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DEVELOPMENT OF THE NATIONAL EPI PLAN OF ACTION FOR 1992

Republic of Yemen

17 February - 30 March 1992

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TRIP REPORT:

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C. Hasselblad
REACH Consultant

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ACKNOWLEDGEMENTS

The writer is indebted to Dr. Mohammed Hajar, the newly appointed national EPI Director. He has done extraordinary work in pulling together the many parties concerned with the immunization effort. His leadership and guidance has brought prospect for a significant strengthening of the immunization program at national and governorate level.

It was a great pleasure to take part in the deliberations of the "EPI Technical Working Group." Not only did this group work extremely long hours, with great intensity, but also with great good will and humor.

No mention of immunization program development in Yemen can be made without reference to the UNICEF Representative, Mr. Stewart McNab. UNICEF has continuously provided the program with strong, vigorous assistance and remains its most steadfast and innovative supporter.

Mr. Noel Brown, Chief of Party and the rest of REACH project staff in Yemen are a major reason why it is so pleasant to work in that country. Their guidance and support have been, as usual, exceptional.

LIST OF ACRONYMS

ACCS	Accelerated Cooperation for Child Survival
CDC	Centers for Disease Control (USA)
CML	Central Medical Laboratory
COP	Chief of Party
DGHS	Director General of Health Services (governorate)
DPT1	Diphtheria-Pertussis-Tetanus vaccine, first dose
DPT3	Diphtheria-Pertussis-Tetanus vaccine, third dose
EPI	Expanded Program on Immunization
GHO	Governorate Health Office
HC	Health Center
HMI	Health Manpower Institute
IDC	Immunization/Disease Control Effort
MOPH	Ministry of Public Health
NEDS	National Epidemiological Disease Surveillance Project
PHC	Primary Health Care
PHCD	Primary Health Care Director (governorate)
PHCU	Primary Health Care Unit
PHCW	Primary Health Care Worker
Polio3	Poliomyelitis vaccine, third dose
REACH	Resources for Child Health Project
TWG	Technical Working Group (Immunization)
UNICEF	United Nations Children's Fund
WHO	World Health Organization
USAID	United States Agency for International Development

I. EXECUTIVE SUMMARY

REACH is currently, through March 1992, operating under a buy-in from USAID/Yemen to assist the Ministry of Public Health (MOPH) in training of primary health care workers and in support of immunization activities. After the completion of a four month, no-cost extension to the buy-in (through July 1992), a one year sole-source contract is expected to carry the project through July 1993.

ACCS/REACH support to immunization activities did not begin until September 1991 when a consultant was assigned to assist in the development of governorate plans to strengthen immunization program operations.

The current six-week consultancy was a follow-up to the September/October 1991 assignment. Its purpose was to assess governorate plan implementation and to assist further program development.

Assessment showed that governorate plan implementation came to a halt in December 1991 at the time of the appointment of a new EPI Director and the uncertainties associated with that change. In late February 1992, the MOPH called for the development of a national EPI Plan of Action that would focus and guide future national and governorate immunization efforts. ACCS/REACH welcomed this idea with the expectation that if a unified approach was adopted, all immunization activities and plans (at each administrative level) would serve to reinforce each other.

Under the leadership of the new EPI Director, a Technical Working Group composed of members from MOPH, UNICEF, WHO, ACCS/NEDS and ACCS/REACH was assigned to draft the national EPI Plan of Action. On completion, the draft was to be raised to the national immunization "Task Force" (members: EPI Director, UNICEF Representative, WHO Representative, REACH Chief of Party) and after revision submitted to H.E. the Minister of Health for final approval.

The Plan of Action was drafted, is presently under-going review by the "Task Force" and will be submitted in a matter of days for final MOPH approval. Within the framework and guidance of the Plan of Action, the governorate plans previously developed are expected to be implemented with the full and active support of the new EPI Director and the EPI "Task Force."

II. PURPOSE OF VISIT

The scope of work for this consultancy was as follows:

A. "Review program progress to date with the national EPI Director and UNICEF according to the mutually agreed upon plan and schedule as per October, 1991 Trip Report. Based on this review, determine the modifications and adjustments required for these activities in collaboration with the Director General for Health in the respective governorates.

B. "Meet with the staff of the National Epidemiology and Disease Surveillance (NEDS) Project and recommend in collaboration with the MOPH a detailed strategy that will define the respective roles and the areas of mutually supportive activities to be carried out through the ACCS project. This is to focus on the development of the system in the ACCS target governorates with the necessary linkages to the central level.

C. "Assist in the coordination of a meeting through MOPH office of the Permanent Secretary for Planning and Health Development with the concerned officials and donor agencies appointed by the MOPH. This meeting will be called for the purpose of determining the

strategy, organization and resources necessary to improve and strengthen the disease control and surveillance reporting system established by the MOPH/PHC/EPI as part of the health information system to be established by the MOPH.

D. "In at least one target governorate, participate in the preparation of a plan to revise this system according to the agreed upon national plan and strategy. This shall include an assessment of the present situation and a practical, phased approach for achieving the goals and objectives established in the written plan. The plan shall include a MOPH operating budget for the designated section responsible for this activity as well the defined roles of the MOPH officials responsible for the system implementation at various administrative levels in the governorate.

E. "Based on the findings and recommendations from this consultancy and the workplans and activities set forth, prepare a recommended scope of work for the next consultancy in collaboration with the responsible MOPH officials" (Scope of Work).

The activities listed under point number three and four above were modified due to a change in leadership of the national immunization program. In the event, a national immunization plan of action was developed which is to serve as the framework for all governorate activities to control immuno-preventable diseases.

III. BACKGROUND

Immunization program activities in Yemen, as measured by reported coverage, underwent gradual development through 1986. Until that year program activities were organized vertically with EPI supervisors, under the direct control of the national program, supplying vaccine, collecting reports and attending to field problems--all operated by a separate national EPI budget.

Beginning in 1987, the pace of development radically changed. Through a series of governorate by governorate community mobilization activities (prepared for by a significant increase in the number of fixed immunization sites, by a large-scale expansion of the cold chain and by a major communication effort), the Expanded Program on Immunization (EPI) could bring immunization activities to all health facilities in the country. By 1990 reported coverage, of infants under one year of age, with DPT 3 and measles immunization, had reached 89% and 74% respectively.

Despite this successful country-wide effort and the large-scale buildup at field level, the EPI management and budget structure did not greatly change. The slender EPI management resources (staff, time, capability) that could handle the small 1986 program from Sana'a found it difficult to manage the greatly expanded program developed by 1990. With almost no EPI management capability built at governorate level, with little management integration with PHC and with the end of the massive mobilization effort, the program could not sustain high levels of coverage. By the end of 1991 reported coverage of infants (for DPT 3) had fallen to 62%. And, coverage is expected to decline further in 1992.

REACH's involvement in immunization activities began in September/ October 1991 when the writer was assigned to:

> "Review the status of the immunization program experience to date in Yemen and specifically in the four target governorates of Hajjah, Hodeidah, Marib and Saadah. Based on this assessment, the consultant, in collaboration with the responsible officials from the MOPH, will develop program plans that will serve as the foundation for implementation of an effective intervention and disease control program for the EPI diseases in children under five for

the target governorates" (1991 scope of work).

During that assignment, an EPI/MOPH, UNICEF and REACH team developed immunization program plans in selected ACCS governorates. These plans, with special reference to the "Saadah Governorate Plan" were expected to be experiments in the development of program management at governorate level, integration of management with PHC and the shift of program focus toward disease control. Implementation of these governorate plans began in late October 1991.

IV. TRIP ACTIVITIES

Trip activities during the current assignment were to be as follows:

"Follow-up and evaluate progress of the EPI/MOPH approved program plans and initiatives developed and scheduled for implementation, on an experimental basis, as a result of the previous consultancy completed in October, 1991. Based on this review, modify and adjust the process as required and initiate additional phased program activities to further support immunization/disease control program development in the four ACCS target governorates" (purpose of assignment described in 1992 Scope of Work).

In response to this charge, approximately 10% of the assignment was spent with EPI/MOPH and other MOPH officials, UNICEF, ACCS/NEDS and REACH staff to review what had been done (and why) since October 1991 in implementation of planned immunization/disease control activities at governorate and national level.

Another 75% of the time was spent as team member and rapporteur of a "Technical Working Group" to develop a national EPI strategy and Plan of Action (all components with special reference to the disease surveillance component).

The remaining time was spent in a series of reprogramming exercises for REACH/ACCS 1992 support to immunization activities and in a workshop for preparing REACH coordinators for their role in the immunization support effort.

V. METHODOLOGY AND APPROACH

Based on findings and discussion with MOPH, UNICEF, WHO, ACCS/NEDS and ACCS/REACH staff, it became clear that a unified national strategy for control of immuno-preventable diseases had to be formulated (and documented) if governorate level programming and implementation were to be uniformly encouraged and well supported by the national level.

The methodology, then, was one in which concerned parties came together to hammer out a consensus and framework for future action. And then to write a Plan of Action (and schedule of activities) which would drive all program development.

VI. FINDINGS AND CONCLUSIONS

A. October 1991 Governorate EPI Plans

1. Saadah Plan
   The Saadah EPI Plan, developed during the writer's previous visit as a combined effort of the governorate, EPI/MOPH, UNICEF and ACCS/REACH followed its schedule of activities until end December 1991. At that time, due to the change of the National Director of EPI, related discontinuation of follow-up by team members and inability to finalize recruitment of REACH internal consultant for EPI, implementation of the plan stopped.

2. Hajjah and Marib EPI Plans
   The Hajjah and Marib plans slowed to a halt for the same reasons (see above).

3. National Level Activities
   National level EPI activities, in support of planned governorate activities, also came to a stop. The planned draft of a national EPI refresher-course curriculum was developed and produced and is ready for use. However, arrangements for cold-chain repair training at HMI, Sana'a, were halted.

B. National EPI

A highly qualified, and experienced senior medical officer was appointed as the new EPI Director at the end of 1991. His appointment came at a time when the program, having achieved high levels of coverage in 1990 was finding it impossible to sustain these results.

The appointment also came at a time of general recognition that the immunization effort in Yemen had to be reorganized if it was to meet the challenge of disease elimination and eradication (see Hasselblad Trip Report: "Strengthening of Immunization/Disease Control Activities in selected ACCS Governorates", 30 August to 31 October, 1991). As one of many reminders of the necessity for reorganization, the new Director was immediately faced with the fact that no national budget allocation has been made for EPI in 1992.

At the same time, the position of the ex-EPI Director was not fully regularized and thus his critical contribution to follow-up of already started activities and to future program development had not been secured.

Finally, the new Director wanted to review and familiarize himself with the situation prior to authorizing major activities.

C. Disease Surveillance

In its shift from sole preoccupation with coverage to the need to control diseases, the immunization program has a critical interest in the development of an effective disease reporting, case investigation/outbreak follow-up and laboratory confirmation system. In the present MOPH structure these three functions are divided as follows:

1. The Statistics and Health Information Department of the Planning & Statistics Directorate has responsibility for collecting all health statistics (including the routine collection of disease incidence data). With staff in the Health Office of almost every governorate, the Planning & Statistics Directorate is the official channel for data collection.

2. The Infectious Disease Unit of the Public Health Directorate has responsibility for the investigation and control of outbreaks.

3. The Central Medical Laboratory has responsibility for laboratory confirmation of suspect cases. It has staff located in branch laboratories in a small number of governorates.

Each of these three structures require substantial strengthening if together they are to constitute an effective case identification and disease control system. For example the Health Statistics Department of the Planning & Statistics Directorate has difficulty in supplying basic forms for data collection (some areas have completely run out of forms) due to a lack of funds/support--see Appendix B for a description of the current situation in the Department of Health Statistics written by its director, Mr. Hamoud A. Murshid.

Into this situation has recently come the USAID funded ACCS intervention --the "National Epidemiological Disease Surveillance" (NEDS) project--charged to assist the strengthening of the disease surveillance/control system in the country. It has begun its activities by using national staff from the Central Medical Laboratory (CML) to assist implementation in three hospitals and five health centers in the Sana'a area to test a CDC/USA provided computer software program and reporting format for disease incidence reporting and analysis. Such an experiment is welcomed by all. But there is concern that the use of CML staff to assist development of a new disease reporting system, rather than collaborative work with governorate and national staff of the responsible Directorate (Planning & Statistics), will lead to eventual delays in wide-scale implementation. This beginning then, working to improve disease recording and reporting at field level with central staff who have no official responsibility or authority for the activity, has brought a degree of confusion to the current situation.

In addition, the NEDS project plans to assist the strengthening of the CMLS's traditional tasks (laboratory analysis of specimens) and plans to assist the MOPH to develop a field epidemiology capability.

Once the initial strategy of work is sorted out (with particular reference to sustainability), the NEDS project should be able to make a significant contribution in a program area that will require a tremendous effort from many sources.

D. ACCS/USAID

ACCS/REACH is the USAID contractor that has responsibility for providing technical assistance and commodity support for immunization disease control activities. These activities are now rapidly taking shape at the national and governorate level under the guidance of the national EPI Director and the respective Directors General for Health in the target governorates.

However, the USAID Mission is facing serious budget and staff reductions and as a result, will no longer be able to provide the project management services to contractors that it once did. Because of these new limitations, it is unclear at present what the future holds for the ACCS project. An Assessment Team is currently in country to review project constraints and accomplishments with the MOPH and recommend alternatives and options to the Mission. This could include integration of proposed future support under the Options for Family Care Project.

In the meantime, REACH technical support will continue for another four months under a no cost extension (until July 31, 1992). This will be followed by a sole source contract for one year. The scope of work for this contract is still in the process of review, but it will basically serve as a"bridging activity" and allow time to determine how the ACCS project will come to be managed

and supported. In terms of the sole source contract, due to recent contract management changes at the Mission, the contractor will no longer have access to local currency to fund Mission approved locally funded activities. This appears to mean that project support for activities now under way may be seriously curtailed or stopped in one or more of the four ACCS/REACH target governorates.

E. UNICEF Assistance

The year 1992 is the final year of UNICEF's current program cycle. Starting in 1993, UNICEF will focus much of its effort at governorate level in support of immunization activities.

In 1992, UNICEF continues to play the leading role in external support to the EPI.

F. National Strategy and Plan of Action (for reorganization of EPI) -- 1992

Given the situation as found (breakdown of EPI plan implementation at governorate level; the appointment of new leadership for the EPI; the uncertain direction of disease surveillance system development; a yet to be defined ACCS commitment in 1992; a shift in focus of UNICEF from national to governorate level) the new national Director of EPI recognized an urgent need to develop a cohesive, unified approach to immunization program development.

In as much, H.E. the Under-Secretary for Medical Services and PHC established an "EPI Technical Working Group" (TWG) under the chairmanship of the Director EPI. The group was charged with developing a draft "National Plan of Action for EPI" which would establish a unified program strategy and detail 1992 activities in support of that strategy.

The core members of the TWG, under the continuous leadership of the Director EPI, were participants from the MOPH, UNICEF, WHO and ACCS/REACH. When the subject of disease control was under discussion, additional members from PHC, Planning & Statistics, Central Medical Laboratory and ACCS/NEDS joined. The REACH consultant was appointed rapporteur and ACCS/REACH provided secretarial support.

The TWG, led by the Director EPI, drafted a Plan of Action that essentially reorganizes the program. Its fundamental intent is to create governorate managed programs and to firmly integrate EPI with PHC. In the event, the national "Plan of Action" institutionalizes national support for governorate program development, provides a unified framework for donor input and begins the shift toward a disease control focus.

A number of assumptions (quoted from the Plan of Action) will now guide program development. They include:

<u>Decentralization</u>
"The responsibility and authority for planning, implementing and monitoring immunization activities (within national policy guidelines) belongs to the governorates. The capacity to organize and manage immunization related activities at the governorate level (to include such issues as supervision-with-checklist, coverage monitoring, vaccine and supply stock control, cold chain repair, risk-area identification and management, training) will be developed as a matter of highest priority.

<u>Integration</u>
"The Director General of Health Services and Primary Health Care Director at governorate level are responsible to integrate immunization activities with the other PHC components in their governorates. The management of immunization activities is to become the responsibility of PHC supervisors. Budget use, supply, supervision and training for immunization will all become integrated PHC activities.

