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REACH
RESOURCES FOR CHILD HEALTH

Technical Assistance to the Kenya Expanded Program on Immunization (KEPI)

Nairobi, Kenya

May 20-31, 1991

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A.I.D.	Agency for International Development
AMREF	African Medical Research Foundation
ARI	Acute Respiratory Infections
CEIS	Computerized EPI Information System
COSAS	Coverage Survey Analysis System
CTO	Cognizant Technical Officer
DANIDA	Danish International Development Agency
DHS	Demographic Health Survey
EPI	Expanded Program on Immunization
KEMRI	Kenya Medical Research Institute
KEPI	Kenya Expanded Program on Immunization
IEC	Information, Education and Communications
NNT	Neonatal Tetanus
PATH	Program for Appropriate Technology in Health
PRITECH	Technologies for Primary Health Care
REACH	Resources for Child Health Project
TT	Tetanus Toxoid
UNICEF	United Nations International Children's Fund
USAID	United States Agency for International Development

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The author wishes to thank the staff of the Kenya Expanded Program on Immunization (KEPI) for making themselves available for meetings at a time when many other pressing activities were drawing on their attention. Ms. Connie Johnson and Ms. Kate Colson deserve special gratitude for taking the time to explain latest developments in KEPI activities and sharing their insights. Finally, it was a pleasure to work with Grace Kagondu, Josephine Kariuki, and George Kibe of REACH/Nairobi.

I. EXECUTIVE SUMMARY

REACH Technical Officer Rebecca Fields visited Kenya on May 20-31, 1991, to follow up on a number of activities related to immunization initiated under USAID/Nairobi's buy-in to REACH. As backstop for REACH/Kenya activities, Ms. Fields planned to concentrate primarily on working with the REACH Communications Advisor, Grace Kagondu, to complete the evaluation of a social mobilization pilot program and to work with staff of the Kenya Expanded Program on Immunization (KEPI) on planning a workshop for accelerating the control of measles and other EPI diseases.

Progress was made on analyzing findings from the Child to Child social mobilization program in Siaya, in identifying outstanding data needs, and in developing a detailed outline for the final report. A draft of the report is to be prepared by the Communications Advisor by the end of June 1991.

Attempts to plan in detail both the workshop for accelerated measles control and a serological study on tetanus toxoid protection were hindered by limited access to key KEPI staff, who were away from Nairobi for most of the visit. In that the only meeting possible between the author and the KEPI manager took place during the trip debriefing, it will be necessary for some of the activities planned for this trip to be done either during a REACH follow-up visit or through the use of a locally-recruited consultant with extensive EPI experience who is newly based in Nairobi.

KEPI will be experiencing changes in funding and structure during the next few months and, as a result, USAID/Nairobi felt that the above-mentioned workshop should be rescheduled for early 1992, by which time a number of issues should be resolved.

With regard to follow up visits by REACH staff, it is expected that a REACH staff member will go to Kenya in July or August 1991 to work with KEPI on use of the computerized EPI information system; that a visit to provide technical assistance for a long-term strategy document for KEPI will be made in July or August, 1991; and that a cost-benefit study of KEPI will be rescheduled from September 1991 to early 1992.

II. PURPOSE OF VISIT

The purpose of the visit was to work on a number of long and short-term REACH activities in Kenya, including the following:

A. Workshop on the Accelerated Control of Measles and Other EPI Diseases - Work with the KEPI manager to finalize the dates, location, participants, agenda, required materials, and contents of workshop presentations; work with the REACH/Kenya Administrative Associate to make logistical preparations.

B. Child to Child Evaluation - Review data collected to date for the evaluation of the pilot Child to Child social mobilization project in Siaya; work with REACH/Kenya Communications to identify outstanding data needs and develop framework for data analysis.

C. Neonatal Tetanus (NNT) - (1) Tetanus toxoid serological survey: work with KEPI to finalize protocol, designate principal investigator, identify sites and timeline, confirm DANIDA support of laboratory analysis by Staaten Seruminstitut; (2) Present to KEPI progress on analysis of Kenya Demographic Health Survey data to identify high risk districts for NNT.

D. Computerized EPI Information System (CEIS) - Discuss with KEPI staff the current status of use of CEIS and timing and scope of work for return visit on CEIS by REACH staff member.

E. KEPI Cost-Benefit Study - With KEPI staff, review scope of work and terms of reference for this study, previously discussed with KEPI; modify as necessary and suitable determine dates for conducting the study.

F. EPI Teaching Manual for University of Nairobi Department of Pediatrics - Check on current status and involvement of REACH Administrative Associate in preparing manual.

G. REACH management activities - Review with REACH/Kenya staff various administrative and managerial procedures; conduct performance evaluation for REACH Communications Advisor; inspect new REACH office space.

H. KEPI Evaluation - Meet with DANIDA representatives to go over status and plans for KEPI review and involvement of A.I.D.; discuss with REACH Kenya Communications Advisor possible REACH roles in evaluations of KEPI IEC and training activities.

III. TRIP ACTIVITIES

Activities conducted during this visit consisted of meetings with staff from KEPI, UNICEF, USAID, DANIDA, KEMRI, AMREF, PATH, PRITECH, and the Department of Pediatrics at University of Nairobi. In addition, detailed planning sessions were held with the REACH Communications advisor to KEPI on the analysis of the Child to Child pilot program in Siaya and with the REACH Administrative Associate regarding the workshop for accelerated control of measles and other EPI target diseases.

