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To: Dr. Judith Balderston
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From: Charlotte G. Neumann, M.D., M.P.H.
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RE: TRIP REPORT - JANUARY 13, 1984 - FEBRUARY 13, 1984

1. Visit to Egypt Nutrition CRSP at request of Management Entity and Egypt Project. Dates: January 14 and 15.

Purpose:

- 1) To discuss morbidity data collection methodology with Drs. Galal, Shaheen and Kirksey and with Dr. Chavez, P.I. of the Mexico Project.
- 2) To visit the field site and to exchange methodologic information between the Kenya and Egypt Projects.

Summary of Discussions and Decisions Taken

The following points were discussed: Frequency of data collection; exact methodology of recall and observation; validation of illness; treatment; subroutine for illness.

Decisions
Methodology

It was agreed that for a three month period Mexico would use a different procedure for morbidity data collection than Egypt and Kenya. Basically, Mexico would visit the households (HH) once a week but only record the presence of illness if present for no longer than 24 hours and could be observed on the day of the visit. The Mexico group feels that recall is too

unreliable and therefore will not collect any recall data. Any illness present would then be followed up by the auxiliary or physician until recovery so that duration could be noted.

Mexico would use a system of algorithms whereby auxiliaries would give standardized treatment of a symptomatic nature. Also, the algorithm indicates when the physician should be called and the specific treatment that the physician should render for a given illness.

The Egypt and Kenya projects will also visit the HH once per week but collect data on illness reported by recall as well as illness encountered and observed during the actual visit. In comparing data with Mexico, the coding of illness in each case will be noted if by recall vs. observation, so that comparable data from the 3 projects can be obtained on "observed illness" only. The additional illnesses picked up by recall can also be analyzed. A question was raised as to the HH burden of weekly visits compared to visits every two weeks but it was agreed not to change the frequency of visits for at least the first three months of the study.

Illness Subroutines

All three projects will visit sick individuals every two to three days for the duration of the illness obtaining at least qualitative estimates of food and liquid intake rather than quantitative intake information. Also, anthropometry (weight, arm circumference and three fatfolds, subscapular, triceps and biceps) would be obtained as close to the start of an illness and at the termination of the illness. The illness subroutine will be carried out for significant illnesses as agreed upon and stated in morbidity data collection procedures set by previous morbidity group meetings in Tuscon and Los Angeles.

Another difference among projects concerns the level of training of the people collecting morbidity data. Egypt is using physicians-in-training who do full examinations on all sick subjects encountered and carry out treatment. These physicians act like the family doctor and make weekly home visits. Mexico is using auxiliaries with no nursing or medical background, but who were trained to obtain morbidity data and carry out simple symptomatic treatment using algorithms. These auxiliaries are supervised by the two project physicians who examine sick individuals as well as carry out revisits to these individuals. They also treat sick individuals according to standard treatments. In Kenya the enumerators, as in Mexico, have no medical or nursing background. They received special training in morbidity data collection and every 3 or 4 enumerators are supervised by trained enrolled community nurses (two years training). They verify illness along with the physician for any serious or puzzling illness. They may give symptomatic treatment. The physicians will intervene for serious or life-threatening illness and will arrange for referral to one of the two hospitals and health centers. Mexico is committed through the Nutrition CRSP to give health care to the study area whereas in Kenya the Ministry of Health would not like the Nutrition CRSP to set up a parallel system of medical care but refer sick subjects to the several sources of existing care. In Egypt the village has its own health center with a cooperative physician plus 10-11 project physicians.

The three projects will use the same diagnostic criteria for diagnostic categories and illness severity and will use the same diagnostic coding, reporting illness on a quarterly basis. The Kenya PI has circulated these materials which were jointly put together in the Fall of 1983 and the three projects have been and are exchanging materials, forms, etc.

A field visit was made to Kalama to see project field work in progress -- particularly morbidity data collection and physical examination, food intake and classroom observations of schoolers. The difference in the research sites, staffing and approaches between the Kenya and Egypt project were noted to be considerable.

Other problems discussed were the necessity to cut down on cognitive measures, reduce anthropometry on school age children from every month to every three months, to enter pregnancies as late as 4 to 5 months and to measure toddlers in a recumbant position (length) rather than standing (height).

2. Visit Kenya: January 16, 1984 to February 13, 1984

This was an extremely eventful time in the Kenya CRSP project. (1) Site visits by Drs. Judith Balderston, January 16-21, and Dr. Doris Calloway, February 7-11.

Both Drs. Balderston and Calloway met with key Kenyans both in Nairobi and at USAID, the University of Nairobi School of Medicine, the University of Nairobi Administration, Kenya Medical Research Institute, Ministry of Health and then each spent several days in Embu at the project site seeing the project operation in progress and met with the field staff.

In general, they reviewed policies, procedures, forms, quality control, administrative and financial arrangements and data flow. They both had a good opportunity to see project's logistic challenges, approach and organization and the problems unique to the Kenya project.