Catchment Areas
"In order to systematically organize and monitor immunization program operations (as well as other PHC activities), each government administrative district is to become a separate and distinct operational unit under the governorate. The total area of a district will be divided and placed under the responsibility of the existing health facilities. The resulting "catchment area" of each facility is to be covered by a combination of static and outreach services and achievement compared to the catchment area's target population.

Community Participation
"Immunization activities (whether organization of catchment areas, achieving high levels of coverage or public reporting of target diseases) cannot succeed unless the local community participates in the planning, implementation and follow-up of these activities. Although health staff must play a vital role in mobilizing the community, the key role and responsibility for this task belongs to the government administrative line--governor, district directors, councils and local influentials . . .. The national and governorate PHC/EPI programs must ensure that the government administrative structure undertakes long term and systematic mobilization activities in support of the immunization effort.

Information System, Monitoring and Feedback
"Monitoring (defined as the routine analysis of selected coverage, service quality and disease incidence data) and follow-up action based on monitoring are the basic management tools for improving program performance. Monitoring and feedback will become a routine activity at both governorate and national levels.

Disease Control
"The unifying focus of all immunization activities is the control of immunizable diseases. High coverage will allow the program to reduce the pool of newborns and infants vulnerable to the disease. Service quality will ensure that those immunized have received potent vaccines and are thus actually protected. Special disease control measures will permit the program to identify where diseases are still occurring and to take special action to stop transmission or to manage high-risk areas. Together these activities constitute disease control measures which will lead to elimination of neonatal tetanus, eradication of poliomyelitis and significant reduction (toward future eradication) of measles" (draft national EPI Plan of Action: 1992, pages 4-6--see Appendix D this report).

Having stated these assumptions the plan goes into considerable detail regarding their implementation.

G. REACH/ACCS

As a result of the development of a National Plan of Action which embodies and propounds strategies, systems and tasks previously described in the Saadah Governorate Plan, REACH/ACCS support for strengthening immunization activities at governorate level can now go forward with resolution. The positive factors include:

- A new and vigorous national EPI Director.
- A unified, comprehensive approach to immunization related activities which was developed together by MOPH, UNICEF, WHO and REACH/ACCS.
- A national "Plan of Action" which documents that unified approach and details the steps to be taken in 1992 for national implementation.

- A model governorate plan (Saadah Plan) prepared in October 1991 by the governorate, MOPH, UNICEF and REACH which details governorate implementation of the national strategy.

- The retaining (as internal REACH consultant) of the previous EPI Director to give technical capability to REACH's support.

- A fully trained group of ACCS/REACH field coordinators (one in each of the four ACCS governorates) who can assist immunization program development at governorate level under the direction of the REACH COP and REACH internal immunization consultant.

- A close working relationship developed between MOPH, UNICEF, WHO and REACH staff as well as a "Task Force" composed of the national EPI Director, UNICEF Representative, WHO Representative and REACH Chief-of-Party to ensure plan support and implementation.

- The beginning of an effort to resolve current weakness in the disease surveillance system and the major force for improvement that can be played by the newly arrived ACCS/NEDS project.

Uncertainties which will mark program development include:

- The crisis in obtaining national budget support for the immunization effort.

- The coming period of lead-up to national elections which will consume the energy of many program supporters.

- The presently inadequate (both in number and preparation) technical and management staff available to the EPI Director by which to carry out large-scale program reorganization.

- The as yet unresolved two-track approach in the disease surveillance effort and the potential marginalization of the NEDS project.

- The expected reduction in 1992 of ACCS support to immunization activities (a potential reduction of effort to two governorates).

- The need to replace the Hajjah REACH Coordinator and possible associated delays.

VII. RECOMMENDATIONS

A. National Level

1. The USAID Mission should express concern to the highest levels of the government that the immunization effort in Yemen in 1992 has yet to be funded.

2. The REACH/ACCS COP should continue to work closely with other members of the immunization "Task Force" to track and encourage Plan of Action activities in support of governorate program development. Note: especially critical is the early appointment of an "Acting National Technical Officer" to assist the EPI Director in implementation of the national plan.

B. Governorate Level

1. REACH/ACCS should ensure a no-gap continuation of the internal EPI consultant for support of governorate plan implementation.

2. REACH/ACCS should begin immediately after Eid to reactivate the Saadah, Hajjah and national support activities under the national Plan of Action (see Appendix C).

C. Disease Surveillance

Given the immunization program's fundamental requirement for a functioning, routine, disease surveillance system, it is essential that the present two-system approach (Planning & Statistics and ACCS/NEDS) be ended. Unless a unified approach is adopted, the development of a working, routine disease surveillance system will be further delayed.

1. A permanent "Surveillance System Technical Working Group," composed of (at a minimum) technical members from Planning and Statistics, Infectious Disease, Central Medical Laboratory, EPI and donors (WHO, UNICEF, ACCS/NEDS, ACCS/REACH) should be formed to plan and ensure a unified approach to surveillance system development.

2. All program and project support must be focused on, must use and must strengthen the MOPH departments that are responsible for a given activity. In the case of disease reporting, all program and donor efforts should assist the Health Statistics Department to create a viable, routine, disease reporting system (for example, the EPI should not try to formalize a separate disease reporting system but should use its considerable energy to strengthen the national reporting system).

3. The governorate level in the northern governorates and the district and governorate levels in the southern and eastern governorates are the critical levels for data analysis and action. These levels should be required to analyze and use reported data from the beginning. The national level is too far away from most reporting sites to perform as an "action" point for disease control. The construction of a direct health facility to national level reporting channel (by-passing the governorate or merely using the governorate level as a report transfer point) should be ended. The role and procedures of work (for disease surveillance) at governorate level should be conceptualized as a matter of priority.

4. When working to strengthen disease reporting at health facility level, care must be taken to ensure that the responsible national and governorate officials and staff are physically involved in each step (planning, implementation, follow-up).

5. After preliminary experimentation at facility and governorate level, by officials and staff of the responsible MOPH departments (assisted by technical staff from other MOPH programs such as EPI and by technical staff from WHO, ACCS/NEDS and UNICEF) a national Surveillance Program strategy and plan of implementation should be prepared covering all components and all levels of surveillance system operations. This document could well be drafted by the "Technical Group" suggested in point number 1. above and after revision by highest officials and approval by H.E. the Minister of Health, become the guiding framework for surveillance system development and donor agency inputs.

ACCS

1. The uncertainty regarding ACCS funding levels for immunization should be ended as soon as possible. MOPH/EPI officials need to be able to make firm plans regarding how many (and which) governorates they can intensively support in 1992.

VIII. FOLLOW-UP ACTION

The national EPI Plan of Action for 1992 (see Appendix D) has a detailed list and schedule of follow-up actions by all parties concerned (including REACH/ACCS).

REACH/ACCS follow-up activities in support of the national plan (mainly at governorate level) are also listed separately in Appendix C. These include month by month activities for re-start of support to the MOPH effort in Saadah, Marib and Hajjah and the beginning of effort in Hodeidah (all dependent on the final level of ACCS funding).

APPENDICES

A. PERSONS VISITED

B. DEPARTMENT OF HEALTH STATISTICS (DIRECTOR'S REPORT)

C. REACH/ACCS FOLLOW-UP ACTIVITIES

D. NATIONAL EPI "PLAN OF ACTION," 1992

APPENDIX A

PERSONS VISITED

MOPH
- Dr. Abdullah Salih Al-Sa'edi
  (Deputy Minister for Health Development Sector)
- Dr. Ahmed Mohammed Makki
  (Deputy Minister for Services and PHC Sector)
- Dr. Mohammed Al-Fadhil
  (Director General of Central Medical Laboratory)
- Dr. Abdul Halim Hashem
  (Director General for Public Health)
- Dr. Mohammed Hajar
  (Director Expanded Programme on Immunization)
- Mr. Ahmed Yahya Al-Kohlani
  (Vice Director General for Planning, Statistics and Evaluation)
- Mr. Hamoud A.Murshid
  (Director, Department of Health Statistics)

UNICEF
- Mr. Stewart McNab, Representative
- Dr. Hassan Suguli, Health Programme Officer
- Mr. Robert Tyabji, Programme Communication Officer
- Mr. Mohammed Beshir, Field Officer

WHO
- Dr. Partow, Acting Representative
- Dr. Ali I. Biely, Medical Officer

USAID
- Mr. George Flores, Director
- Mr. Charles Habis, Health & Population Officer
- Mr. Abdul Aziz Kaid, Programme Specialist

ACCS/NEDS
- Dr. Edward Kassira, Team Leader

ACCS/SEATS
- Ms. Sereen Thaddeus, Senior Staff Associate

ACCS/REACH
- Mr. Noel Brown, Chief of Party
- Mr. Ahmed Saeed Zaid, EPI Technical Consultant
- Mr. Al-Shami Abdullah Dawood, Marib Coordinator
- Mr. Sharaf Mutahhar al-Hamly, Hodeidah Coordinator
- Mr. Magdy Abdullah al-Dalea, Saadah Coordinator
- Mr. Ahmad al-Hugari, Hajjah Coordinator

APPENDIX B

Republic of Yemen
Ministry of Public Health
General Directorate for Planning, Statistics and Evaluation
sDepartment of Health Statistics

Report on the Current Condition of the Department of Health Statistics and Proposal for Improvements

Acknowledgements:

I wish to express my appreciation to my superiors for their confidence and support in carrying out my responsibilities in directing this department. In particular, I would like to thank Dr. Abdullah Saleh as Sa'edi, Deputy Minister for Health Development Sector; Mr. Muhammad Gharamah Ar-Ra'iy, Director General for Planning, Statistics, and Evaluation; and Mr. Ahmed Yahya al-Kohlani, Vice Director General for Planning, Statistics and Evaluation. I am certain of their continuing assistance to overcome the existing obstacles towards allowing this department to reach its needed potential.

I. BACKGROUND

It is a well known fact that any health planning strategies must be based on information and precise statistical data of the population, demography, and health conditions. It is a sign of awareness and concern on the part of governmental agencies when attention is given to the units responsible for collecting statistical information, because by this information the delivery of basic health services can be carried out more effectively. Unfortunately, this department is lacking of even the most basic resources to continue in its current responsibilities and much less in the ability to expand its information system.

II. ISSUES and OBSTACLES

Through the following points we will present the most obvious obstacles facing the department.

A. The centralization of the data collection for the country at MOPH causes an overload of responsibility for the staff of this department while the statistics officers at the governorate level merely collect forms and send them to us for data tabulation, analysis, and reporting.

B. The lack of data collection forms for use by the governorates results in sporadic and incomplete input into the data collection system.

C. Standardized forms for the whole unified Republic of Yemen have not yet been devised and made available. The result is the problem of consolidating data from many different types of forms.

D. This department lacks trained and qualified personnel since there are no financial or other incentives that attract such people in comparison with the other sectors in the Ministry.

E. This department lacks the sufficient resources to operate with full efficiency. In addition, the absence of a financial mandate for the department leads to weaknesses in administrative supervision of the governorates' statistics personnel. For example, the inability to provide per diem, transportation allowances or vehicles has resulted in some governorates not submitting their forms for the last nine months.

F. There are other statistics sub-units in the Ministry that have no relations with this department and which have more resources than us.

III. RECOMMENDATION

A. De-centralize statistics operations by establishing statistics units at the governorate level with qualified personnel and provide them with standardized tabulation and data collection forms to be sent in a standardized report format annually or semi-annually. This will allow for better monitoring and supervision of the governorates statistics units by our department.

B. Allocate funds for reproduction of data collection, tabulation and report forms, and any necessary running costs for the department.

C. A specialized committee should be formed to study the existing forms from all regions of the country and devise standardized forms.

D. Provide a vehicle(s) for field inspection visits.

E. Provide financial and/or training incentives to encourage the recruitment of qualified and innovative personnel. Allow the sector to have some financial independence in order to provide these incentives directly.

F. Establish a mechanism to coordinate between the department and other statistics sub-units within the Ministry so as to bring these sub-units under the centralized direction of the department.

IV. CONCLUSION

The department of Health Statistics hopes that the preceding discussion will receive the utmost attention and concern of all involved in the development and improvement of this department.

Hamoud A. Murshid
Director
Department of Health Statistics

H'

APPENDIX C

LIST OF IMMUNIZATION/DISEASE CONTROL ACTIVITIES (1992/1993)

MARCH/APRIL 1992

1. Assist MOPH/EPI develop and **translate** National EPI Plan.

2. Develop "Sole Source" Plan and Budget. Disburse monthly budget to governorate accounts before the beginning of each month.

3. Finalize Internal Consultant Contract (start 1 April 1992)

3a. Finalize 4 x 4 full-time transport

4. Saadah Plan Restart: Visit Saadah to revive plan and to reschedule (by time-table) activities in the Saadah Plan of Action. These activities include those outlined in the National Plan of Action. Some of these are EPI report-receipt monitoring, surveillance report-receipt monitoring, coverage monitoring, supervision-with-checklist/summary, Cold Chain Storekeeper identified and begins work, identification of cold chain repair candidate and cold chain workshop area, training of all involved staff and beginning of a disease control effort (with special emphasis on neo-natal tetanus and poliomyelitis).

5. Hajjah Plan Instituted: Visit Hajjah to schedule activities (see points under Saadah plan)

6. Training of REACH coordinators re EPI.

7. Develop cold-chain assessment instrument.

8. MOPH/EPI agreement with HMI for cold chain repair training.

9. Form/register preparation for Saadah/Hajjah/Marib

10. Order cold chain repair tools and parts for 3 governorates.

11. Obtain description of tire sets (15) required in 2 (possibly 3) governorates; purchase and begin distribution

12. Supervision with Checklist, Saadah (5 nights)--combine with point number 4. above

13. Supervision with Checklist, Hajjah (5 nights)--combine with point number 5. above

14. MOPH/EPI (and REACH) interview cold chain repair candidates for Saadah and Hajjah.

15. MOPH/EPI (and REACH) assess cold chain repair workshop space in Saadah and Hajjah.

16. MOPH/EPI (and REACH) finalize HMI training of cold chain repair candidates.

17. Visit "south" to arrange assistance of cold chain repair technicians.

18. Identification/preparation of four national training team members (National Operations Officer responsible for the governorate and additional NOO as necessary)

*19. Visit Hodeidah to review and plan for cold chain repair development.
- Repair candidate
- Workshop location

MAY

NOTE: A visit should be made to Marib governorate during the month of May to determine whether they have met the criteria for restart of REACH support to immunization activities. If criteria has been met, Marib training and cold chain assessment may begin in June--if criteria have not been met, continue with the Hajjah schedule (see item 45 for criteria).

20. Training of PHC supervisors as trainers in Saadah.

21. Cold chain assessment (Saadah).

22. Begin training of workers in Saadah (Note: both national trainers and Saadah supervisors involved in this training).

23. Identification of exact requirements for refurbishing Saadah cold store: start refurbishment.

24. Procurement of gas cylinders for Saadah (local market... Sana'a)--maximum 60 cyl.

25. Begin training of two (possibly three--Saadah, Hajjah and perhaps Hodeidah) cold chain repair persons in Sana'a.

JUNE

26. Training of workers in Saadah continues.

27. Training of PHC supervisors as trainers (Hajjah).

28. Cold chain assessment (Hajjah) begins.

29. Training of Health Center Directors (Hajjah).

30. Cold chain repair training continues in Sana'a.

31. Cold chain repair technician (from South) works for three weeks in Saadah.

JULY

NOTE: Contracts for items 43., 51., 59. and 60. must also be finalized before the end of July.

32. Training of workers (Saadah) ends.

33. Training of workers (Hajjah) begins.

34. Cold chain assessment in Hajjah ends.

35. Identification of exact requirements for refurbishing Hajjah cold store: Start refurbishment.

0 36. Procurement of gas cylinders for Hajjah from local market (maximum 70 cyl).

37. Workshop for:
    - Curriculum revision
    - Development of draft supervisors handbook

38. Training of two (possibly three) cold chain repair persons continue in Sana'a.

AUGUST

39. Training of workers (Hajjah) continues.

40. Curriculum production (final).

41. Draft handbook produced.

42. Cold chain repair technician from South works in Hajjah (3 weeks).

*43. Form/registers produced for Hodeidah (Note: if these forms/registers are to be produced they must be contracted for in July 1992).