Informal meetings were also held with a team of experts in acute respiratory infection (ARI) control from the World Health Organization, who were visiting Kenya to develop the rudiments of an ARI control program. Finally, the author attended the first day of a three-day regional conference on operations research, sponsored by the Eastern and Southern Regional Office of UNICEF.

Because the KEPI manager, Dr. Sang, was away from Nairobi until May 30, it was not possible to meet with him until the debriefing for this assignment on May

31. Similarly, the Director of the Division of Family Health, Dr. Oyoo, was overseas until May 28, so the first visit with him took place two days before the visit was completed. Because of the limited availability of these key staff, only a minimum of discussion could be held on certain topics which had been intended as major points of focus. Extensive follow up to this visit will, therefore, be required.

IV. FINDINGS/RESULTS

A. Workshop on Accelerated Control of Measles and Other EPI Target Diseases

The dual objectives of this workshop are to disseminate current information on measles control (and, to a lesser extent, other EPI target diseases) and to identify ways of incorporating this information into revised policies and strategies for EPI disease control in Kenya. Provincial-level data on measles morbidity and mortality are to be presented by provincial medical officers and discussed in light of the information in the technical presentations. It had not been clear, previously, what sort of end product was envisaged. During this visit, it was agreed that a brief synopsis identifying key elements of strategy should result from the workshop. The timing of the workshop, originally planned for early 1991, had been rescheduled for August 1991 in Mombasa.

Several changes from earlier plans became apparent in preparation for and during this visit. Because of the uncertain status of funding and organization of KEPI at present, USAID/Nairobi felt that the workshop should be delayed until after the KEPI review by DANIDA has taken place in October 1991 and new, long-term funding decisions have been made. By early 1992, policies and responsibilities of key KEPI donors, including DANIDA and UNICEF, should be clearer, thereby increasing the feasibility of actually implementing the workshop findings and recommendations. By these criteria, the workshop could be held in early February, 1992.

By this date, new findings will be available on several topics to be discussed during the workshop, including administration of vitamin A, updates on the use of Edmonston-Zagreb measles vaccine in some high risk populations, and research on immune status of women and newborns with respect to tetanus toxoid administration in Kenya (see Section C below).

In the absence of the KEPI manager during this visit, Dr. Oyoo designated Mrs. Mwangi, KEPI training officer, as the KEPI contact for the conference. Due to sudden, unscheduled KEPI planning meetings in the two remaining days of the visit, it was not possible to meet with Mrs. Mwangi to discuss the workshop.

During the debriefing, Dr. Sang indicated that this workshop was intended as the first of a series of meetings; its focus on the provinces would be followed in subsequent workshops with a focus on the districts. (One district level medical officer of health from each province is to be invited to this first workshop, however.) Drs. Oyoo and Sang expressed concern with the delay of the workshop. During the debriefing it was learned that KEPI had already sent out requests for and received back provincial level data on measles

morbidity and mortality. Drs. Oyoo and Sang did not want another six months to elapse before moving ahead with accelerating measles control efforts.

Drs. Oyoo and Sang felt that a preliminary 1-2 day brainstorming meeting should be held around September 1991 for a smaller group of pediatricians (approximately 20). The purpose would be to discuss the provincial level findings and current technical information on measles in preparation for the larger workshop. Dr. Sang asked if USAID and REACH could support this preparatory meeting and specifically, if REACH could sponsor the participation of Dr. Mark Grabowsky. Dr. Oot from USAID explained that USAID's support, via REACH, would continue to be for the second, larger workshop, but it would be KEPI's responsibility to organize and fund the prepartory meeting. It may be possible for REACH Cognizant Technical Officer (CTO) Dr. Jerry Gibson to devote a day of time to technical discussion of measles with Kenyan pediatricians during his visit to Kenya as part of the KEPI review in October 1991 (see section IV). This will be pursued by the author in Washington.

Because of inflation and devaluation of currency in the year since the workshop was first budgeted, and because "high season" hotel rates are charged in Mombasa in January and February, the venue for the meeting will probably need to be changed from Mombasa to Nakuru or Nyeri. Pending availability of further details on participants, the REACH Administrative Associate will prepare an updated budget for the conference.

An approximate timeline for follow-up activities is shown in Appendix 2. Unfortunately, KEPI staff could not be consulted for detailed workshop planning during the author's visit, as had been anticipated. The planning will therefore have to be done in follow-up visits and/or through the use of a local EPI consultant to be based in Nairobi starting July 1991. Foremost among the planning activities will be obtaining the data gathered by the provinces and reviewing papers for presentation that apparently have been prepared by staff of the University of Nairobi Department of Pediatrics. A scope of work will be drafted up for consideration by USAID and A.I.D./Washington by mid-July 1991. It is anticipated that central level funds will be required for this activity.

B. Evaluation of the Child to Child Pilot Project in Siaya

At the time of this visit, the evaluation of the Child to Child pilot project in Siaya was in its final stages. Data on routine coverage before, during, and after the Child to Child project in April-May 1990, had been collected to the extent possible; most administrative data on the participation of schools, teachers, and students had been collected; focus group discussions with teachers, mothers, health workers and pupils had been conducted in Siaya.

