI supplies and equipment, implementation, among others.

Evaluation

1. In the first year of implementation, a baseline survey shall be conducted in the two intensified implementation regions, NCR and Region VIII to obtain baseline data on critical ARI indices: actual magnitude of ARI cases and deaths, current household practices in case management, systems of referral and other procedures including their efficiency/effectivity.

2. Bi-annual consultative meetings shall be conducted to review program implementation beginning 1991.

3. A midterm program review shall be conducted in 1993 and a comprehensive program review (CPR) in 1996. The detailed manual of procedures shall be drafted by the Maternal and Child Service (MCHS).

Order takes effect immediately.

ALFREDO R.A. BENGZON, M.D.
Secretary of Health

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11/17/91