44. Training of two (possibly three) cold chain repair persons continues in Sana'a.

45. Review of Marib Situation
Note: Marib governorate activities will be restarted based on their compliance with the following points:

--Recruitment of already trained PHC workers
--Finalization of working sites for PHC workers
--Distribution of health site equipment
--Appointment of a qualified PHC Director
--Return of two EPI vehicles to the programme

*45a. Training of Supervisor as Trainers.
*45b. Cold Chain Assessment
*45c. Training of Health Workers.

SEPTEMBER

*46. Planning workshop for Hodeidah (to develop Hodeidah Plan or action).

47. Training of workers in Hajjah ends.

48. Supervision (National Team) for Saadah (one week).

49. Workshop for Hajjah/Saadah Supervisors for introduction draft handbook.

50. Training of governorate cold chain repair persons in Sana'a ends.

51. Local purchase of cold chain repair equipment (for 2 possibly 3 governorates). Note: the contract for this equipment must be placed no later than July 1992.

OCTOBER

*52. Training of supervisors as trainers in Hodeidah.

*53. Cold chain assessment begins in Hodeidah.

54. Cold chain workshops established in two (possibly three) governorates.

- refurnish area (2 or 3 sites)
- make secure (2 or 3 sites)
- install equipment (local)

55. Cold chain repair technicians (HMI, EPI, South) to assist establishment of workshop - one week each location.

56. Arrival of "external order" tools for cold chain repair.

NOVEMBER

*57. Cold chain assessment Hodeidah ends.

*58. Identify exact requirements for refurbishment of Hodeidah cold store: start refurbishment.

*59. Local purchase or two air conditioners for cold store (Note: if Hodeidah will be budgeted, this item should be contracted for no later than July 1992).

*60. Local procurement of 120 gas cylinders (Note: if Hodeidah is to be budgeted this item must be contracted for no later than July 1992).

*61. Training of workers begin in Hodeidah.

62. Supervision (National Team) in Hajjah - one week.

DECEMBER

*63. Training of workers in Hodeidah continues.

64. Handbook revision.

65. Saadah supervision (National Team) - one week.

JANUARY

*66. Training of workers Hodeidah ends.

67. Handbook produced (final)

68. Hajjah supervision (National Team) - one week.

FEBRUARY THROUGH JUNE 1993

The period February through June 1993 will be a critical time for programme consolidation in the four governorates. The focus of activities will be:

69. Follow-up of activities started and continuous, routine coverage monitoring with graphs and supervision with checklist.

70. Concentration on full implementation of disease control procedures:
    --Case identification
    --Case follow-up
    --"Risk Area" identification and risk area management

71. Intervention assessment (evaluation by coverage, "quality-of-service ratings, and implementation of management tasks/structure) in the governorates.

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*NOTE: Asterisk (*) items are items contingent on final budget allocation

NOTE: All activities taken from National EPI Plan for 1992

APPENDIX D

EXPANDED PROGRAMME ON IMMUNIZATION PLAN OF ACTION 1992

Republic of Yemen

21 March 1992

PREFACE

By direction of His Excellency, Dr. Ahmed Makki, Undersecretary for Medical Services and PHC, a "Technical Working Group for Immunization" was established under the chairmanship of the National EPI Director, Dr. M. Hajar. Working group members were to be from the Ministry of Public Health, UNICEF, WHO, ACCS/CDC and ACCS/REACH (see Annex I).

This group was charged with drafting a national Plan of Action for immunization activities in 1992. It was expected that the draft plan would be revised by the "Immunization Task Force" (MOPH, UNICEF, WHO, ACCS/REACH) and then presented to H.E. the Minister of Health for final revision and approval. Upon approval, it is expected that this Plan of Action will guide immunization programme activities and inputs in 1992 and beyond.

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DRAFT

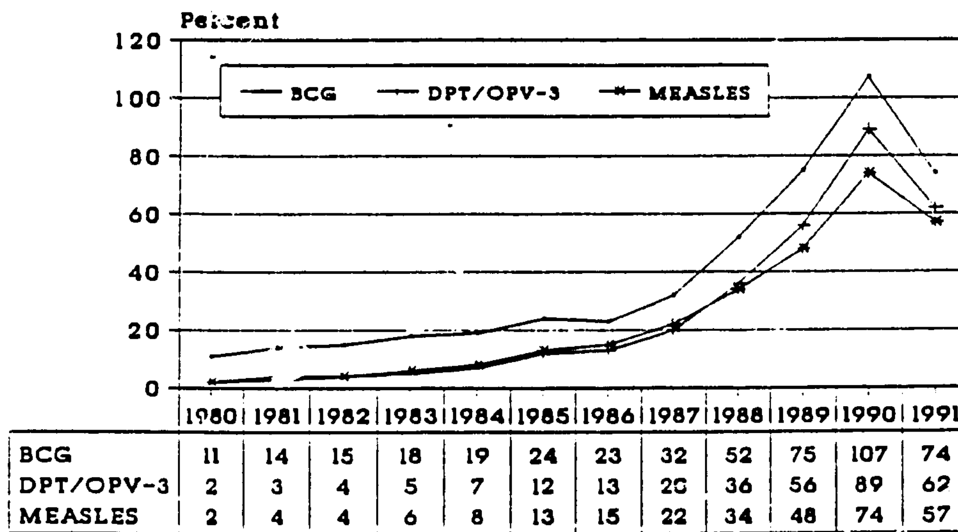
EXPANDED PROGRAMME ON IMMUNIZATION

PLAN OF ACTION 1992

1. BACKGROUND

Immunization programme activities, as measured by reported coverage, underwent gradual development until 1987 (see Figure 1). Until that year programme activities were organized vertically with EPI supervisors, under the direct control of the national programme, supplying vaccine, collecting reports and attending to field problems--all operated by a separate national EPI budget.

PROGRESS OF EPI IN YEMEN, 1980 - 1991
1980 - DECEMBER 1991



	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
BCG	11	14	15	18	19	24	23	32	52	75	107	74
DPT/OPV-3	2	3	4	5	7	12	13	20	36	56	89	62
MEASLES	2	4	4	6	8	13	15	22	34	48	74	57

Meanwhile the PHC system was being developed separately with its management and budget focused at governorate level. Thus, in the governorates, there were both EPI and PHC supervisors attending to the same facilities but with different responsibilities, under different authority and using different budgets.

Then beginning in 1987, the pace of development radically changed until 1990 when under one year of age (reported) coverage for DPT 3/Polio 3 and measles immunization reached 89% and 74% respectively. Through a series of governorate by governorate community

mobilization activities in 1989 and 1990 (prepared for by a significant increase in the number of fixed immunization sites, by a large-scale expansion of the cold chain and by a major communication effort), the Expanded Programme on Immunization (EPI) could bring immunization activities to all health facilities in the country. The benefits from this effort, apart from high coverage, were:

--A high level of public awareness regarding infant immunization
--The field experience of having successfully involved non-health sectors and local communities in support of a public health intervention
--A greatly expanded network of fixed-site immunization points, including all health facilities, throughout the country (from about 470 sites in 1986 to over 1,450 sites in 1990, a gain of over 300%)
--Provision of a vast vaccine storage capacity at national and governorate level as well as widespread distribution of cold chain equipment to facility level
--The experience of having mounted a successful, large-scale mass communication effort in support of a public health intervention

Despite this highly successful country-wide effort and the large-scale buildup at field level, the EPI management and budget structure did not greatly change. The slender EPI management resources (staff, time, capability) that could handle the small 1986 programme from Sana'a found it difficult to manage the greatly expanded programme developed by 1990 through the governorate by governorate mobilization process. Thus in 1991, with almost no EPI management capability bu[illegible] at governorate level, with almost no management integration with PHC and with the end of the massive mobilization effort, the programme could not sustain high levels of coverage. By the end of 1991 reported coverage of infants (for DPT 3/Polio 3) had fallen to 62%. And, coverage is expected to decline further in 1992 unless major changes take place in the programme.

This document, the Plan of Action for 1992, is designed to begin those changes. It is nothing less than the reorganization of the programme through decentralization to governorate level and integration with PHC. It requires the development of programme management at governorate level under the responsibility and authority of the governorate Director Generals of Health. It requires a massive effort to organize district by district operations, proper monitoring and supervision and quality services. Finally, it requires a shift in programme focus to disease control.

2. OBJECTIVES

2.1 COVERAGE

A. CHILDREN UNDER ONE YEAR OF AGE:
To achieve 70% fully immunized coverage of infants in 1992 as measured by the lowest reported dose given (measles or DPT 3/Polio 3).

B. PREGNANT WOMEN:
To achieve 25% coverage of pregnant women with TT2 or TT Booster (TT3, TT4 or TT5).

C. WOMEN OF CHILDBEARING AGE (15-44 YEARS OF AGE):
To achieve 20% coverage of women of childbearing age with TT2 or TT Booster (TT3, TT4 or TT5).

2.2 STRENGTHENING MANAGEMENT CAPABILITIES

A. HEALTH FACILITY LEVEL:

To achieve a 50% average "quality-of-immunization-activities" rating as determined by scores obtained using objective supervisory checklists designed for health facility level.

B. GOVERNORATE HEALTH OFFICE:

To achieve a 50% average "quality-of-immunization-activities" rating as determined by scores obtained using objective supervisory checklists designed for use at the governorate health office level.

2.3 INTEGRATION

A. SUPERVISORS:

At least 50% of all PHC supervisors will take full responsibility for implementation and monitoring of immunization activities in their operational areas (these supervisors will be those located in selected governorates).

B. FACILITIES:

All government health facilities will provide permanent immunization services by the end of 1992.

C. BUDGET:

At least 80% of the governorates will receive a routine advance budget allocation for immunization activities.

2.4 DISEASE CONTROL

A. ROUTINE SURVEILLANCE

To establish a functioning, routine surveillance system in selected governorates that receives 65% of all facility reports within one month of the end of the reporting period.

B. COMMUNITY BASED REPORTING

To establish in selected governorates a trial community based reporting system for deaths suspected to be caused by neonatal tetanus.

3. ASSUMPTIONS AND STRATEGIES

3.1 DECENTRALIZATION

The responsibility and authority for planning, implementing and monitoring immunization activities (within the national policy guidelines) belongs to the governorates. The capacity to organize and manage immunization related activities at the governorate level (to include such issues as supervision-with-checklist, coverage monitoring, vaccine and supply stock control, cold chain repair, risk-area management, training) will be developed as a matter of highest priority.

3.2 INTEGRATION

The Director General of Health Services (DGHS) and Primary Health Care Director (PHCD) at governorate level are responsible to integrate immunization activities with the other PHC components in their governorates. The management of immunization activities is to become the responsibility of PHC supervisors. Budget use, supply, supervision and training for immunization will all become integrated within PHC activities.

3.3 CATCHMENT AREAS

In order to systematically organize and monitor immunization programme operations (as well as other PHC activities), each government administrative district is to become a separate and distinct operational unit under the governorate. The total area of a district will be divided and placed under the responsibility of the existing health facilities. The resulting "catchment area" of each facility is to be covered by a combination of static and outreach services and achievement compared to the catchment area's target population.

3.4 IMMUNIZATION SCHEDULE

A. CHILDREN UNDER ONE YEAR OF AGE:

The strategy of the immunization programme is to immunize infants as early in life as possible and to complete all immunizations before the child's first birthday as follows:

-BCG and a preliminary (not counted) dose of OPV to be given as soon as possible after birth.
-A <u>first</u> dose of DPT and OPV to be given as soon as possible after six weeks of age and then followed by two more doses of DPT/OPV with a minimum period of four weeks between each dose (for a total of three <u>counted</u> doses).
-Measles vaccine to be given as soon as possible after nine months of age.

B. WOMEN OF CHILDBEARING AGE (15-44 years of age):

The immunization programme aims to protect newborns from neonatal tetanus by immunizing women of childbearing age with TT vaccine in accordance with the following strategy:

-A first dose of TT should be given at first contact or as early as possible during pregnancy
-A second dose of TT should follow with a minimum interval of four weeks
-The third dose of TT should be given six months after the second dose or in the subsequent pregnancy
-The fourth dose of TT should be given one year after TT3 or during the subsequent pregnancy
-A fifth dose of TT should be given one year after TT4 or during the subsequent pregnancy

3.5 COMMUNITY PARTICIPATION

Immunization activities (whether organization of catchment areas, achieving high levels of coverage or public reporting of target diseases) cannot succeed unless the local community participates in the planning, implementation and follow-up of these activities. Although health staff must play a vital role in mobilizing the community, the key role and responsibility for this task belongs to the government administrative line--governor, district directors,councils and local influentials (Note: it is the responsibility of Ministry of Health staff to mobilize the government administrative structure). The national and governorate

programmes must ensure that the government administrative structure undertakes long term and systematic mobilization activities in support of the immunization effort.

3.6 INFORMATION SYSTEM, MONITORING AND FEEDBACK

Monitoring (defined as the routine analysis of selected coverage, service quality and disease incidence data) and follow-up action based on monitoring are the basic management tools for improving programme performance. Monitoring and feedback will become a routine activity at both governorate and national levels.

3.7 DISEASE CONTROL

The unifying focus of all immunization activities is the control of immunizable diseases. High coverage will allow the programme to reduce the pool of newborns and infants vulnerable to the disease. Service quality will ensure that those immunized have received potent vaccines and are thus actually protected. Special disease control measures will permit the programme to identify where diseases are still occurring and to take special action to stop transmission or to manage high-risk areas. Together these activities constitute disease control measures which will lead to elimination of neonatal tetanus, eradication of poliomyelitis and significant reduction (toward future eradication) of measles.

4. PROGRAMME MANAGEMENT STRUCTURE

4.1 NATIONAL LEVEL

The National EPI Director is responsible for establishing immunization policy (see Annex E), coordinating immunization efforts, mobilizing government, international and public support and assisting governorate officials to develop effective immunization/disease control activities throughout the country.

The National EPI Director will collaborate closely with the Director and staff of the Directorate of Public Health to facilitate, coordinate and integrate programme activities for EPI development within the PHC context.

Under the over all supervision of the National EPI Director is the "EPI Officer-in-Charge" at the Ministry of Health branch, Aden. This Officer is responsible for organizing and supporting development of immunization activities in six southern and eastern governorates.

Within the EPI at national level are two sections which assist the Director to carry out his responsibilities--these are the "Technical" and "Finance/Administration" sections.

TECHNICAL SECTION:

The Technical Section, headed by the National EPI Technical Officer, contains the following units:

-Operations Unit: This unit will consist of at least eight national Operations Officers who are the continuous link between the EPI Director and the Director General for Health Services (DGHS) in each governorate. These officers (under the technical guidance of the National EPI Technical Officer) will provide training and technical assistance to the governorate programmes and monitor programme progress in their assigned governorates. It should be noted that the present "Training Officer" position will be dissolved as each of the operations officers will have training functions along with their other duties.

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-Reporting, Monitoring and Feedback Unit: This unit is a computerized information-management unit which is to analyze operational data (coverage and activity quality data) for the use of programme and intersectoral officials at national and governorate levels. There will be simple (in Arabic) graphic feedback at least every two months.

-Stores Unit: This unit is to be responsible for equipment, supply and vaccine registration, storage and distribution. It is also responsible for the timely clearance of vaccine shipments from the airport.

-Cold Chain Repair and Maintenance Unit: This unit is responsible for repair and maintenance of all cold chain equipment.

FINANCE & ADMINISTRATION SECTION

The Finance/Administration Section, headed by a Finance Officer, handles personnel, finance/budgeting, customs, transport (transport repair and maintenance) and clerical activities and is responsible to establish appropriate office procedures for the EPI Directorate.

This section, under the direction of the Director EPI, is to determine, by formula, an advance budget allocation (for immunization operations) for each governorate. It will ensure that these funds reach the DGHSs in a timely and efficient manner.

The Director EPI, assisted by his Technical and Finance/Administration Sections, guides, assists and supports the efforts of each DGHS to organize effective immunization related activities in his governorate.

4.2 GOVERNORATE LEVEL

The Director General of Health Services (DGHS) at governorate level has full responsibility and authority to plan, implement, monitor and supervise immunization activities in his governorate. All immunization related staff at governorate level come under his authority. At the operational level, the PHC Director is the Programme Manager for immunization related activities in the governorate.

There is to be no direct link between immunization related staff in the governorate and the national EPI--the connection is through the governorate PHC Director and the DGHS.