The possibility of using a district coverage survey to further assess impact of the Child to Child program had been suggested at one time but was dropped during this visit for several reasons. The most recent coverage survey in Siaya was done three years before the Child to Child program was piloted; since then, many changes quite apart from Child to Child may have had an impact on coverage levels that may confound the interpretation of results. A

review of administrative data for the Child to Child evaluation showed that less than 25% of primary schools actually participated in the program, so it is unlikely that any quantitative differences in coverage would be detectable through the coverage survey. While questions pertinent to the Child to Child program could be added to the standard coverage survey questionnaire, the same types of information can be and have been more simply and easily obtained from other sources of information. Overall, the amount of quantitative and qualitative information to be gleaned from a survey would be minimal, considering the time and effort required to carry out the survey.

Time was spent during this visit on evaluating the focus group discussion findings, determining the missing pieces of information that still need to be obtained from Siaya, and developing an outline for the final report. It was decided that the REACH/KEPI Communications Advisor will make a return visit to Siaya in early June in order to conduct interviews with teachers and head teachers in those schools where initial training of head teachers was followed by non-participation in the program. It will also be necessary to go through the returned referral slips to obtain as much information as possible on participation in the program and the proportion of vaccinations during the campaign period associated with it.

As discussed with USAID/Nairobi, it is expected that a draft of the evaluation report will be ready by the end of June. In that the current undertaking represents the first rigorous attempt to evaluate a Child to Child social mobilization project for EPI, the report will be adapted for submission to a professional journal.

As of May 1991, the Child to Child project has been conducted in six districts in addition to Siaya: Busia, Kakamega, Bungoma, South Nyanza, Kisumu, and Nandi. There are tentative plans for it to be replicated in Kericho, Trans Nzoia, and Narok; however, the REACH/KEPI Communications Advisor feels that implementation in these sites should be delayed until the Siaya evaluation is complete. She plans to hold a workshop in July or August for the seven districts that have participated to date to compare and contrast experience thus far with the Child to Child approach. Conduct of the workshop is contingent on availability of funds from UNICEF/Kenya.

During the course of this visit, a detailed draft outline for the final report was prepared by the author and shared with the Communications Advisor. The latter will take the lead in writing the report, soliciting input from REACH/Washington as needed.

C. Neonatal Tetanus (NNT)

In November and December 1990, REACH and KEPI developed a protocol for conducting a study to determine the serologic levels of protection against NNT and the demographic and administrative correlates of immunity in women attending antenatal clinics in Kenya.

Since that time, the protocol has been reviewed by experts in NNT at WHO/EPI/Geneva and the Centers for Disease Control. REACH subsequently

revised the protocol (see Appendix 3) to provide more focused information on the level of protection conferred by the current Kenyan policy of vaccinating only pregnant women with tetanus toxoid. In the revised protocol, women bringing their children (aged three months or less) for their first EPI vaccination are the subjects of study, rather than pregnant women attending antenatal care services. By studying those women who have recently given birth, it will be possible to gather information on how well their infants were protected at birth. In addition, it will be possible to collect information on demographic correlates of high risk women (i.e., those with lowest levels of TT antitoxin) and on how well maternal recall corresponds to serologic status.

Discussions were held during this visit with Dr. F. A. Okoth of KEMRI, originally designated as principal investigator for the study. Since the beginning of 1991, Dr. Okoth had already worked with KEPI to obtain approval from the Director of Medical Services to conduct the earlier version of the study. Dr. Okoth believes that as the changes in the protocol are relatively minor, it will be possible to obtain an amendment to the original approval without significant delay. Dr. Sang expressed concern that the 800 surveyed mothers might not find acceptable the drawing of a small amount of their blood (by fingerstick) when they take their children in for vaccination. This will have to be explored further in discussions with KEPI and KEMRI staff.

The next immediate step is to identify three health facilities that meet the selection criteria of the revised protocol. This was to have been done during the author's visit in consultation with the KEPI manager; but because of his unavailability, it will have to be done at a later time.

It was confirmed in conversations with Per Milde, DANIDA Management Advisor to KEPI, that DANIDA is still prepared to fund the laboratory analysis for TT antitoxin of the roughly 800 samples to be collected as part of the study.

A scope of work for Dr. Okoth, developed and discussed during this visit, is attached in Appendix 4. Dr. Okoth was able to provide documentation from KEMRI that his consulting time for REACH would be conducted under the circumstances of leave without pay, as required by A.I.D. contract regulations. This letter will be reviewed by the REACH Project Administrator to confirm its applicability to regulations.

D. Computerized EPI Information System (CEIS)

Meetings to discuss CEIS were held with Ms. Jane Wanza, KEPI data management officer, and Ms. Emma Kariuki, temporarily assigned to KEPI from the Health Information System division to assist with CEIS data entry. Ms. Kariuki has been entering CEIS data for the past five months, includi[Bng three months when Ms. Wanza was out of the country. Currently, data have been entered through April 1991 for those districts from which data have been received.

In addition to letters of reminder to those districts submitting incorrect or incomplete data, reports on 1990 annual district level coverage were sent from KEPI to districts in February and May 1991. Prior to Ms. Wanza's

absence from KEPI this year, monthly cumulative reports on doses and coverage had been sent to districts. In early June, district level reports for the first quarter of 1991 were to be prepared and sent to the districts with a cover letter explaining the use and interpretation of the reports.

A few technical problems with the functioning of CEIS were identified. Currently, graphs cannot be printed, although they did print for the first few months after CEIS installation. The problem is believed to be due to a new printer. Graphs do not show up on the screen unless CEIS is entered from the C prompt, rather than from the menu. Ms. Wanza would like the names of facilities to be displayed on reports; the purpose is to identify those facilities that have not yet submitted information and to know immediately which facilities are included in updated reports. Ms. Wanza would also like quarterly reports to be easier to prepare as she feels they would comprise the main type of feedback to district medical health teams. Other reports that she thinks would be useful include drop-out rates on a basis more frequent than the current annual reports.

Ms. Wanza believes that some summary text to accompany reports to the districts would be useful, as would a manual that briefly explains the purpose and use of the different reports prepared by CEIS. Explanations of this type were already included in the CEIS users manual prepared for KEPI by David Boyd and Mimi Church of REACH in September 1990 and could be adapted by REACH and KEPI for targeted use at the district and province levels. Such a manual would have utility for both the District Public Health Nurses and District Medical Records Technicians.

Ms. Wanza will discuss these and other points in Washington with REACH Technical Officer David Boyd when she attends the REACH sponsored workshop on coverage survey analysis in June 1991 in Washington, DC. At that time, a date can be fixed for a return visit by Mr. Boyd to specifically address the issues of information needs and feedback to districts. The visit will probably take place in late summer or early fall, 1991.

E. KEPI Cost-Benefit Study

In November 1990, REACH prepared a draft scope of work at KEPI's request to study the costs of EPI relative to its benefits, in terms of morbidity and mortality averted. The KEPI manager felt that such a study could serve as a tool for advocacy for KEPI funding during budget discussions with the Ministry of Finance.

During this visit, the scope of work was discussed with Dr. Oyoo, and, during the debriefing with Drs. Sang and Oyoo. Both thought that the study would serve a useful purpose but had no further comments on the scope of work itself. Because of the many other KEPI planning activities scheduled to take place between now and late 1991, Drs. Oyoo and Sang felt that the visit of REACH economists Charlotte Leighton and Allison Percy should be postponed until early 1992. Neither Dr. Oyoo nor representatives from UNICEF or DANIDA knew of other studies of this sort that had been done in Kenya for EPI.

F. EPI Teaching Manual for University of Nairobi Department of Pediatrics

Over the course of the past year, REACH has provided technical assistance to the Department of Pediatrics in the preparation of a manual on EPI to be used in the medical school curriculum. While REACH has concluded the main part of this assistance, which took the form of developing the concept and participating in review of chapters, REACH will continue to provide administrative and clerical assistance in the production of the manual.

At this time, revisions have been incorporated into all chapters of the manual except the chapter on neonatal tetanus. The Department of Pediatrics has not yet conducted a workshop to discuss and "harmonize" the changes. Dr. Ngacha of the Department of Pediatrics believed that this workshop will occur before the end of June. After that time, Department staff will be absorbed in final exams of medical students for at least six weeks.

Once the workshop has taken place, the REACH Administrative Associate will do the necessary revising and retyping, and put the entire document into a format suitable for publishing. To do this by July 1991, she will take a course on desk-top publishing (WordPerfect 5.1, compatible with the lap-top computers at the REACH/Nairobi office). She will still need to identify a LaserJet printer that can be used for printing out the document. In addition, she will be responsible for obtaining quotes for printing 200, 400, 800, and 1000 copies of the manual, and for providing administrative and logistical support in getting the manual printed.

The Department of Pediatrics has set a deadline of September 1991 for printing the manual so that it will be ready for the new school year.

G. REACH Management Activities

A number of miscellaneous activities were conducted. A revised job description was developed for the REACH Administrative Associate to take into account the fact that her duties now focus exclusively on immunization and no longer include work in health care financing. An annual performance evaluation for the REACH/KEPI Communications Advisor was conducted. The author went over documents pertaining to the USAID/Nairobi buy-in with the Administrative Associate and outlined procedures pertaining to submission of bimonthly reports from the Communications Advisor.

Work has been completed on renovations of the new REACH office, located within the Division of Family Health and convenient to the KEPI Management Unit. The need for obtaining a telephone for the REACH office as soon as possible was emphasized; currently, REACH and some other offices in the Division of Family Health make use of a single functioning phone on the corridor.

The possibility of a study tour for the REACH Communications Advisor, Grace Kagondu, was discussed with her. This is included in the REACH buy-in. REACH had proposed that Grace visit Bangladesh to meet and work with the Urban EPI Communications Advisor there and to review a local Child to Child program

for EPI. Since REACH formerly supported the Bangladesh Communications Advisor and maintains ongoing contact with her, this seemed an appropriate visit that would benefit both individuals. However, Grace expressed her preference for attending a health communications course, such as the one held each June at Johns Hopkins University. This will be discussed among REACH staff in Washington and a consideration will be made of other possible short courses.

A visit by REACH/Washington Program Associate Michael McGunnigle had tentatively been scheduled for early August 1991. The purpose of the visit was to work with the REACH Administrative Associate in preparing both the EPI Manual for the Department of Pediatrics and in arranging the measles control workshop. With the postponement of the workshop until early 1992, the Program Associates' visit will also be delayed by several months and the scope of work changed accordingly. The visit will be discussed more by REACH and USAID/Nairobi during the coming months.

H. KEPI Evaluation

During this visit, a number of KEPI evaluation and planning exercises were being discussed among the Ministry of Health and donors. At the time of the author's departure from Kenya, short-term budgeting and planning of essential KEPI functions for the remaining six months of 1991 was being conducted.