Immunization related governorate staff are as follows:

-PHC Director: Manager of the immunization programme

-EPI Technical Officer: Responsible to assist the PHC Director in regards all immunization related activities (with special reference to monitoring and disease control activities)

-PHC Supervisors: Supervisors of immunization related activities

-Health Education Officer: Coordinate health education activities

-Statistical Officer: Responsible for organizing and controlling disease reporting

-Cold Chain, Stores & Reports Clerk (EPI): Responsible for requisition, storage and distribution of vaccine and supplies: also for compiling and reporting monthly immunization results

-Cold Chain Repair & Maintenance Technician (EPI): Responsible for repair and maintenance of all governorate cold chain equipment

These staff under the direction of the PHC Director will establish a comprehensive disease control programme for the immunizable diseases. This includes the provision of immunization services in all health facilities, the equipping and supply of those services, the maintenance and repair of cold chain equipment, the recording and reporting of immunizations given, the monitoring of activities, supervision with checklist, identification and management of risk areas for selected immunizable diseases and training.

5. IMPLEMENTATION (see Annex J for Implementation Schedule)

5.1 ORGANIZATION OF OPERATIONS

A basic management requirement for any PHC component is to define the unit of operation. For a governorate, each district will be viewed as a separate operational area. The total area (villages) of the district will be divided up among the existing health facilities in that district. The resulting "catchment area" of each health facility will consist of one or more levels or types of operations.

In certain parts of the country (especially urban and semi-urban areas) the whole catchment area of a facility may consist of only "first level" operations. In other locations, the total catchment area might have to be divided into at least two levels or types of operational organization. In areas of difficult accessibility, however, it may be necessary to divide a catchment area into three types of operational organization. The three possible levels of a catchment area are described as follows:

-First Level--the area around a health facility from which people will be expected/encouraged to come to utilize the services of that health facility.

-Second Level--the area farther from the health facility to which health workers are expected to walk (or to arrange their own transport) to perform routine, scheduled outreach services.

-Third Level--the area which the worker can reach and serve only through support (e.g., transport or money for fare) provided by the local community.

The total catchment area of a health facility, then, is its operational area and health staff will cover the one or more levels in close collaboration with the local community (see Annex A for details as to how to organize activity in each operational level: Also see Annex B for details as to how to organize community mobilization effort). Once the catchment area of each facility is defined and the appropriate mix of static, outreach and community-supported outreach services are identified, the programme is in a position to plan equipment, vaccine and supply requirements. Finally, the programme will be able to monitor achievement by facility (and district) and take corrective action as required.

5.2 MISSED OPPORTUNITY (FOR IMMUNIZATION)

Three overlapping categories of "failure to immunize" occur in immunization programmes.

These are:

-Failure to have contact with the target individual for immunization

-Failure to fully immunize an individual once the immunization series has begun (dropout)

-Failure to immunize an individual during that individual's contact with the health service (missed opportunity)

"Missed opportunity" for immunization should be one of the easiest failures to correct because the target individual is in our grasp. The failure or ability to correct "missed opportunity for immunization" is a major indicator of management efficiency.

There are three general, overlapping types of missed opportunity each requiring a different set of actions:

A. An individual comes to a health facility but no immunization services are provided at that health facility.

-Each governorate will ensure that immunization services are provided in every government health facility. In facilities (hospitals and health centers) with heavy case loads, immunization services will be provided daily.

-Each governorate will keep an updated chart in the PHC Director's office showing all government health facilities and indicating the days each week that immunizations are currently provided. A similar chart will be displayed at district health office (in those areas of the country in which a district health structure exists). A notice showing immunization days and outreach sites/days will also be posted in the entrance of each health facility.

B. Immunization services are available but target individuals who come for other services are not directed or encouraged to report to the immunization unit.

-A person who comes to a health facility with a wound will always be directed to the "dressing" unit: a person who is not immunized is seldom directed to the immunization unit (let alone asked about his or her immunization status).

-A series of activities to educate doctors and other staff (eg., medical assistants, nurses, midwives) about missed opportunities will be undertaken:

- Agenda item in medical/professional association meetings.
- A policy directive from the Minister of Health stating the target population, indication for immunization (contraindication) policy, immunization schedule and directing all health officials to ensure compliance with the national policy.
- A circular from the Ministry of Health obliging doctors and other curative staff to refer target individuals for immunization.
- Distribution of a poster and desktop "reminder" sticker (re immunization) to all doctors and other curative staff.

-A limited number of "exit surveys" will be performed initially by national EPI Operations Offices to assess levels of missed opportunity at some of the larger hospitals. The results of these surveys will be used to stimulate corrective action for this type of missed opportunity.

C. An individual comes to the immunization unit for immunization but is turned away for one reason or another.

-These reasons vary from management issues (staff not present; vaccine not available; cold chain out of order; service not properly organized so people grow tired of waiting and leave) to knowledge issues (worker doesn't know the "indication" policy and turns individual away: refuses to open a vial of vaccine for one person; immunizes an infant but doesn't immunize the mother with TT, etc). The programme will address this form of missed opportunity by:

-Issuing a policy directive (see Annex E)

-Mounting intensive immunization "refresher training" for basic health workers

-Beginning a supervision-with-checklist system to ensure service quality development.

5.3 COMMUNITY PARTICIPATION

In the national context, community participation in EPI means support of the programme by the community at large, including governmental, non-governmental, voluntary organizations and influentials. To ensure such participation, a National Committee for immunization support will be formed comprising the Ministry of Finance, Ministry of Local Government, Ministry of Information, Ministry of Education, Ministry of Agriculture, Ministry of Religious Affairs (Al-Awkaf) and Ministry of Public Health. This Committee will meet according to need and will be instrumental in obtaining coordinated assistance from their respective ministries through joint planning and implementation at national level and mobilization of ministry structure at governorate level.

At governorate level, similar immunization support Committees (comprising senior governorate administration staff representing the above ministries) will be established under direction of the National Committee and under the leadership of the governor. The task of this committee will be to mobilize local constituents in support of immunization activities.

Against this background, the programme intends that each governorate, under the direction and leadership of the governor, establish "District PHC Committees" whose function it would be (for the immunization component) to work with the health sector to:

-Identify facility catchment areas
-Divide the catchment areas into various operational levels (see section 5.1 above)
-Identify the various outreach locations in 2nd/3rd levels (eg. schools, mesjid, etc.)
-Identify the local influential at each outreach site who would be responsible for mobilizing the local community
-Find resources to get the health worker back and forth to third level outreach sites
-Provide community mobilization support for the immunization effort (see Annex B for a detailed example of this mobilization process).

The actual role of the community in immunization activities is to:

-Assist in planning immunization activities in their local area
-Facilitate health staff to reach and serve their community (to include accommodation when needed)

-Convince individual community members to come for service at the right place and time
-Assist the health worker to follow-up defaulters
-Ensure that all infants and women in the local area are immunized
-Report "suspect" neonatal tetanus deaths to the health worker

5.4 COLD CHAIN

A. Cold Chain Management and Assessment.

The cold chain system is the backbone of an immunization programme. Any unobserved or unresolved failure in the system means that all service activity below the failure is effected. The higher one goes in the cold chain system, the greater effect a failure will have on the programme until failure at national level may effect months of work. For the individual being immunized, any unrecognized break in the cold chain will mean that the vaccine received is probably not potent and the individual not protected.

At the national level, cold store temperature will be continuously monitored. The standby generator will be properly maintained so that no prolonged break in electrical supply occur The cold room presently out of order will be quickly repaired.

At governorate level, the cold chain equipment will be situated in a cool environment, kept clean and its temperature observed at least twice a day with results entered on a temperature chart. Each month's chart, when completed, will be kept for a minimum of six months. In addition, a dated "vaccine monitoring (yellow) card" will be kept in each refrigeration unit for temperature management over time. An emergency plan will be written and available for alternative vaccine storage in case of power or equipment failure.

At health facility level cold chain equipment, usually operated by gas, will be kept clean and free of frost buildup. Temperature charts will be kept and temperatures recorded twice a day. Two gas bottles will be available for every refrigerator and governorate staff will ensure that these bottles are kept with the refrigerator. The governorate Health Office will insure that monies for gas are readily available to health workers.

The national EPI expects that a facility-by-facility record is kept of all cold chain equipment in a governorate. This record will identify the type and model of each refrigeration unit and its status. Where such records do not currently exist, the EPI will assist the governorate to conduct a detailed cold chain assessment.

An objective supervision checklist for use at the governorate level and another checklist for health facility level (which includes a section on cold chain management) will be regularly used to monitor cold chain management.

B. Cold Chain Maintenance and Repair.

Due to the rapid expansion of immunization services, there is now a large amount of cold chain equipment operating at every health service level. Some of this equipment has broken down and, as the equipment ages, much more equipment is likely to do so. The MOH is unable to cope with this growing problem through the present centralized cold chain repair system (in some cases it has taken more than one year to repair minor defects).

To address this problem, the national programme will 1) develop a long-range plan to strengthen its central cold chain repair capacity and 2) undertake to arrange cold chain maintenance and repair training for staff from selected governorates and will establish small cold chain repair workshops in those governorates.

One individual will be chosen from each selected governorate for cold chain repair training at the HMI (medical equipment) Training School. Under the technical supervision of the HMI and administrative supervision of the MOPH/EPI the candidates will undergo a four month course of theoretical an practical training. Upon completion of this training, the repair person will return to the Governorate and establish a small workshop under the guidance of HMI, MOPH/EPI and consultant staff. The repair person will then maintain and repair governorate cold chain equipment under direction and administrative supervision of the Director General of Health Service in the governorates and with the technical support of the MOPH/EPI (see Annex C for details).

5.5 VACCINE HANDLING

A. Vaccine Management.

Even when the programme will have a well managed and maintained cold chain, vaccine receipt, storage, distribution and handling must be correctly managed to avoid potency loss and excessive wastage.

RECEIPT OF VACCINE AT NATIONAL LEVEL

International shipments of vaccine for the northern governorates will be shipped to Sana'a--vaccine for the southern and eastern governorates will be shipped directly to Aden (and not transhipped via Sana'a) Vaccine will continue to be received and cleared immediately upon arrival in country. The procedure is well developed and effective. However, international suppliers will again be urged to provide at least one-week prior notification of vaccine arrival.

CENTRAL COLD STORES

The present system by which vaccines are collected by the governorate will be ended. The central cold stores will deliver vaccine to regional and governorate cold stores on a regular basis. Each shipment of vaccine will contain sufficient ice packs (maintain appropriate temperature) and will be monitored using the yellow "vaccine monitoring" card. At the time of delivery, stock balance of each antigen at the regional and governorate stores will be recorded and reported back to center. Governorate stock levels should not be allowed to fall below a one month supply or to exceed a four month supply.

GOVERNORATE COLD STORES

Each governorate cold store must be managed by a full-time storekeeper. This is an essential position which must be established in every governorate (see Annex D for job description).

In general, the storekeeper will be responsible to monitor the cold chain equipment (temperature charts), receive, store and release vaccines according to standard procedure and to keep the cold stores neat and clean. A stock book will be maintained by antigen (by batch and expiry dates) showing receipt, distribution (to whom) and current balance. The stock books will be used at the time of each transaction and thus will always be current. Vaccine will be distributed, under the supervision of the governorate EPI Technical Officer, through the PHC Supervisors to the health facilities on a monthly basis in such a way that no facility has more than a six week supply or less than a week supply of each antigen at any time.

HEALTH FACILITY LEVEL

At health facility level, each unit will manage its vaccine according to national policy (see Annex E for complete policy guidelines). Some of these policy directives are:

-All vaccines are to be kept in the refrigerator compartment at health facility level (only ice and ice packs in the freezer section).
-Cold chain temperature will be monitored twice a day and results entered on a temperature chart.
-DPT, DT or TT vaccine which has been frozen must be discarded.
-Once a vial is opened, no vaccine may be kept for the next day.
-No expired vaccine may be used or kept in the refrigerator.
-No vial without a label may be used or kept in the refrigerator
-No vaccine should be kept at facility level for more than 30 days.
-Not less than 7 days of vaccine or more than 42 days of vaccine supply should be on hand at health facility level.
-All vaccine receipt, use and balance must be recorded in a stock book as the transaction occurs.
-If even one infant turns up for immunization a vial of vaccine should be opened.
-Vaccine may not be kept out on a table unless cooled by ice or icepack.
-The number of vials used each month must be recorded on the monthly report form

B. Vaccine Wastage.

Vaccine wastage standards (as developed by WHO and others) are guidelines which apply to global and at best national wastage rates. It is obvious that on average, wastage rates in high-population-density countries should be considerably lower than rates in low-population density countries. Whatever the situation, it is still global and national EPI policy that if only one infant comes for immunization, a vial of vaccine must be opened.

Nonetheless vaccine wastage rates remain unacceptably high in certain governorates. Governorate plans must address this problem with a mix of strategies (among which are):

-Governorate staff monitor vaccine use and wastage by facility to determine which facilities have the highest wastage rates and are thus in need of corrective action.

-Health facilities in low density areas may choose to provide immunization only on selected days per week (making sure that such a schedule is well known to everyone in its catchment area)

-Community mobilization and communication activities be intensified so that more infants and mothers turn up for immunization at the appropriate time.

C. National Policy.

A national policy on vaccine handling will be produced and a directive provided to all basic health staff, their supervisors and officer's so that no confusion exists as to how to store, distribute and handle vaccines (see Annex E)

D. Supervision with Checklist.

The two checklists, one for governorate level and one for health facility level, will contain a number of questions on vaccine which will help managers to assess quality of their vaccine and vaccine handling (see Annex F1 for example of a health facility level checklist).

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5.6 SUPPLY, LOGISTICS & TRANSPORT

A. Consumables.

In addition to vaccines, the programme is also responsible to supply disposable syringes & needles, immunization cards, registers, forms, health education materials and other consumable items. These items will be controlled by the storekeeper at governorate level using a stock book and distributed to health facilities by PHC supervisors. Syringes and needles should be initially distributed based on the MOH policy that they be supplied and available for 70% of the total doses of injectable vaccine supplied. Subsequent supply may be based on actual injections given.

Stock books for syringes and needles will also be kept at facility level and vaccine and syringe/needle use cross- checked. Each month's use of vaccine and syringes/needles will be entered in the "use" box of the monthly immunization report.

B. Destruction of Supplies

Used supplies (opened vaccine and used syringes and needles) will be destroyed by burning in a hole. The governorate will ensure that each facility disposes of this material correctly (correct disposal is a supervision-checklist item).

Unopened vaccines which are expired or otherwise damaged by heat or freezing will be collected by PHC supervisors and returned to the governorate for destruction under the responsibility of the Director General of Health.

C. Equipment

A record of all equipment will be kept at governorate level by facility (see section 5.4 above)

D. Transport

The national EPI will develop guidelines for vehicle use and maintenance. Until this directive is available the programme will be guided by two policies:

-All EPI vehicles will be used only for immunization related activities and by authorized staff at national and governorate level.

-The person to whom the vehicle is assigned will be fully responsible for the maintenance and any damage to the vehicle.

5.7 INFORMATION SYSTEM/MONITORING

The current information system for the immunization programme concentrates on coverage data. Coverage data is generated at facility level where a copy of the monthly report is retained and two copies sent to the governorate office. One copy is retained at the governorate level and one copy is sent to the national level for entry into the computer. Currently, no report-receipt chart is kept and coverage data is not summarized or used at governorate level.

[S At national level coverage data is entered into the computer and tables/graphs generated on demand using a rolling denominator. Currently there is no routine feedback system (and when there is feedback it is targeted to all health staff).

Supply-use data (vaccine and syringes/needles) and "quality of service" (supervision) data are currently not reported or calculated by the information system.

Disease incidence data for the immunizable diseases is presently reported informally through the EPI information system (it is not considered reliable). Disease incidence data is prepared by the Department of Planning and Statistics on an annual basis usually a year or so after the end of the reporting period (it is also not considered reliable).

A. COVERAGE REPORTING

The national programme intends to institute coverage-data collation and selected (coverage) indicator monitoring at governorate level. Currently used daily and monthly immunization coverage report forms will be revised. Coverage reports will be collected from health facilities by the Primary Health Care Supervisor responsible and given to the Cold Chain, Stores and Reports Clerk (CSRC). The CSRC will use a report-receipt chart (chart on which all facilities performing immunization are listed and date of receipt of report is recorded) to control receipt of reports. All reports for a month should be received at the governorate office by the seventh day of the next month. The CSRC will then send the collected reports to the National EPI in Sana'a--all reports should be received in Sana'a no later than the 21st of the month.