Several activities were being developed by KEPI and DANIDA as part of long-term immunization planning. It was anticipated that during June and July 1991 KEPI would prepare a long term strategic plan of action covering a 4-5 year period. Beginning in late July, the draft would be subjected to external review, likely to include USAID, UNICEF, and DANIDA. In October 1991, a formal appraisal of KEPI will be conducted by DANIDA; this will involve participation by the REACH CTO, Dr. Jerry Gibson. Both the long term plan of action and the findings of the evaluation will be considered by DANIDA in reviewing its plans for renewal of long term support of KEPI. By the beginning of 1992, DANIDA should have made its decision known to the Government of Kenya.

USAID/Nairobi inquired whether REACH Acting Technical Director Robert Steinglass would be available to participate in the external review of the long-term plan of action in late July or August. This possibility was raised with Dr. Oyoo, who found it acceptable, based on Steinglass' technical skills and his familiarity with EPI in Kenya. An initial request was forwarded by the author to REACH/Washington and will be pursued further upon return to Washington. It was agreed that USAID would provide REACH with information on the scope of work and timing of the visit so that the most appropriate form of REACH technical assistance can be determined.

As part of a set of KEPI evaluation activities intended to precede the formal DANIDA review, an appraisal of KEPI IEC activities had been scheduled for the first half of 1991. It now appears that this will be delayed until 1992 and will extend to other primary health care programs within the Division of Family Health. While Dr. Oyoo anticipates active participation by the REACH Communications Advisor, the scope of work for the review will probably not be

developed for at least another few months. REACH/Washington will maintain contact with the Communications Advisor on this subject.

J. Meetings regarding Acute Respiratory Infections (ARI)

At the time of this visit, a team of two ARI specialists from WHO (Geneva and Harare) carried out an assessment and planning assignment to launch a national ARI control program in Kenya. The author met with them twice to exchange information and learn of their progress. While details are not yet available, it appears that a program may be launched on a limited scale (3-4 districts) during the next year. REACH/Washington will maintain contact with WHO on this subject and keep USAID/Nairobi apprised of progress.

K. Miscellaneous

According to UNICEF/Kenya, a national coverage survey is still planned for early 1992. REACH Acting Technical Director Robert Steinglass is scheduled to participate in this survey through the REACH buy-in. REACH will maintain contact with UNICEF/Kenya to learn more about dates and specific plans.

The Eastern and Southern Africa Regional Office of UNICEF will sponsor a workshop on disease surveillance on August 5-9, 1991. Participants will include UNICEF and Ministry of Health staff from governments throughout the region. Representatives from WHO/EPI/Geneva (Francois Gasse) and possibly the U.S. Centers for Disease Control will serve as technical resources. While the meeting will address surveillance in general, measles and cholera will receive special attention. REACH has been invited to attend as observers and possibly facilitators or resource persons. Attendance by REACH will depend upon staff being in or near Kenya in early August.

V. FOLLOW UP ACTION REQUIRED

A. Workshop for the Accelerated Control of Measles and Other EPI Diseases. The possibility of using a REACH consultant newly based in Nairobi will be investigated with S&T/H and with USAID/Nairobi. A scope of work will be prepared for the consultant to follow up on details of workshop planning and to obtain provincial level data already collected by KEPI and papers prepared to date by the Department of Pediatrics. The REACH/Kenya Administrative Associate will prepare a revised budget.

B. Contact will be maintained between REACH/Washington and the REACH Communications Advisor in Kenya regarding the completion of the Child to Child program evaluation. The target date for preparation of the draft report of the evaluation will be June 30, 1991.

C. REACH will contact USAID/Nairobi and DHS/Washington to identify and obtain necessary approvals for release of the data used in a report by REACH on the identification of districts at high risk for neonatal tetanus. The fact that the original request for use of the data came

from the Division of Family Health, not USAID or REACH, may streamline the process.

D. TT serological survey. The documentation obtained by Dr. Okoth regarding his availability as consultant will be reviewed by the REACH Project Administrator and a response will be returned to Dr. Okoth. REACH will communicate with KEPI to identify sites for inclusion in the study, in accordance with the site selection criteria specified in the revised protocol.

E. During the visit of the KEPI Data Management Officer to REACH/ Washington in mid-June 1991 for a workshop on coverage survey analysis, she will meet with REACH staff to discuss progress and problems with the use of CEIS. At that time, a scope of work will be developed in further detail for a return visit to Kenya of REACH staff member David Boyd. The overall purpose of the visit will be to enhance the interpretation and feedback of data from CEIS from central to district levels. The duration timing for the visit, tentatively set for July or August 1991, will be finalized.

F. REACH health economists Charlotte Leighton and Allison Percy will be advised of the delay in conducting the cost-benefit study. Communication will be maintained with KEPI on this subject during the second half of 1991.

G. To assist the Department of Pediatrics with production of the EPI manual for medical students, the REACH/Kenya Administrative Associate will take a short course on use of WordPerfect 5.1, will obtain quotes for printing the manual, and will help as needed with readying the document for distribution.

H. Further inquiries will be made as to the availability of REACH Acting Technical Director Robert Steinglass to review a draft of the KEPI long term plan of action, to be prepared in June-July 1991. USAID/Nairobi will notify REACH/Washington as to the exact scope of work and the dates for this visit.