In selected governorates in 1992, a system will be started by which health facility report data will be summarized by district at governorate level. This district summary will then be sent to Sana'a for entry into the computer by district--these summaries must also arrive in Sana'a no later than the 21st day of the month following the end of the reporting period.

In these same governorates, "coverage monitoring" will also begin.

Coverage data, from the six governorates under the Ministry of Health branch, Aden, will first be sent to Aden and from Aden a copy will be sent to National EPI in Sana'a (to arrive no later than the 21st day of the month following the end of the reporting period). Coverage data from these governorates will also be entered into the computer by district and governorate totals.

B. COVERAGE MONITORING

Coverage monitoring is the regular (monthly) analysis of **selected** immunization data so as to know the status of programme activity and, in knowing, to take appropriate action.

Governorate Level

Coverage monitoring at governorate level will begin as governorate monitoring by district. Data selected for cumulative monthly monitoring (by graph) are:

1. Indicator of **Community Mobilization**

$$\frac{\text{Cumulative DPT 1}}{\text{Total (annual) number of children}} \times 100 \text{ under one year of age}$$

2. Indicator of **Community Coverage**

$$\frac{\text{Cumulative DPT 3 (or Polio 3)}}{\text{Total (annual) number of children under one year of age}} \times 100$$

3. Indicator of **Programme Management** (dropout)

$$\frac{\text{Cumulative DPT 1 - Cumulative DPT 3}}{\text{Cumulative DPT 1}} \times 100$$

The graphing, by district, of these three indicators enables governorate officials to know the comparative status of each district in terms of success (or lack of success) in community mobilization, series-completion coverage and programme management. With this information managers will be able to focus efforts on problems particular to a district and then continue to monitor change (if any). The PHC supervisors will prepare ranked graphs for the group of districts under their supervision. The governorate EPI Technical Officer will prepare ranked graphs of all the districts in the governorate.

As coverage monitoring becomes a routine and well understood practice, it will be expanded to include two additional indicators (governorate by districts):

-Monitoring of measles coverage and measles dropout
-Monitoring of TT 2 (plus TT Booster) in pregnant women

When district management becomes a feature of the PHC programme, then district coverage monitoring, by health facility, will be established using the same monitoring techniques described above.

Coverage monitoring at the governorate level will be under the responsibility of the PHC Director. The graphed results of monthly monitoring will be given to the Director General of Health Services and the Governor so that they can know which districts and which health workers are fully engaged in the programme--and take appropriate action. The PHC Supervisors will also show and discuss the graphs with district directors, health center directors, facility staff and local influentials.

National Level

Facility reports (or district summaries from selected governorates) are to reach National EPI on or before the 21st of the month following the end of the reporting period. Which ever reports are received by that date will be entered for generating that months monitoring graphs. The National EPI will routinely (at least every two months) generate four monitoring graphs (ranked by governorate) for feedback. The graphs will be (see above for formula):

1. Indicator for Community Mobilization (children under one)
   -Percent (cumulative) DPT 1 achievement

2. Indicator for Community Coverage (children under one)
   -Percent (cumulative) DPT 3, Polio 3 or measles achievement

3. Indicator for Quality of Programme Management

-Percent Dropout (cumulative) between DPT 1 and DPT 3, Polio 3 or measles

4. Indicator for Community Coverage (pregnant women)
   -Percent (cumulative) TT 2 plus TT Booster achievement

These graphs, with a covering letter explaining and highlighting the comparative governorate results, will be issued (at a minimum) every two months to Governors, to Director Generals and PHC Directors at governorate level and to other high officials in the Ministry of Health and programme related ministries at national level. This feedback will reach the recipient by the 15th day of the second month following the end of the reporting period.

The computer at national level will also generate comparative district data by governorate. This data will not be fedback to governorate level as the governorate itself is to produce such district comparison graphs. However, when the EPI Director, Technical Officer or Operations Officers make supervisory visits, they should take with them such computer generated governorate graphs (by districts) for use in discussion at governorate level and when checking the work of governorate staff.

Computer Program

If national and governorate monitoring is to show the same results, the method of calculation must be the same. The computer at national EPI will be programmed to calculate output in the same manner as done at governorate level. By using this simplified system, both national and governorate output will be the same and non-technical officials (governors etc.) will be able to understand immunization programme feedback.

C. VACCINE USAGE AND WASTAGE

Currently, no supply-use data is reported and thus no accurate status or forecasting data is available for the supply system. Nevertheless, on the present health facility report form for immunization, there are a number of spaces (boxes) for collection of monthly vaccine (vial) and syringe/needle use. The programme will begin to insist that one of those boxes, the "used this month" box, will be filled monthly from the facility stockbook. In those governorates where health facility immunization reports are summarized, vaccine use and wastage data will be compiled along with coverage data.

When done, this will permit the programme to monitor supply flow and wastage at each level (facility, district, governorate and national levels). The programme can then, for the first time, make rational judgements regarding vaccine and syringe/needle requirements, flow of supply and wastage.

D. DISEASE REPORTING

The EPI will not attempt to formalize a separate "immunizable disease" reporting system. It will assist the Planning and Statistics Department to strengthen the routine reporting system. EPI will also work to establish the "special disease" notification system.

E. FEEDBACK

Apart from the five-page (four graphs and covering letter) feedback which is to be sent out at a minimum every two months, an additional page of feedback may be attached from time to time. This may include ranked governorate graphs showing the results of supervision with checklist at governorate level, results of "missed opportunity" surveys, etc. The target for this feedback, however, is managers and responsible officials--this feedback is not designed as a newsletter.

5.8 DISEASE CONTROL

The focus of the national EPI has shifted from sole preoccupation with achieving high levels of coverage to a focus on reducing the incidence of the immunizable diseases with special emphasis on the elimination of neonatal tetanus and eradication of poliomyelitis. This new emphasis requires that the EPI promote\assist the training of curative staff in case definition and diagnosis, the development of an effective routine surveillance system, a special disease notification system, the development of disease monitoring interest and capability at governorate level and the development of outbreak and "risk area" management capabilities.

As no standardized forms, registers or process currently exists in the country for implementing the routine surveillance system (eg., three different reporting forms are in use--a project form and two national forms) or for the special disease notification system, the National EPI will encourage the Planning and Statistics Department, Infectious Disease Unit, Central Medical Laboratory, WHO, UNICEF, ACCS/CDC and ACCS/REACH to work together to draft one unified approach.

A. ROUTINE SURVEILLANCE SYSTEM

The routine surveillance system will start (for PHC Units, health centers and hospital outpatient) with the recording of patients seen (and diagnosis) in a simple standardized daily register. At the end of the month, cases of a selected number of diseases will be entered on a standard report form and sent to governorate level. A report-receipt chart will be maintained at the governorate level to track and ensure that reports are received every month from each facility in a timely manner. A disease summary (and worksheet) will be used at the governorate level to collate data from all facilities. At a later stage in development, a copy of the disease summary will be sent to the Planning and Statistics Department at national level--for the present, a copy of the health facility report will continue to be sent to Planning and Statistics in Sana'a for their collation.

B. SPECIAL DISEASE NOTIFICATION

A special disease notification form will be used to give immediate notification of selected diseases (for the immunizable diseases this will presently include neonatal tetanus and poliomyelitis). This form will include details about the suspect case to include immunization status. The special disease notification form will be filled out at health facility level in two copies. These copies will be sent to the office of the Director General of Health Services.

From this office one copy will be sent to the PHC Director for action. In the case of poliomyelitis or neonatal tetanus, a special Disease Register will be kept in which information from the notification form will be line-listed and then case investigation initiated.

After a reported case is investigated and if it is found to be a "probable" case, the second copy of the special disease notification form will be sent to the office of the Director General of Public Health at the Ministry of Health in Sana'a. From this office the notification form will be sent to the unit responsible (eg., EPI) for follow-up of the notified disease and a copy sent to the Communicable Disease Unit.

C. COMMUNITY BASED REPORTING

As many cases of neonatal tetanus, where they occur, are unlikely to be reported through the official disease reporting system, it will be necessary to establish a community based reporting system. The EPI will assist selected governorates to establish a community based reporting system for deaths in infants under thirty days of age:

-Governor directs and PHC Supervisors assist District PHC Steering Committees to encourage local influentials and community members to report deaths of infants under 30 days of age (who were normal for at least the first two days of life) to health facility PHC/curative staff.

-Health facility staff record suspect death on special death notification form and send it to governorate level. Reports of these deaths will be channeled to the PHC Director's office where they will be line-listed in the neonatal tetanus section of the special disease register.

D. FOLLOW-UP OF SPECIAL-DISEASE NOTIFICATION

When a report of poliomyelitis or neonatal tetanus or suspect neonatal tetanus death is received in the governorate PHC office it will be entered in the disease register. The reported suspect case or death will be investigated using a standard case investigation form (the governorate EPI Technical Officer will be the focal point for special disease investigation). Should the suspect case or death be determined to be a "probable" case of poliomyelitis or neonatal tetanus, notification will be sent to the Public Health Directorate in Sana'a and specific mobilization and immunization activities will be carried out by local and governorate health staff in the area surrounding the case.

Finally, the location of the case will be spotted on a governorate map to begin the process of "risk-area" identification for future action.

5.9 SUPERVISION

Effective, regular supervision is fundamental to programme success. There are to be a number of levels of supervision.

A. PHC SUPERVISOR (governorate level)

The PHC Supervisor is to be the first line supervisor of immunization activities. PHC Supervisors are to divide the Governorate into zones each taking one group of districts (no district split between supervisors). Each supervisor is then responsible for all PHC activities in his zone (including the PHC activities that occur in a "curative unit." For the immunization component they are responsible for:

1. Organization of their districts (through District PHC Committee) into defined catchment areas and the further division of catchment areas into working levels

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2. Ensuring that a minimum three month schedule of fixed and outreach immunization activities is prepared, known by local influentials and the community and that the schedule is followed.

3. Ensuring that community support for immunization activities through the local contact persons and District PHC Committee remains adequate:

-Mobilization of target to come to outreach sites (second and third level) and the health facility (first level) on scheduled immunization days
-Active follow-up of dropouts
-Arranging or financing transport for third level visits

4. Ensuring that appropriate amounts of immunization supplies reach the facility in a timely manner and are properly controlled by stockbook--and making sure that supply "use" data is entered on the monthly immunization report.

5. Providing guidance, on-the-job training and support to health workers through the supervision with checklist process as follows:

a. <u>Supervision-with-checklist</u> (Annex F1)

All supervision will be conducted with and recorded on an objective checklist. It is the PHC Supervisors responsibility to not only fill out the checklist during each visit but to personally work with staff to correct defects noted. Defects that can not be corrected at facility level will be followed by the supervisor until action is taken from the higher level.

b. <u>Supervision Summary</u> (Annex F2)

All checklist results will be summarized on the "supervision Summary" form. The data obtained from this form (percent of activities performed correctly by health facility) will be used by governorate managers to assess administrative and service quality in facilities and to take appropriate corrective measures.

c. <u>Supervision Graph</u>

Supervision summary results will be graphed (same method as coverage monitoring graphs) and used by Programme Managers as analytic and motivational tools.

6. Ensuring proper maintenance and repair of health facility refrigerators/freezers and will take governorate cold chain repair person to health facilities as needed.

7. Collecting, verifying and monitoring immunization coverage statistics

8. Assisting the phased establishment of the community based surveillance system for neonatal tetanus.

9. Providing assistance for disease-case investigation and leadership for any field follow-up immunization activities that might be necessary

10. Reporting <u>essential</u> information to the PHC Director and the Director General of Health Services:

a. Monthly cumulative coverage graphs by district

-DPT 1
-DPT 3, Polio 3 or measles
-Dropout DPT 1 to DPT 3, Polio 3 or measles

b. Monthly supervision summary and supervision graph showing percent activities performed correctly by health facility

B. EPI TECHNICAL OFFICER (governorate level)

The governorate EPI Technical Officer (GTO) is responsible to the PHC Director for the technical aspects of immunization activities. The GTO ensures that the Stores/Reports Officer and Cold Chain Repair Officer are doing their work correctly. He is the focal leadership for immunizable disease surveillance, investigation and follow-up. Although the GTO does not perform regular field supervision, he assists the PHC Supervisors in technical matters and does random supervision with checklist under direction of the PHC Director (as a cross-check). The GTO is responsible for over-all governorate (by district) coverage monitoring and has major training responsibilities.

C. PHC DIRECTOR (governorate level)

The PHC Director is the EPI Programme Manager at governorate level. He is responsible to the DG for Health Services for the planning, implementation and monitoring of all aspects of the programme. The PHC Supervisors, EPI Technical Officer, Stores/Reports Officer and Cold Chain Repair Officer are under his direction and supervision.

D. DIRECTOR GENERAL OF HEALTH SERVICES (governorate level)

The DG has over-all responsibility for programme success and directly supervises the PHC Director's effort to develop a comprehensive immunizable-disease control programme.

E. EPI OPERATIONS OFFICERS (national level)

There are expected to be eight national operations officer each eventually having responsibility for support of a number of governorates (under the direction of the National Technical Officer and the National EPI Director). For the present, as at least three of the operations officers will be national PHC Supervisors who are new to the supervison of immunization activities, they will work together in teams to cover all governorates grouped as follows:
-Sana'a, Saadah, Al-Jowf
-Dhamat, Al-Baidaa, Ibb, Marib
-Taiz, Al-Hodeidah, Hajjah, Al-Mahwit
-Aden, Lahj, Abyan, Shabwah
-Haramowt, Al-Maharah

The Operations Officer will visit each governorate at least once every three months. His role is to assist the DG of Health Services and the PHC Director at governorate level to establish a successful immunization programme. In addition, the Operations Officers are the main communication channel between the governorate and national programme ensuring that the national EPI provides timely and efficient support to the governorates and monitoring governorate activities and progress for the EPI Director. Thus the Operations Officers will assist in ensuring that:

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1. Governorate programmes are following national policy and implementing national guidelines

2. National level is responding to supply and support requirements

3. Disease control mechanisms are being implemented

4. Coverage monitoring is being institutionalized (to include feedback)

5. Supervision is being done properly with checklists and that supervision summaries and graphs are being used

6. The cold chain and cold chain repair system are being properly developed

7. The vaccine/supply process is being controlled by stock book and supply usage reported
In addition, the Operations Officers will be the lead-trainers for their governorates.

The main tools for their supervision will be:

1. The use of a governorate health office checklist to supervise governorate programme activities--this checklist should be filled out not less than every three months

2. The random use of health facility checklists to cross check governorate supervision

3. Nationally generated coverage graphs (governorate by districts) to crosscheck the coverage monitoring done at governorate level

4. "Missed opportunity" exit surveys carried out at major curative units to determine programme compliance with national policy

5. Vaccine/syringe and needle "usage data" calculated from the monthly reports which will show supply flow and wastage patterns

In every case the Operations Officer will work closely with the governorate officials responsible for the programme and will report visit findings to them. At last, however, they are the eyes and ears of the National EPI Technical Officer and EPI Director and responsible to report to them clearly by supervision summary, coverage graphs, missed opportunity surveys and <u>very brief</u> narrative the status of each governorate programme.

The Operations Officers and the National Technical Officer will meet as a group together with the EPI Director at least once a month to report last month's findings and plan the next month's schedule.

F. NATIONAL TECHNICAL OFFICER (NTO)

Under the direction of the EPI Director, the NTO will coordinate and supervise the activities of the operations, stores/supply, cold chain repair and information system (monitoring and feedback) units.

He will ensure that the Operations Officers are following a planned schedule of visits, are fulfilling the seven tasks listed in their job description and are using the five main tools of supervision (see 5.9 E above) during every visit.

The NTO will supervise the national Cold Stores/Supply Unit and ensure that all needed equipment, vaccine and supply are planned and ordered in such a way that programme requirements are always available.

The NTO will give high priority to developing an appropriate cold chain maintenance and repair system. He will follow a two track approach--the development of a operating national repair capability and the development of governorate (or regional) cold chain repair workshops (see Annex C).