APPENDIX 1

CONTACT LIST

USAID/Nairobi

Mr. David Oot	Director, Office of Health, Population, Nutrition
Ms. Connie Johnson	Health/Population Development Officer
Ms. Kate Colson	Intern

REACH/Nairobi

Ms. Grace Kagondu	Communications Advisor/KEPI
Ms. Josephine Kariuki	Administrative Associate
Mr. George Kibe	Office Assistant

Department of Pediatrics, University of Nairobi

Dr. Francis Onyango	Chairman
Dr. Dorothy Ngacha	Pediatrician

Ministry of Health

Dr. Oyoo	Director, Division of Family Health
Dr. R.K.M. Sang	National Manager, Kenya Expanded Program on Immunization (KEPI)
Mrs. Mary Mwangi	KEPI Training Officer
Ms. Jane Wanza	KEPI Data Management Officer
Ms. Emma Kariuki	Data entry/health information systems assistant

UNICEF

Mr. David Alnwick	Senior Project Officer/Kenya
Dr. Geraldine Sikola	Chief, Social Mobilization Section/Kenya
Dr. Jean-Jacques Frere	Regional Health Advisor, Eastern and Southern Africa Regional Officer

DANIDA

Mr. Per J. Milde	Senior Management Advisor

AMREF

Dr. Joseph Valadez	Director, Projects Management Support

World Health Organization

Dr. Antonio Pio	Director, Acute Respiratory Infections Section, Geneva
Dr. Stephan Daumling	Programme for Control of Acute Respiratory Infections, WHO Subregional Office, Harare, Zimbabwe

PATH

Ms. Kathleen Sebastian	Country Representative
Ms. Lynne Cogswell	Associate Program Officer, Communications

Kenya Institute of Medical Research (KEMRI)

Dr. F. A. Okoth	Researcher

APPENDIX 2

Approximate Timeline for Planning
Workshop on Accelerated Control of Measles and Other EPI Diseases

Assume workshop to be held early February 1992.

June - July 1991

Review and amend format of agenda, discuss participants (number of functions), dates of meeting, site, identify planning committee consisting of REACH/USAID, KEPI, Department of Pediatrics.

Develop outline of speakers on each topic.

August

Josephine keep in contact with Department of Pediatrics regrading coordination and papers that have been presented. Forward papers to REACH. Work with KEPI to review data that has been received by KEPI Management Unit from provincial level staff.

September

Send Preliminary letter of invitation to participants in a letter articulating objectives.

October

WHO/EPI GAG meeting, Turkey. REACH will communicate most important findings with implications for measles and NNT policy to meeting planners. Josephine to obtain quotes for hotels in Nakutu and redo budget. [DANIDA to conduct KEPI review during October.]

November

Start gathering information for resource center. REACH maintain contact with DANIDA and UNICEF regarding funding situation. Develop agenda further (as needed), clarify roles of speakers and facilitators, decide on details of "product" of meeting and actions expected to follow the meeting--to lead to implementation of meeting findings.

December

(or earlier) Send second letter of invitation to participants (with RSVP), stating information needed in advance clearly and outlining expectations of participants. Letter should include information on logistics. Make hotel reservations (if not earlier), start arranging transportation. Preparation of written materials.

January 1992

Finalize list of participants. Finalize agenda. Continue detailed preparations, including collection of background data from participants, collation of packets, preparation of "resource center", rental of AV equipment and supplies, arrangement of per diem, transportation.

February

Assemble packets for participants. Prepare a working office at conference site. Make sure that duties of speakers and facilitators are clear and all supplies available. Conduct facilitators' meetings during workshop. Arrange per diem payments. Record proceedings, prepare synopses of sessions. Facilitators develop draft "product" to distribute to attendees at end of meeting.

Following workshop

REACH, KEPI, Department of Pediatrics to finalize document to present to A.I.D., UNICEF, DANIDA, WHO, and others. Decide appropriate ways to take follow-up actions for implementation.

APPENDIX 3

Tetanus Toxoid Protection by Serology, Documentation and Injection History Among Recently Delivered Mothers in Kenya

Dr. R.K.M. Sang
Dr. Okoth, KEMRI
Mark Grabowsky, M.D., M.P.H. CDC/DOI
Robert Steinglass, M.P.H. REACH
Robert G. Weierbach, M.P.H. REACH
May 17, 1991

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ACRONYMS

BCG	Vaccine Against Tuberculosis
DANIDA	Danish International Development Agency
DPT	Diphtheria Pertussis and Tetanus Vaccine
ELISA	Enzyme Linked Immunoabsobent Assay
EPI INFO	A statistical system for epidemiology on PCs
EPI	Expanded Program on Immunization
KEMRI	Kenya Medical Research Institute
KEPI	Kenyan Expanded Program on Immunization
MOH	Ministry of Health
NNT	Neonatal Tetanus
OPV	Oral Polio Vaccine
PC	Personal Computer
REACH	Resources for Child Health Project
STATENS SERUMINSTITUT	Denmark Center for Prevention and Control of Infectious Diseases and Congenital Disorders
TT	Tetanus Toxoid
WHO	World Health Organization

SUMMARY

Objectives:

1. Determine by serology the immunologic status (tetanus anti-toxin) of an urban, periurban, and rural group of women who recently delivered.
2. Compare the serological results with mother's history to determine predictive value of mother's history for estimating TT protection.
3. Compare two groups of women (first pregnancy, 2 or more pregnancies) to determine how well the policy of vaccinating exclusively at contacts during pregnancy is working.
4. Determine if mother's age and education are associated with TT protection.