Finally the NTO will ensure that the information system at national level is generating ranked graphs every month giving national (by governorate) and governorate (by district) coverage, management quality and vaccine wastage/use outcomes. And, that this information is fedback to concerned officials at least every two months.

The NTO is Deputy to the EPI Director and will assume leadership of the programme in the absence of the Director. The most senior Operations Officer will act as the National Technical Officer in the absence of the EPI Technical Officer.

G. NATIONAL EPI DIRECTOR

The National Director will ensure that his staff are conscientious in support of governorate programmes and that they continue to follow each revealed problem until it is solved. The Director will play the key role in obtaining high level support for the programme and for mobilizing the Ministry of Local Government to ensure governor and district director interest and action in support of governorate programme activities.

5.10 SOCIAL MOBILIZATION

Raising and sustaining EPI coverage implies the mobilization of Yemeni society on an ongoing and permanent basis.

A fully integrated, multi-level, multi-media approach will be taken to raise and sustain demand for EPI services. At the central level, the country's top leaders (members of the Presidential Council) will be asked to declare public support for EPI at every photo-opportunity to include asking about EPI and actually vaccinating an infant when visiting a health facility.

Every available channel of communication and support will be investigated, approached and enrolled. With the identification of over 48 major channels by the Department of Health Education and the establishment of connections with the potentially more productive ones (including the Ministry of Religious Affairs, individual Imams, the Yemeni Women's Union, the Ministry of Education, the Ministry of Youth, the Yemen Scout Association, the Ministry of Agriculture and others), this process is already well under way. Orientation and materials specific to EPI are being provided to these groups, and this type of support will be strengthened and closely monitored.

Production for the mass media and for interpersonal communication and training of personnel will be progressively increased. Media support will be responsive to feedback from KAP studies and coverage (see Annex G for the Health Education Department's production plan for 1991).

5.11 TRAINING

The reorganization of the programme, the development of governorate management capability and integration of immunization activities with PHC, the shifting of programme focus to disease control and the effort to improve programme quality will require a massive, systematic, training effort in collaboration with the Director General of Public Health.

A. NATIONAL LEVEL

1. All Director Generals of Health Service (governorate) will be called for orientation and discussion reference the new EPI Plan of Action and the need for detailed governorate plans of action (two groups of not more than 10 DGs at a time for three days). By the end of the meeting each DG will have a prepared framework for the governorate plans of action.

2. All governorate PHC Directors will be called for training (review new national plan, national policy, programme development at governorate level, supervision and monitoring systems, guidelines for making detailed governorate plans of action)--training for six days.

3. Training of eight national Operations Officers (new plan, use of management instruments, standard operating procedures
during visits to governorates, reporting requirements, schedule, monthly meetings)--for ten days.

4. Training of governorate Technical Officers (new plan of action, role of technical officers, supervision and monitoring systems, recording and reporting for supply and coverage)--for six days.

5. Training of candidates from selected governorates at HMI Training School in cold chain repair and maintenance--four month training in Sana'a.

6. Training of "cold chain storekeepers/reports officers" from selected governorates--six days.

7. Training of senior medical staff in disease surveillance--four days.

B. GOVERNORATE LEVEL

1. Planning & Management Workshops (in selected governorates)

2. Training of PHC Supervisors and EPI Technical Officers (selected governorates) as trainers of basic health workers--six days. Training by national trainers.

3. Orientation of health center directors in selected governorates on management of EPI activities--one day.

4. Training of basic health workers (to include staff in curative units and non-Yemeni staff) in batches of twenty or less (selected governorates)--six days.

5. Training of health center doctors (in selected governorates) on disease surveillance--two days.

C. TRAINING MATERIALS/MANUALS

Refresher Training Curriculum for Basic Health Workers
The present draft curriculum for refresher training of basic health workers in immunization related activities will be tested in governorate training. It will be revised (significantly simplified) after testing and produced for further training of basic health workers.

Handbook for Supervisors (Immunization Activities)
A Supervisors Handbook on immunization will be drafted in a workshop and tested. After testing it will be revised and produced for use by all immunization activity supervisors.

All national and international supporters of the immunization programme, to include HMI, PHC, WHO, UNICEF, ACCS/REACH and others will be asked to be involved in content development for the Curriculum and Handbook.

6. PLAN OF IMPLEMENTATION

The document up to this point has been a description of a fundamental reorganization in the national immunization programme. It is a major effort in practical integration, decentralization and development of management capacity at governorate and sub-governorate level (as well as the improvement of national support to governorate programmes). In addition, it is the beginning of a process of reorienting the programme to a disease control approach.

The reorganization of the programme as described will require tremendous, sustained effort and a number of years to complete. Nevertheless, there is a high urgency to this task if the current free-fall in immunization coverage is to be reversed and if the national target of elimination of neonatal tetanus by 1995 is to be achieved. An early, high energy beginning must be made if the programme is to achieve developmental momentum.

Although this Plan of Action sets programme direction for at least the next four years, it is focused on the transition year of 1992. At the end of 1992 programme progress will be reviewed and a plan of action for 1993 developed. A list of tasks that the programme should accomplish in 1992 is given in Annex H and will guide all programme inputs. The proposed schedule and budget for task implementation is found in Annex J. These tasks represent the following categories of activities:

--Orientation and involvement of senior health and intersectoral officials at national and governorate level as to their role and obligation in this plan.

--Training of many categories of staff at national, governorate and facility level (whether as preparation for implementation or in the later effort to improve service quality). It should be recognized that many cadre of PHC staff have not been involved in immunization activities to date and will require a great deal of training and on-the-job training if they are to successfully take up immunization programme functions.

--The development of detailed governorate-by-governorate plans of action which reflect the policy and direction of the national programme (see Annex K for an example of a detailed governorate plan).

--Implementation of specific activities and management systems.

--Continuous support, monitoring and supervision of the implementation process

ANNEX A
ORGANIZATION OF ACTIVITY IN EACH OPERATIONAL LEVEL OF A CATCHMENT AREA

The total catchment area of the health facility is its operational area and health staff will cover the three levels in close collaboration with the community:

1. First Level: That area around the health facility from which people are expected to come regularly for service

    a. First level target populations will be listed by village and posted on the wall of the immunization area in the health facility.

    b. Staff will work with the local "Amin" and other influentials to ensure that all parents know the importance and specific days/time when immunization is provided at the health facility and that all infants and childbearing age women come to the health facility for immunization.

    c. All target population, coming for service of any kind, will be immunized.

    d. All first level immunization will be recorded both on daily tally sheets and in the hardcover (general) register book.

    e. Defaulter lists will be continuously updated from the hardcover register book and local amin/influentials used to encourage named defaulters to complete the immunization series on time.

2. Second Level: That area further from the health facility to which the health worker is expected to walk or otherwise arrange transport so as to provide routine outreach services

    a. Second level target populations will be listed by sub-district and village (organized by outreach immunization sites) and posted on the wall of the immunization room in the health facility.

    b. The service provider (and Health Facility Director if health center), in consultation with local amin/influentials will determine the immunization outreach sites and schedule for outreach visits.

    c. Prior to the scheduled visit to an outreach site, the health worker will send notification to the assigned community contact person for the outreach site. The community contact person will ensure that residents of the area know the place/time of the outreach activity.

    d. All second level immunization will be recorded on both the daily tally sheet and in the softcover outreach register kept for second level immunization.

    e. Defaulter lists will be maintained and given to the outreach contact person as part of the notification of a coming visit (see point "3" above).

3. Third Level: That area distant from the health facility which can be served by outreach only if the community itself works with health staff to arrange transport (and in some cases accommodation) for periodic visits

    a. Third level target population will be listed by village (organized by outreach sites) and the list posted on the wall of the immunization area.

b. Third level outreach immunization will be organized through the planning of the district PHC Steering Committee.

c. The Committee will be responsible to ensure that the importance of immunization, outreach site of immunization, time (schedule) of immunization is known to residents of the third level.
NOTE:The Committee will assign one influential in each outreach site who will be the contact between the health worker and residents and who will ensure mobilization of target groups for immunization and follow-up of defaulters.

d. The Committee will also be responsible to finance the movement of the health worker to third level outreach sites on an agreed schedule.

e. All third level immunization will be recorded on both daily tally sheets and in the third area outreach register (organized by outreach sites).

f. Prior notification of visit will be sent to the community person responsible for an outreach site. Defaulter lists for third level areas will be maintained and used/sent as part of prior notification to the community member responsible for an outreach site.

A schedule of activities for each health facility catchment area will be worked out under guidance of the district PHC Steering Committee every three months.

a. The schedule will ensure that immunization services are provided every working day in facilities with more than one service provider, having a refrigerator and which is serving a sizeable population.

b. A minimum of two fixed days of service per week will be provided in those facilities having a refrigerator and only one service provider. The remaining days will be scheduled in advance (with district PHC Committee) for outreach services giving particular consideration to area market days.

Monthly immunization reporting will be from the daily tally sheets which will correspond to the immunizations recorded in the two outreach registers plus the health facility (hardcover) register book.

ANNEX B
COMMUNITY MOBILIZATION FOR IMMUNIZATION RELATED ACTIVITIES

The organization of immunization activities as described in section 5.1 must be planned and implemented in close collaboration with the Governor, District Directors and local influentials. Steps in the process are:

1. Formal Invitation from the Governor (to listed individuals) to attend one day meeting in Governor's office for planning PHC/immunization service development
   a. District Directors
   b. Head of Local Councils
   c. Health Center Directors
   d. Other Influentials

2. Governorate Meeting: Governor briefs, invites discussion and then directs:

   a. Formation in each district of a "District PHC Steering Committee" composed of:
      1. District Director
      2. Head of Local Council
      3. Health Center Directors
      4. Other Influentials

   b. To fix a date (prepare a schedule) for the first "PHC Steering Committee" meeting in each district at which the following should attend for two days:
      1. PHC Steering Committee Members
      2. Key Sheiks in the District
      3. Representatives from each Uzula
      4. Immunization service provider from every facility in the district
      5. PHC/EPI supervisor from the Governorate

   c. In these district meetings, preparation of district plans which will cover the following points:

      1. Assigning all villages in the district to the catchment area of available health facilities (see format attached)

      2. Division of each health facility catchment area into three levels and listing villages according to each level (see format attached)

      3. Identification of appropriate outreach immunization sites (collection points for a group of villages) for second and third level areas.

      4. Identification of community influential responsible at each outreach site for community mobilization.

      5. Development of a three month schedule of immunization activities for each facility which shows days of facility immunization and outreach site/schedule for second and third levels.

      6. Calculation of budget (also identification of source and disbursement procedures) for movement of health workers to and from third level outreach sites (by agreed schedule) in each facility catchment area.

7. Reporting of deaths of infants under 30 days of age (who were normal for at least the first two days after birth) to health facility.

d. To set a deadline for when completed district plans should be received in Governor's Office.

3. Directive from Governor to each District Director confirming members of district PHC committee, function of committee, schedule of first meetings and deadline by which district plans should reach Governor's Office.

4. (First) District PHC Committee meeting held where Governorate and central Ministry of Health staff join district meeting for on-the-job learning.

5. Each District PHC Committee meeting held (attended by Governorate PHC/EPI supervisor as "Facilitator") resulting in preparation of written district plans and filled formats covering the seven points identified in 2.C above.

6. District plans submitted to the Governor by deadline specified.

7. Governor officially authorized implementation of district plans and district "outreach" budgets calculated in the plan. Letters, confirming plans, sent from Governors' Office to district.

8. Quarterly District PHC Committee meeting to review plan implementation and make new schedule.

9. Semi-annual Governorate level meeting (Governor and District Directors) to review progress and plan further steps.

ANNEX C
DEVELOPMENT OF COLD CHAIN REPAIR CAPACITY AT GOVERNORATE LEVEL

INTRODUCTION

The MOPH/EPI proposes the training of governorate health staff in cold chain repair and the establishment of a cold chain repair service in selected governorates.

PROCESS

One individual from each selected governorate will be sent for cold chain repair training at the HMI (medical equipment) Training School. Under the technical supervision of the HMI and administrative supervision of the MOPH/EPI the candidates will undergo a four month course of theoretical and practical training. Upon completion of this training, the repair person will return to the Governorate and establish a small workshop under the guidance of HMI, MOPH/EPI and consultant staff. The repair person will then maintain and repair governorate cold chain equipment under direction and administrative supervision of the DG/GHO and with the technical support of the MOPH/EPI.

RESPONSIBILITY

1. Governorate
   a. Each DG/GHO will select one candidate for the position of "cold chain repair person" the candidates will have the following minimum qualification:
      - Presently employed by the Ministry of Health
      - Be from the Governorate
      - Have at least an Intermediate School Certificate.
      - Be active and obedient
      - Be interested in this kind of work
      - (Preferably) have some mechanical experience

   b. The DG/GHO will assign a room for the site of the future cold chain workshop. This room must:
      - Be at least 3x4 meters in size
      - Be in a secure building
      - Be on the ground floor with a door directly to the outside up to which a truck can come
      - Have electricity
      - Have good ventilation
      - (Preferably) have water

   c. The DG/GHO will send a letter to the MOH identifying the candidate and work-area and certifying that both meet the minimum conditions set above.
      In addition the DG/GHO will confirm responsibility for the following points:
      - All cost associated with maintaining, operating, cleaning and securing the workroom and its equipment.
      - Provision of transport for the repair person to travel to health facilities for repair work (Note: he will travel with the PHC/EPI supervisors)
      - Provision of all salaries, entitlements and per diems
      - Minor workshop operating costs (gas, cleaning materials, minor repair items such as wire, etc.)
      - Work Plan, work output and administrative supervision

2. Health Manpower Institute, Sana'a
   a. The HMI will ensure that the candidates are under full time training and that, upon completion, the trainees are capable of standard cold chain repair work.

   b. The first two weeks of training will be considered a probation period in which a candidate's fitness for the work is evaluated. Should HMI decide the candidate is not fit for the work, the individual will be called by the GD/GHO to return to the governorate.

   c. HMI will keep a record of attendance and progress and at end of training will certify the trainees capability.

3. MOPH
   a. The MOPH/EPI is responsible to coordinate activities of the governorates, HMI, GVS the supporting agency and candidates. The MOPH/EPI will:
      - Conclude an official agreement between EPI and HMI regarding this training
      - Ensure governorate compliance with the terms of this document
      - Provide the administrative supervision of the trainees while they are in Sana'a
      - Arrange technical assistance for procuring required tools and equipment

   b. MOPH/EPI will also provide:
      - A set of cold chain repair tools for the training of the repair persons
      - Clearance and transport of imported commodities
      - Provide the basic spare parts (WHO/UNICEF Standard) for each refrigerator and freezer needing repair
      - Provide all future spare parts needed <u>after</u> the initial special order of spare parts is received (see "4.b" below)
      - Do on-going technical supervision of governorate repair activities after the initial start-up period is over

4. The MOPH will find external resources to
   a. Provide per diem for the candidates while they attend the repair course in Sana'a (plus transport).

   b. Procure the equipment, tools and spare parts necessary for workshop establishment.

   c. Assume costs of installation of equipment in the workshops as well as installation of security devices for protection of the equipment.

   d. Conduct cold chain assessments in the governorates to identify and prepare equipment for priority repair and maintenance.

   e. Provide a repair technician to work with the governorate repair person for the initial start-up of the workshop (14 days each governorate).

<u>JOB DESCRIPTION OF REPAIR/MAINTENANCE TECHNICIAN</u>

By the end of the start-up phase of this plan, the following will be expected from the repair person:

1. Repair both compressor and absorption type cold chain equipment of the PHC/EPI system.

2. Provide routine inspection and maintenance of all PHC/EPI cold chain equipment in the Governorate every six months.

Note: Repair and maintenance work is to be carried out at both field and governorate level.

3. Respond immediately to emergency repair requirements.

4. Keep the workshop orderly and be accountable for all equipment, tools and spare parts.

5. Keep inventory of all equipment, tools and spare parts.

6. Submit routine spare part and supply requisitions to national EPI (through the DG/GHO) at least three months before they are required.

7. Submit a monthly report of repair activities and schedule of following months maintenance/repair tasks to the DG/GHO for information and approval.

ANNEX D

JOB DESCRIPTION
COLD CHAIN, STORES & REPORTS CLERK

The governorate will assign a full-time Cold Chain, Stores and Reports Clerk (CSRS) to manage the cold stores, immunization supplies and EPI reporting system.

Under the direction of the PHC Director and supervision of the governorate Technical Officer (EPI), the CSRS will be responsible for the following:

A. COLD CHAIN/VACCINE

1. Be always available in the cold stores during working hours.

2. Keep area clean and well organized at all times.

3. Arrange transfer of vaccines to alternative location or to cold boxes in case of power failure.

4. Keep clean, maintain and monitor (regulate temperature) of all cold chain equipment at the central governorate store.

5. Keep records of all vaccine transactions by stockbook--receipt, distribution, destruction, balance (all by date, antigen, batch numbers, expiry dates and quantity).

6. Maintain proper stock levels.
   -Stock of any vaccine should not exceed four months supply or fall below one month supply as determined by last six month distribution/use.

7. Ensure that sufficient quantities of frozen ice packs are available at all times (sufficient for cold box storage of vaccine in case of power failure and sufficient for one round of vaccine distribution).

8. Manage vaccine according to standard:
   -Each vaccine to be stocked separately and neatly by batch number and expiry date.

   -No expired vaccines kept in the cold units.

   -Unit temperatures for poliomyelitis, measles and BCG to be kept at or below - 20^0 C.

   -Unit temperatures for DPT, TT and TT to be kept between 2 - 8^0 C.

   -Storage temperatures to be recorded twice daily (am and pm) on a temperature chart--charts to be kept on file for at least six months.

   -Vaccine monitor (yellow) card to be dated and kept in each refrigeration unit.

9. Ensure proper preparation of vaccine for distribution.

   -Pack vaccine for distribution in cold boxes with sufficient icepacks to ensure internal temperature of 2 - 8^0 C.

   -Record all distribution in stockbook by date, antigen location and amounts.

-Require PHC supervisors to record health facility vaccine stock levels at each distribution and report amounts to CSRC for file.

-Keep "crosscheck" records of facility vaccine use and reported stock levels for determining distribution quantities (a health facility stock level should never exceed six week supply or fall below a one week supply).

10. Prepare timely vaccine requests (to national EPI) based on governorate six month use. Ensure receipt of vaccines before minimum supply level (one month) is reached.

B. OTHER IMMUNIZATION SUPPLIES

1. Neatly store, by kind, all other immunization related supplies.
2. Maintain a stockbook which shows receipt, distribution and balance for each item.
3. Ensure a minimum one month supply of syringes and needles.
4. Prepare timely supply request (from national EPI) based on governorate six month use. Ensure receipt before minimum supply level is reached.

C. EQUIPMENT

1. Under the responsibility of the EPI Technical Officer maintain an up-to-date chart listing (by facility) of all cold chain equipment in the governorate (freezers, refrigerators, gas bottles, cold boxes, vaccine carriers) by type, model and condition.
2. In collaboration with the Cold Chain Repair and Maintenance Technician and under the responsibility of the EPI Technical Officer and direction of the PHC Director, distribute cold chain equipment per the governorate plan.

D. REPORTS

1. Collect monthly immunization reports from the PHC supervisors.
2. Under the responsibility of the EPI Technical Officer, maintain an immunization report receipt chart which shows all health facilities and those which currently provide immunization activities:

   -Put date of receipt of report on the chart for each month (use a different color ink for late reports than for reports that came on time--all reports should be received by the 7th of the month).

   -Report pattern of late receipt to PHC director and DGHs.

3. Send collected reports to EPI Directorate so that they arrive in Sana'a on or before the 21st day following the end of the reporting period.
4. (In selected governorates) CSRC will compile monthly reports on a worksheet and transfer totals to district-by district reports. A copy of these district summaries will be sent to the EPI Directorate to arrive on or before the 21st day following the end of the reporting period. The summaries will be of coverage data and supply use data.

ANNEX E
IMMUNIZATION PROGRAM
POLICY

GENERAL

-Immunization services must be provided in every government health facility as part of the routine service.

-Health workers must use every opportunity to immunize infants and women between the ages of 15 and 44 years (to include pregnant women as a first priority).

-Even if only one infant comes for immunization a vial of vaccine must be opened and immunizations given .

-Doctors and other curative health staff must check the immunization status of each eligible coming for other services and direct those in need of immunization to a service point.

-The immunization status of hospitalized infants and women should be checked and they should receive needed immunizations before discharge (in some cases infants should be immunized on admission due to the high risk of hospital-acquired measles).

IMMUNIZATION SCHEDULE

CHILDREN UNDER ONE YEAR OF AGE

Children are to be immunized as early in life as possible with all doses given before a child's first birthday. The schedule is as follows:

EARLIEST Age for Immunization	Vaccine	Remarks
Birth	BCG and OPV zero	OPV given at birth is not counted as part of the OPV series.
6 weeks of age	DPT 1 and OPV 1	Give BCG now if not previously given.
10 weeks of age	DPT 2 and OPV 2	Minimum interval between first and second dose is four weeks.
14 weeks of age	DPT 3 and OPV 3	Minimum interval between second and third dose is four weeks.
9 months of age	Measles	All immunization should be given before the child is one year of age.

WOMEN OF CHILDBEARING AGE (15-44 YEARS OF AGE)

The TT immunization schedule for women is five doses. Accept only written documentation of previous doses. TT immunization may be given safely at any time during pregnancy (including the first trimester) but should be given at least two weeks before delivery if it is to protect the newborn child. The schedule is as follows:

DOSE	SCHEDULE
TT 1	At fist contact or as early as possible in pregnancy
TT 2	Four weeks after TT 1 (or in subsequent pregnancy if TT 1 was given before the pregnancy)
TT 3	Six months after TT 2 or in subsequent pregnancy
TT 4	One year after TT 3 or in subsequent pregnancy
TT 5	One year after TT 4 or in subsequent pregnancy

INDICATIONS/CONTRAINDICATIONS FOR IMMUNIZATION

-BCG and OPV can be safely given at birth: DPT can be started as early as six weeks of life and measles at nine months of age. TT may be safely given at any time during pregnancy.

-No vaccine is totally without risk of adverse reaction, but the risks of complication from EPI vaccines are much lower than the risks from the natural diseases.

-It is particularly important to immunize children with malnutrition or who are otherwise vulnerable. Children with low grade fever, mild respiratory infections and diarrhoea should be immunized.

-Children who are so ill that they require hospitalization need not be immunized until discharge unless directed for immunization by hospital authorities (to avoid risk of hospital acquired diseases).

-A child who suffers a severe adverse reaction to DPT should complete the series with DT vaccine (the pertussis component omitted).

METHOD OF IMMUNIZATION

VACCINE	DOSE	METHOD	SITE
BCG	0.05 ml (o.1ml for children over one year)	Intradermal	Right Shoulder
DPT	0.5 ml	Intramuscular	Thigh
TT	0.5 ml	Intramuscular	Arm
MEASLES	0.5 ml	Subcutaneous	Thigh
OPV	3 drops	Oral	Mouth

COLD CHAIN/VACCINE (HEALTH FACILITY LEVEL)

-All vaccine must be transported in cold boxes or vaccine carriers with sufficient ice packs to maintain an internal temperature of 2°-8°C.

-The number of vials of vaccine at a health facility should never exceed a six week (42 day) supply or fall below a one week supply as calculated by a history of vaccine usage.

-All vaccine supply and use must be recorded in the health facility stock book so that at any time the "balance" in the stock book corresponds to the number of vials in the refrigerator.

-All vaccines (including polio, measles and BCG) will be kept in the refrigerator section of the cold chain equipment at health facility level. No vaccine will be kept in the freezer.

-Only ice packs are to be kept in the freezer.

-Polio, measles and BCG vaccine will be kept in the area closest to the freezing unit. DPT, DT and TT will be kept in the next closest area to the freezing unit.

-DPT, DT and TT vaccine must not be frozen. If frozen by accident, discard these vaccines.

-No food or drink may be kept in the refrigerator.

-A working dial thermometer must be kept inside the refrigerator.

-The inside temperature of the refrigerator should be kept between 2°-8°C.

-The inside temperature of the refrigerator must be checked two times a day (am and pm) and the temperature accurately recorded on the temperature chart.

-Each months temperature chart must be kept on file in the health facility for at least six months.

-A principle of "first in, first out" must be used in storage of vaccine at health facility level so that no vaccine is kept at a health facility for longer than 30 days.

-No expired vaccine may be kept in the refrigerator or used.

-No vial without a label may be kept in the refrigerator or used.

-If even one infant turns up for immunization a vial of vaccine should be opened.

-Vaccine may not be kept out on a table unless cooled by an icepack. Vaccine used during a session must be kept in a vaccine carrier with sufficient ice packs to maintain temperatures between 2°-8°C.

-Once a vial is opened, it must be discarded at the end of session (or day). No vaccine from an opened vial may be used on a second day.

-The number of vials used and/or discarded each day must be recorded in the stock book and the number of vials used or discarded must be recorded on the monthly report form.

SYRINGES AND NEEDLES

-Disposable syringes and needles are designed for a single use only. They may not be reused.

-Each injection (including BCG) must be given with a separate, new syringe and needle.

DISPOSAL OF USED OR DAMAGED SUPPLY

-Used syringes and needles and opened vials of vaccine (to be discarded at the end of the day) will be placed in a deep hole and burned.

-Each health facility must have a deep hole always available for this purpose. Once the hole is almost filled it should be covered over with rock and dirt and a new hole dug.

-Unopened vaccines which are expired or otherwise damaged by heat or freezing will be collected by the PHC Supervisors and returned to the governorate health office for destruction under the responsibility of the governorate Director General of Health.

ANNEX H

PROGRAM ACTIVITY LIST (1992)
(see Annex J for Schedule & Budget)

1. Prepare Arabic version of "Plan of Action"

2. "Plan of Action" approval by H.E. Minister of Public Health

3. Ministerial decree decentralizing program and placing responsibility for program development/success on the Director Generals of Health Service (governorate level)-- the need to develop governorate plans.

4. Ministerial circular to all related departments in the MOPH regarding their role in immunization program activities

5. Revise job descriptions of all (PHC/EPI) staff

6. Ministerial order to all concerned program-related officers at national and governorate level defining responsibility and tasks

7. Establish "Operations Unit" at national EPI and procedures for work (8 operations officers plus branch officer)

8. Establish "Cold Chain/Stores unit" at national EPI

9. Obtain special ID cards to permit easy entry to airport for vaccine clearance

10. Send reminder to international vaccine suppliers regarding minimum one-week notification and <u>direct</u> shipment to Aden

11. Prepare system for distribution of vaccine from national to governorate cold stores

12. Prepare long-range plan for strengthening cold chain repair & maintenance unit at national level

13. Move to enclosed room and prepare time-table/system for routine maintenance of national level "stand-by" generator

14. Arrange with HMI Training Center for four month training of governorate "Cold Chain Repair & Maintenance" candidates

15. Order (external procurement) equipment/tools needed to establish governorate cold chain repair workshops

16. Prepare a mid-term plan for the development of the Information System Unit (increased memory; counterpart, etc)

17. Revise computer program for calculating coverage data (to correlate with monitoring at governorate level)

18. Devise computerized system for vaccine use and wastage calculation

19. Devise computerized system for calculation/comparison of governorate health office supervision-with-checklist

20. Ministerial order to governorates regarding immunization coverage reporting requirements--when reports (summaries) must reach National EPI

21. Begin feedback from National EPI to governorates, using new system, in April 1992 (cumulative results to March) and routine feedback every two months thereafter

22. Formation of the intersectoral "National Committee for Immunization Support"

23. Ministerial order (Ministry of Local Government) directing Governors to:

    *Form governorate level "Committee for Immunization Support"
    *Ensure district-by-district mobilization of community for support of immunization activities

24. Preparation of detailed "policy guidelines" for the program

25. Ministerial order re implementation of (attached) policy guidelines

26. Develop objective national checklist for supervision of program related activities at governorate health office

27. Develop immunization report-receipt monitoring chart for governorate health office

28. Develop disease report-receipt monitoring chart for governorate health office

29. Develop equipment status record for governorate health office

30. Develop guidelines for EPI transport use and maintenance

31. Finalize disease surveillance formats:

    *Case definitions
    *Outpatient register
    *Reporting form
    *Special disease notification form

32. Finalize (for case follow-up):

    *Under 30 days death reporting form
    *Special disease register (governorate health office)
    *Case investigation forms
    *Case follow-up procedures

33. Preparation of Materials for Training of National Operations Officers

34. Preparation of materials for orientation meeting of DGs from all governorates

35. Preparation of materials for training of PHC directors (governorate level)

36. Preparation of materials for training of governorate technical officers

37. Training of national Operations Officers (central level)

38. Orientation of governorate DGs (central level)

39. Training of all PHC Directors from governorates (central level)

40. Training of all governorate EPI Technical Officers (central level)

41. Preparation of materials for training of PHC Supervisors

42. Training of PHC Supervisors and governorate Technical Officers (SELECTED GOVERNORATES)

43. Preparation of materials for governorate workshops for developing governorate plans of action

44. Governorate workshops for developing detailed plans of action for immunization activities (SELECTED GOVERNORATES)

45. Follow-up of Governor's formation of intersectoral "Committee for Immunization Support"--ensure governorate communication plan in support of district-by-district mobilization effort

46. Formal invitation from governor to district leaders to assemble/discuss mobilization for immunization activities

47. Governorate meeting re formulation of District PHC Committees for on-going support of immunization activities

48. Development of district plans--organization of catchment areas and local community support for immunization

49. Compile governorate needs from national EPI in support of governorate plan of action

50. Submit governorate plans to national level

51. Review, revise and approve governorate plans of action

52. Transfer agreed equipment/supply to governorates (based on approved plans)

53a. Develop registers and forms for program (to include stockbooks, disease control registers and forms, coverage reporting and monitoring forms and registers)

53b. Print sufficient registers and forms for the program

54. Governorate assigns full-time EPI "Cold Chain, Stores and Reports Clerk"(CSRC)

55. Prepare materials for training of (CSRC)

56. Train CSRC (central level)

57. Implement new vaccine distribution system (national level delivers vaccine to governorate level)

58. Governorate assigns full-time candidate for "Cold Chain Repair Technician" position (SELECTED GOVERNORATES)

59. Governorate identifies cold chain workshop area (SELECTED GOVERNORATES)

60. National EPI evaluates cold chain repair technician candidates and proposed work area (SELECTED GOVERNORATES)

61. Training of governorate "Cold Chain Repair Technicians" at HMI training facility--Sana'a (SELECTED GOVERNORATES)

62. Purchase local market furniture and equipment for governorate cold chain repair workshops (SELECTED GOVERNORATES)

63. Preparation\distribution of Ministerial Circular reference "missed opportunity"

64. Preparation/distribution of poster and sticker (desk reminder) to all curative staff reference missed opportunity

65. DG of Health Services issues directive reference routine disease surveillance system and special disease notification system (SELECTED GOVERNORATES)

66. Preparation of materials for health center directors.

67. Orientation of health center directors (SELECTED GOVERNORATES)

68. Preparation of materials for training of doctors re "missed opportunity" and disease surveillance (SELECTED GOVERNORATES)

69. Training of doctors re "missed opportunity" and disease surveillance (SELECTED GOVERNORATES)

70. Preparation and distribution of Ministerial Circular re destruction of vaccine at governorate level

71. Training of PHC Supervisors and governorate EPI Technical Officer as EPI trainers of basic health workers (SELECTED GOVERNORATES)

72. Training first batch of basic health workers (SELECTED GOVERNORATES)

73. Training remainder of the basic health workers in batches of not more than twenty (SELECTED GOVERNORATES)

74. Revision and finalization of curriculum for immunization refresher training of basic health workers--EPI, PHC, HMI, UNICEF, WHO, REACH (central level)

75. Cold Chain assessment (SELECTED GOVERNORATES)

76. Establish use of equipment-status chart

77. Provide needed gas cylinders--two per gas refrigeration unit (SELECTED GOVERNORATES)

78. Provide or procure needed additional cold chain equipment (based on assessment) with special reference to outreach immunization requirements (SELECTED GOVERNORATES)

79. Establish governorate cold chain repair workshops (SELECTED GOVERNORATES)

80. Arrange experienced cold chain repair technicians to work for a minimum of two weeks with newly trained cold chain repair technicians (SELECTED GOVERNORATES)

81. Draft and test Supervisor's Handbook for immunization activities--EPI, PHC, HMI, UNICEF, WHO, REACH (central level)

82. Follow-up meeting of governor with district leaders to review PHC Committee activities and support for immunization

83. Training of community contact person and PHC Committee members reference under 30 day infant death reporting (SELECTED GOVERNORATES)

84. Periodic special national PHC/EPI assessment teams (using the two supervision checklists--health office and facility) to review governorate progress (SELECTED GOVERNORATES)

85. Revision/finalization of Supervisor's Handbook for immunization activities (central level)

86. Review of program progress 1992 and prepare 1993 plan of action

ANNEX I

REPORT OF FIRST TECHNICAL WORKING GROUP FOR IMMUNIZATION MEETING

****

3 March 1992, 10:00 a.m.

Ministry of Public Health

His Excellency, Dr. Ahmed Makki, Undersecretary for Services and PHC, opened the meeting by warmly welcoming members of the technical working group for immunization (See list of participants attached). He noted that as a result of unification the country had doubled in size and population and that establishment of successful programs would require even greater effort than before. Dr. Makki further noted that all elements in the Ministry of Public Health stood ready to support the further development of immunization activities and that when national and international staff worked closely together as a team, much could be accomplished. In this spirit he strongly supported the development of the technical working group and noted that his door was open at all times to assist its activities.