Methods:

The population sampled will be women coming for the first vaccination, BCG or DPT 1, of their infant who is less than three months of age. This approach allows for a direct measurement of the percentage of the children coming for their first vaccination who were protected against tetanus at birth by their mothers' vaccinations.

Three clinics will be sampled according to the following criteria:

1. Location (one urban, one periurban, and one rural)
2. Service volume (large number of attenders)
3. High rate of home delivery in the area
4. Good BCG and/or DPT 1 vaccination coverage.
5. A well-functioning cold chain. (Specifically are there reports of frozen TT vaccine at the clinic?)

Blood samples will be taken from women by finger prick and collected on filter paper. These samples will be analyzed by the Staten Seruminstitut for tetanus anti-toxin. At the time of the bleeding a questionnaire (Annex I) will be administered to the women.

Analysis by chi square will determine the differences between groups and answer the following questions:

* Is the mother's history predictive of TT protection status?
* Is there a significant difference in protection between women with different numbers of pregnancies, educational levels and age groupings?

Sample Size:

It is estimated that 107 women will be needed per pregnancy group. Since there are two groups per clinic, a total of 214 women will be tested. Statens Seruminstitut has agreed to analyze 800 samples, so three clinics will be sampled. The sample size will be increased to 130 per group. The total samples to be tested will be 780.

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I. Background

The Kenya Expanded Program on Immunization (KEPI) has incorporated TT vaccinations for women into the national program since July 1981. The method used in the most recent coverage survey (July, 1990) defines the rate of TT coverage as the percentage of women of childbearing age who received two doses of TT during their last pregnancy. The point estimate in this survey of the number of women covered (i.e. defined as being within the period of presumed protection conferred by the last valid dose of TT) was 66%.

This survey likely underestimated the number of women who are covered, as doses received before the most recent pregnancy were not considered. Thus the true number of women/newborns who are protected may be much higher.

The proposed survey will correlate TT protection, determined serologically, with the immunization history of the mothers. Since the survey will measure immunization status shortly after delivery, mothers protected at the time of the survey will have delivered a newborn protected against NNT.

The survey will also determine if the current strategy of vaccinating pregnant women results in different rates of protection for primigravida versus multigravida women.

II. Objectives

1. Determine by serology the immunologic status (tetanus anti-toxin) of an urban, periurban, and rural group of women who recently delivered.
2. Compare the serological results with mother's history to determine predictive value of mother's history for estimating TT protection.
3. Compare two groups of women (first pregnancy, 2 or more pregnancies) to determine how well the policy of vaccinating exclusively at contacts during pregnancy is working.
4. Determine if mother's age and education are associated with TT protection.

III. Method

The clinics will be sampled according to the following criteria:

1. Location (one urban, one periurban, and one rural)
2. Service volume (large number of attenders)
3. High rate of home delivery in the area
4. Good BCG and/or DPT 1 vaccination coverage.
5. A well-functioning cold chain. (Specifically are there reports of frozen TT vaccine at the clinic?)

Particular attention needs to be paid to the selection of the clinic sites, as this will not be a population sample. As much as possible, the clinics should not represent special case situations (for example, the

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presence of a strong outreach program that makes the area much better served than the rest of the country).

As a population-based random sample of mothers for blood collection is not possible, a purposeful sample of clinic sites is required. While the results can not be extrapolated to all clinics or mothers in Kenya, the findings will elicit important information for KEPI and the TT immunization services.

At each of the three sites, women attending an immunization session for their newborns will be interviewed and those coming with their own infant, less than three months of age, for BCG, OPV-0 or DPT 1 vaccinations will be asked to participate in the study. Women will be recruited into the study to give a blood sample until there are 130 women in the two gravida groupings:

Grouping	Number of Women
First Pregnancy	130 women
2 or more Pregnancies	130 women

The interview will be conducted by trained MOH staff in the local language with a translation of the questionnaire in Annex I. The questionnaire will be finalized after it has been pretested.

Blood will be collected by trained MOH staff by finger prick on filter papers pre-numbered to facilitate coding on the questionnaire. Interviewers will wear plastic gloves for the blood collection and handling of the filter papers.

Filter papers will be sent, via airfreight, to the Staten Seruminstitut in Copenhagen, Denmark for ELISA assay of tetanus antitoxin. DANIDA has agreed to provide funding for the ELISA assay work. Filter papers will be sent without patient identification to assure confidentiality of the results.

Data entry for the questionnaire will be done in Kenya using the latest version of EPI INFO. REACH/Washington will provide funds, software and programing for this. The Principal Investigator in Kenya will need to identify computer hardware and someone for data entry. The results from the ELISA testing will also be entered in Kenya.

The Kenyan Principal Investigator, with technical assistance from REACH, will be responsible for the analysis. Analysis will use chi square comparisons to determine the significance of the differences found in the various groupings.

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IV. Sample Size

It has been estimated that 66% of women will have been received TT2. In order to be conservative in our estimate we will assume that 60% are immunized and 40% are not. With an alpha=.05 and 1-beta of .80 we will need 107 women per parity grouping to determine if the groupings are different. (Statistical Methods for Rated and Proportions, Joseph L. Fleiss, 1981, p. 273)

With 107 women per group and two groups there will be 214 women in each of three health centers. Statens Seruminstitut has agreed to do ELISA assays on 800 samples. If we increase the number to 130 women per group, then the total number of samples, 780 (130X2X3), will be within the ceiling of 800 total assays.