Dr. Muhammad Hajar, National EPI Director, in turn welcomed the participants and made the following points:

* Coverage for children under one in 1990 was 80%. In 1991 coverage slipped to 62%

* In addition to regaining high levels of coverage, the government has also committed to:

  - elimination of neonatal tetanus by the year 1995

  - eradication of polio by the year 2000

  - significant reduction in measles incidence

* Achieving these tasks requires a major shift in programming:

  - Operations must be decentralized to governorate level and competent management developed to run the activity.

  - Immunization activities must be fully integrated with PHC/MCH.

  - The community must be fully involved in program activities if high coverage is to be achieved and sustained.

  - Service quality must be substantially improved.

  - The program must organize itself around case and risk area identification and management.

Dr. Hajar concluded by saying that all the above requires detailed planning and he charged the Technical Working Group to produce a draft plan of action for immunization activities in 1992 with special focus on the governorate level. He asked that the plan be completed by the third week of March 1992.

Working Group members representing CDC/ACCS, UNICEF, and REACH/ACCS responded (WHO member was unable to attend and sent regrets). General discussion followed emphasizing the importance of this team activity and the need for clear and detailed planning as a framework within which the governorates would develop their own plans of action.

Mr. Ahmed Saeed, Technical Officer for EPI, then put forward a proposed list of subjects for the plan of action (See attached "Proposed Plan Content").

The Working Group then discussed and established a place of meeting and schedule for when each subject would start to be discussed (See schedule next page). Dr. Hajar noted that evening sessions would have to be held when a "subject" could not be finalized within the first session.

All Working Group members were invited to attend all sessions. However, if all sessions could not be attended, it was essential that organizations (and officials) attend sessions particularly relevant to their area of specialty.

Dr. Hajar ended the meeting with hope for hard work and good results.

LIST OF PARTICIPANTS

Dr. Ahmed Makki	Undersecretary for Services and PHC, MOPH
Dr. M. Hajar	Director of EPI, MOPH
Mr. Ahmed Saeed	Technical Officer, EPI/MOPH
Mr. Hamood Murshid	Planning and Statistics, MOPH
Dr. Hassan Suquli	UNICEF
Mr. Robert Tyabji	UNICEF
Mr. M. Bashir	UNICEF
Dr. E. Kassira	CDC/ACCS
Mr. C. Hasselblad	REACH/ACCS

Note: WHO invitee sent regrets.

SCHEDULE

DATE	SUBJECT[a]	VENUE	TIME	CORE MEMBERS[b]
4 March (Wednesday)	2. Objectives[c] 3. Assumptions and Strategies	Dr. Makki's office	11:00-3:00 p.m.	MOPH, WHO, UNICEF, REACH
5 March (Thursday)	4. Program Management Structure 5.1 Organization of Operations	"	"	"
7 March (Saturday)	5.2 Missed Opportunities 5.3 Community Participation 5.10 Social Mobilization, etc.	"	"	"
8 March (Saturday)	5.4 Cold Chain 5.5 Vaccine Handling 5.6 Supply and Logistics[f]	"	"	"
9 March (Monday)	5.8 Disease Control (to include objectives and assumptions/strategies)	UNICEF office	"	MOPH, WHO, CDC/ACCS, UNICEF REACH
10 March (Tuesday)	5.7 Information System/ Monitoring	Dr. Makki's office	"	MOPH, UNICEF, WHO, REACH
11 March (Wednesday)	5.9 Supervision	"	"	"
12 March (Thursday)	5.11 Training	"	"	"
14 March (Saturday)	6. Resource Allocation 7. Implementation Schedule	"	"	MOPH, UNICEF, WHO, CDC/ACCS, REACH
15 March	**The Draft "Plan of Action" should be completed by this date.**			

NOTES:

a. Numbers and headings from "Proposed Plan Content" attached.

b. All Working Group members are urged to attend all sessions. However, if it is not possible to attend all sessions, please ensure attendance as noted in "core member" column.

c. Objectives and assumptions/strategies for disease control will be discussed on 9 March 1992.

PROPOSED PLAN CONTENT

1. BACKGROUND

2. OBJECTIVES

3. ASSUMPTIONS/STRATEGIES
   - Decentralization
   - Integration
   - Community Participation
   - Disease Control (rather than a "coverage" program)

4. PROGRAM MANAGEMENT STRUCTURE

5. PROGRAM IMPLEMENTATION

   5.1 Organization of Operations

   5.2 Missed opportunities

   5.3 Community Participation

   5.4 Cold Chain System (including cold chain maintenance and repair)

   5.5 Vaccine Handling

   5.6 Supply and Logistics

   5.7 Information System/Monitoring

   5.8 Disease Control (case/risk area identification and management)

   5.9 Supervision

   5.10 Social Mobilization, Communication, Advocacy, Health Education

   5.11 Training

   5.12 Intersectoral Coordination

6. RESOURCE ALLOCATION

7. SCHEDULE

EPI PLAN OF ACTION 1992 (MARCH)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Prepare arabic version of plan of action	4th week	EPI/REACH	YR 15000	REACH
2	Reminder to international supplies for minimum one week notification	4th week	PH/EPI dir.	0	0
3	Arrange with -HMI- for four month training of governorate "cold chain repair and maintenance " candidates	4th week	EPI dir./HMI	0	0

EPI PLAN OF ACTION 1992 (APRIL)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	"Plan of action"approval by HE minister of public health	2nd week	PH/EPI dir	0	0
2	Order (external procurement)equipment/ tools needed to establish governorate cold chain repair workshops	2nd week	EPI/REACH	US$17680	0
3	Ministerial order to governorates regarding immunization coverage reporting requirements--when reports(summaries) must reach national EPI	2nd week	PH/EPI dir.	0	0
4	Ministerial decree decentralizing programme and placing responsibility for programme development/success on the director general of health service "governorate level"-the need to develop governorate plans"	3rd week	PH/EPI dir.	0	0
5	Ministerial sircular to all related departments in MOPH regarding their roles in immunization programme activities	3rd week	PH/EPI dir.	0	0
6	Revice job descriptions of all staff	3rd week	Technical W.Group	0	0
7	Obtain special ID cards to permit easy entry to airport for vaccine clearance	3rd week	PH/EPI dir.	0	0
8	Revice computer programme for calculating coverage data (to correlate with monitoring at governorate level)	3rd week	EPI dir./NTO/GVS	0	0
9	Preparation of material for training national operations officers	3rd week	EPI/UNICEF	YR 5000	UNICEF
10	Ministerial order to all concerned programme -related officers at national and governorate level defining responsibilities and tasks	4th week	PH/EPI dir.	0	0
11	Establish "operations unit"at national EPI and procedures for work	4th week	EPI dir./NTO	YR18000	UNICEF
12	Preparation of detailed"policy guide-lines"for the programme	4th week	TWG	YR 15000	UNICEF
13	Develop objective national check-list for supervision of programme related	4th week	TWG/OPs officers	YR30000	MOPH

	activities at governorate health office				
14	Develop immunization report-receipt monitoring chart for governorate health office	4th week			
15	Develop disease report-receipt monitoring chart for governorate health office	4th week			
16	Develop equipment status record for governorate health office	4th week			
17	Develop guidelines for EPI trasport use and maintenance	4th week			
18	Training of national operations officers	4th week	TWG	YR 40000	MOH/UNICEF

EPI PLAN OF ACTION 1992 (MAY)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Establish "cold chain/store unit" at national EPI	1st week	EEPI dir./NTO	0	0
2	Prepare system for distribution of vaccine from national to governorate cold store	1st week	PH/EPI/NTO	0	0
3	Prepare time-table and system for routine maintenance of national level "stand-by" generator	1st week	EPI dir./NTO	YR 20000	UNICEF
4	Formation of the intersectoral "national committee for immunization support"	1st week	PH/EPI dir.	0	0
5	Ministerial order re implementation of (attached) policy guidelines	1st week	PH/EPI dir.	0	0
6	Establish working group for finalizing disease surveillance formats: *Case definitions *Outpatient register *Reportin form	1st week	TWG/Plnn.&Stais./PH/ Central lab/NEDS	0	0
7	Preparation of material for orientation meeting of DGs from all governorates	1st week	EPI/UNICEF	YR 5000	UNICEF
8	Preparation of material for training of PHC directors(governorate level)	1st week	EPI/UNICEF	YR 5000	UNICEF
9	Ministerial order(ministry of local government)directing governors to : *form governorate level "committee for immunization support" *Ensure district- by- district mobilization of community for support of immunization	2nd week	PH/EPI dir.	0	0
10	Finalize (for case follow-up): *Under 30 days death reporting form *Special disease register(gov.health off) *Case investigation forms *Case follow-up procedures	2nd week	TWG/PH/infect.dis.	0	0
11	Preparation of material for training of governorate technical officers	2nd week	EPI/UNICEF	YR 5000	
12	Orientation of governorate DGs (central level)	2nd week	PH/EPI dir.	YR 56500	UNICEF/MOH

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13	Begin feedback from national EPI to governorates using newsystem.in April 92 (cumulative results to March)and routine feedback every two months thereafter	2nd week	EPI dir./NTO/GVS	0	0
14	Training of all PHC directors from governorates (central level)	3rd week	TWG	YR 88000	UNICEF
15	Training of all governorate technical officers (central level)	4th week	TWG	YR 79800	UNICEF/MOH

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EPI PLAN OF ACTION 1992 (JUNE)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Preparation of material for training of PHC supervisors and governorate technical officers	Ist week	EPI/UNICEF	YR 3000 YR 2000	UNICEF MOPH
2	Preparation of material for govrnorate workshops for developing governorate plans of action	Ist week	EPI/UNICEF	YR 3000 YR 2000	UNICEF MOPH
3	Training of governorate "cold chain repair technicians at HMI (sellected governorates)	Ist week	EPI DIR./HMI/NTO	YR 247700	REACH
4	Prepare a mid-term plan for development of the information system unit "increased memory, computer part, etc)	2nd week	EPI dir./WHO/UNICEF/GVS	$ 7276 $ 5000	WHO UNICEF
5	Training of PHC supervisors and governorate technical officers (sellected gov.)	2nd week	PHC dir./N.O.officers	YR 210000	MOH/UNICEF/WHO/ REACH
6	Implement new vaccine distribution system (national level distributes to gov. level)	2nd week	NTO/stores officer/NOO	Running cost	MOPH
7	Governorate w.shops for detailed plans of action for immunization (sellected gov.)	3rd week	DG/PHCD/NTO/NOO/TWG	YR 120000	MOH/UNICEF/WHO/ REACH
8	Prepare long-range plan for strengthening cold chain repair & and maintenance unit at national level	4th week	PH/EPI dir./NTO	0	0
9	Follow up of governor's formation of intersectoral "committee for immunization support"..ensure gov.communication planin support of district-by-district mobilization effort	4th week	DG/PHCD/NOO	0	0
10	Formal invitation from governor to district leaders to assemble/discuss mobilization for immunization activities	4th week	GOVERNOR/DG/NOO	0	0

EPI PLAN OF ACTION 1992 (JULY)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Periodic special national PHC/EPI assessment teams(using the t[illegible] supervision check-lists to review governorate progress(sellected gov)	1st week	NTO/NOO/TWG	Running cost	MOPH
2	Development of district plans..organization of catchment areas and local community support for immunization	2nd week	DG/PHCD/NOO/DIST.DIR.	running cost	MOPH
3	Preparation of material for HC directors´ orientation (sellected governorates)	2nd week	PHCD/NTO/NOO/UNICEF	YR 3000 YR 2000	UNICEF MOH
4	Preparation of material for doctors	2nd week	PHCD/NTO/NOO/UNICEF	YR 3000 YR 2000	UNICEF MOH
5	Orientation of HC directors	3rd week	PHCD/NOO	YR 225000	UNICEF/REACH
6	Training of doctors	3rd week	DG/PHCD/NOO	see activity no.5	
7	Revision of EPI refresher training HMI,UNICEF,WHO,REACH,---central level)	3rd week	TWG/HMI/NOO	YR 117240	MOH/UNICEF/REAC
8	Draft supervisors´ hanbook	3rd week	TWG/HMI/NOO	included in activity 6	
9	Computerize vaccine use/wastage	4th week	EPI dir./NTO/GVS	0	0
10	COMPUTERIZE SUPERVISION RESULTS	4th week	EPI dir./NTO/GVS	0	0
11	Compile governorate needs from national EPI in support of plan of action	4th week	DG/PHCD/GTO/NOO	O	0

EPI PLAN OF ACTION 1992 AUGUST

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Submit government plan to national level	1st week	DG/EPI dir.	0	0
2	Review.revice and approve governorate plans	2nd week	EPI DIR./nto	0	0
3	Training of PHC supervisors and governorate EPI technical officers as EPI trainers of basic health workers (sellected governorates)	3rd week	PHCD/NTO/NOO/GTO	YR 210000	MOH/UNICEF/WHO/ REACH
4	Training first batch of basic health workers (sellected governorates)	4th week	PHCD/PHCSUP/NOO/GTO	YR 882000	MOH/UNICEF/WHO REACH
5	Cold chain assessment(sellected gov.)	4TH WEEK	NOO/GTO/PHCSUP	YR 120000	UNICEF/REACH

EPI PLAN OF ACTION 1992 (OCTOBER)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Provide or procure additional ccold chain equipment (based on assessment) with special reference to outreach immunization requirements(sellescted governorates)	1st week	EPI dir./NTO	Running cost	MOH
2	Establish governorate cold chai repair workshops(sellected governorates)	4th week	EPI dir./NTO/REACH	YR 72000	MOH/REACH
3	Arrange experienced cold chain repair technicians to work for a minimum of two weeks with newly trained cold chainrepair technicians(sellected governorates)	4th week	EPI dir.	YR 27000	MOH/REACH

EPI PLAN OF ACTION 1992 (SEPTEMBER)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Training remainder of basic health	1st week	PHCD.PHCSUP.GTO.NOO	Included in ac August	0
2	Purchase local market furniture and equipment for governorate cold chain repair workshops(sellected governrates)	1st week	EPI dir./NTO/REACH	YR 170000	REACH
3	Establish use of equipment-status chart (equipment monitoring chart)	1st week	PHCD/GTO/NOO/COLD CHAIN STORES.REPORTS OFFICER	0	0
4	Procure needed gas cylinders --two per gas refrigeration unit(sellected governora.)	4th week	PH/EPI dir./NTO	YR 250000	MOH/REACH/WHO

EPI PLAN OF ACTION 1992 (NOVEMBER)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Follow-up meeting of governor with district leaders to review PHC committee activities and support for immunization	1st week	DG/PHCD/NOO	0	0
2	Training of community contact person and PHC committee members re under 30-day infant death reporting(sellected governora.)	1st week	DG/PHCD/NOO/TWG	YR 150000	MOH/WHO/REACH
3	Revision of supervisors´hand book	2nd week	TWG/NOO	YR 23600	MOH/REACH

EPI PLAN OF ACTION 1992 (DECEMBER)

#	ACTIVITY	WHEN/DEADLINE	BY WHOM	COST	SOURCE
1	Review of 1992 programme progress and prepare 1993 paln of action	2nd week	TWG/NOO	RUNNING COST	MOH