V. Materials

Quantity	Description	Source
1000	Pairs Plastic Gloves	Kenya
1000	Lancets	Kenya
1000	Alcohol Wipes	Kenya
3	Rolls of Cotton	Kenya
100	Plastic Bags	Kenya
1000	Filter Papers	REACH

The source for the pre-numbered filter papers is:

Schleicher and Schuell Inc.
Keene, NH
1-800-245-4024

Blood Collection Form and filter paper
Catalogue No. 58370 Stock No. 903
$27.40 per 100
$15.00 UPS Shipment
$10.00 Rush Shipment

APPENDIX 4

Resources for Child Health

REACH

JSI A John Snow Institute

May 29, 1991

Dr. F.A. Okoth
KEMRI
Nairobi, Kenya

Dear Dr. Okoth:

The Resources for Child Health (REACH) Project would like to offer you a consultancy to work on a study entitled "Tetanus Toxoid Protection by Serology, Documentation and Injection History Among Recently Delivered Mothers in Kenya". As you have discussed with Mark Grabowsky and more recently with myself, the study will involve administering questionnaires and taking fingerprick blood samples from mothers bringing infants to health facilities for the infants' first vaccination. You have already been given a copy of a revised study protocol, dated May 17, 1991, describing the exact steps and sequence of events of the study.

As we have discussed, the duration of the consultancy will be 18 days. A daily rate will be determined by the administrator of the REACH Project based on your current salary as a KEMRI employee, indicated on the biodata sheet that you have submitted to REACH. Given your status as an employee of KEMRI, a government-supported institute, REACH can offer this consultancy only contingent upon your presenting documentation from the KEMRI personnel director that you will take leave without pay from KEMRI to work on this assignment. Upon receipt of such documentation, REACH will be able to issue a consulting agreement to you.

Based on our discussions on May 24, 1991, this consultancy has the following scope of work:

- Review the protocol for technical content.
- Obtain necessary technical and human subjects review approvals, in writing, from the Director of Medical services.
- Participate in selection of sites to ensure that site selection criteria stipulated in the study protocol are met.
- Work with the REACH/Nairobi Administrative Associate to procure necessary supplies, as stipulated in the study protocol.
- Visit selected field sites to recruit their participation; pretest the questionnaire and interviewer's guide in at least one health facility. Amend survey instruments as needed.
- Conduct second visit to selected field sites to train staff and take supplies. Training should include attention to proper handling and storage of filter papers containing blood samples.
- Perform ongoing monitoring of progress of the study at the three selected field sites.

- Conduct third visit to field sites once all samples have been collected to transport blood samples and questionnaires to KEMRI.
- Manage the shipment of samples to Staten Seruminstitut in Copenhagen for analysis. (Notify DANIDA management advisor to KEPI in advance.)
- Work with REACH Administrative Associate on entry of data into EPI Info or other suitable program.
- Work with REACH technical staff on the analysis of data and report preparation.

Your contact at REACH for this assignment will be myself. It is anticipated that once we have receive necessary documentation from yourself and approval from KEPI for the protocol, it will be possible to proceed as quickly as possible.

We look forward to working with you on this research activity.

Sincerely,

Rebecca Fields
Technical Officer

cc: DANIDA - Per Milde
KEPI/Division of Family Health

APPENDIX 5

POSITION DESCRIPTION

REACH/Kenya Administrative Assistant

Objective: The REACH/Kenya Administrative Assistant will be the primary person responsible for office operations and administrative support. Specific duties include:

1. Serve as the primary administrative liaison between REACH/Kenya and USAID/Nairobi, KEPI, and other professional entities, as determined appropriate. The objective of this role is to maintain a consistent and complete flow of communication for the successful implementation of REACH/Kenya activities in EPI, and to serve as the REACH contact with other entities. Specifically, this will include:

   a) regular weekly communication with REACH/Washington, USAID/Nairobi, and KEPI;

   b) daily communication with the REACH/EPI communications advisor.

   c) additional contacts with other professional counterparts as necessary and appropriate.

2. Coordination of REACH activities implemented by REACH/Washington. This will include:

   a) initiating contacts with local counterparts as requested;
   b) assisting with arrangements for workshops, other technical meetings and special projects;
   c) coordinating logistics, including transportation, lodging, and expenses for REACH staff and consultants;
   d) planning, implementing, and supervising report production.

3. Serve as office manager for support of REACH activities. This will include:

   a) providing clerical support as needed to REACH/Kenya staff and visiting consultants;
   b) identifying additional clerical support as needed;
   c) maintaining REACH/Kenya correspondence, technical, telex, and computer files;
   d) maintaining computers and files;
   e) maintaining an inventory of office supplies.

4. Manage the bank account for the Enterprise Program (through completion of the project, anticipated 9/30/91) and REACH Projects. This includes:

   a) maintaining the account spreadsheet (one-write);
   b) assuring that all requests for checks have proper documentation;
   c) preparing the account documents for monthly submission to JSI/DC;
   d) preparing monthly bank and pettty cash reconciliations.

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5. Perform other responsibilities as requested and appropriate.

   i.e., provide secretarial/administrative support to KEPI on occasional basis, and other unanticipated special requests in support of REACH tachnical activities in Kenya.

Your immediate supervisor in this position is Rebecca Fields, in collaboration with Grace Kagondu and Michael McGunnigle.

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