The details of these site visits are in the trip reports of Drs. Balderston and Calloway. Also, Dr. Calloway, in her capacity as Project Administrator, was able to request a change in the Kenyan project leadership with Dr. Bwibo becoming the Principal Investigator and Dr. Kagia becoming a project co-investigator. Dr. Balderston held some excellent meetings with Vice Chancellor Mungai and was able to clarify many misconceptions he held about the CRSP.

Initiation of the Main Study

Enrollment of households for the main study convened on January 7th. This followed upon the heels of the census update which yielded about 310 appropriate households for study. Over January and February the plan was to enroll about 200 HH and the remainder during early March. As of February 13, 1984 upon leaving Kenya about 170 HH were enrolled. Households are being selected primarily for presence of pregnant (or potentially pregnant) women and toddlers.

The main study was preceded by a series of barrazzas or community meetings at which time the project was reviewed in terms of what the households could expect and the criteria for participation. Cooperation was assured by the chiefs and subchiefs and by a voice vote of the people. Upon enrollment the HH was visited by senior field staff members. Food intake, health background and morbidity data collection anthropometry, pregnancy and reproduction SES and sanitation data collection were started. Households were then scheduled for physical examinations of targets, blood drawing for hematology and immunology, stool examinations, and RMR measurements were started. Bayley testing was started on toddlers and several infants have been born into the study by pregnant women enrolled in their six months (taken in order to pilot the newborn and birth routines).

Organization of the Research Site

The organization and logistics have been worked out very well by Dr. Eric Carter and the senior staff. It is an excellent scheme designed to cope with a very far flung set of households over a large area. The weakest link in the whole plan is transport, particularly for the supervisory staff who must cover a wide area, and the relative lack of supervisory experience of the supervisors who must work reliably and independently.

In general, the study area is made up of four clusters each with a parallel organization. There are about 75 HH in each cluster each with a cluster field office. Each cluster has one cluster office supervisor, a supervisor for each of the functional areas, food intake and anthropometry and enumerators assigned to each of the supervisors. Blank forms are issued each day by the cluster office supervisor and each day completed forms are checked in by the supervisors (the system of form check-in and check-out are described under data flow). The cluster supervisor and field supervisors select the HH to be visited on a daily basis according to an overall plan.

A shuttle van travels on a predetermined schedule from cluster office to office transporting supervisory personnel, messages, completed forms, etc. The shuttle has a two-way radio as do all vehicles so that the field can be in touch with the base station and the field director.

Senior Investigator Field Visits

Dr. Gerald Gardner visited the field for 3-1/2 weeks, from early January to the end of January. His main purpose was to set-up the Beckman Metabolic Cart (ME) so that it could be calibrated and tested and made to work off a new generator which arrived in Embu only during his last week there. However, the MC was hooked up at an electrical source in the Embu Laboratory so that it could be checked out and so that Dr. Gardner could train a full time technician and the Senior Lab Technician at Embu with Dr. Eric Carter as back up. Finally, when the generator arrived it was installed at Kararumo Health Center, the RMR laboratory site and the MC hooked up and tested. There is no electricity at Kararumo.

The technician appeared to be satisfactorily trained to run the machine and carry out routine maintenance and handle actual test subjects. Professor Thairu came to the field to work with Dr. Gardner for 1 day and then sent his technician and post graduate student, Mr. Mekke, both of whom are experienced

with the O₂ analyzer. They will be coming to the field 2-3 days per week to work with the RMR technician and to assure that the measurements proceed well and to help out. Calibration - O₂ - CO₂ gas mixture of known concentration must be imported. Standard concentration of N₂ gas is available.

Thus far, the lead male and schoolers are the most difficult group to have tested because of their having to miss school or work. The schedule will be made more flexible to try to better accommodate these two target subjects. Dr. Gardner's visit was most productive. Enroute home via Geneva he was able to stop at Beckman to review and confirm the conditions of the service contract and whom to contact in case of problems with MC. He determined that we are entitled to service calls for major problems and that we deal with the Nairobi representative for minor repairs. Dr. Gardner's trip report contain this information.

Dr. Ishmail of Egypt and Dr. Lindsey Allen have been in contact with Dr. Gardner and all now appear to be agreed on the exact procedure for RMR, i.e., fasting for two hours prior to testing, no smoking within two hours prior to testing, 30 minutes rest in reclining position prior to testing.

Morbidity

Dr. A. Khelghati was finally cleared and arrived in the field and overlapped with myself for one week. Drs. Waswa, Khelghati, Neumann and nurses worked intensely on review of morbidity data collection methodology, and training and supervisory aspects with a coding procedure. This helped orient Dr. Khelghati to the field situation.

A house at the Kararumo Health Center was given to the project for minimal rent and turned into an "examination center." Physical examinations, blood drawing, skin testing, vision testing and collection of urine and stool samples takes place here. Manuals for the above were produced and procedures standardized under direction of the PI. By mid-February examinations, blood drawing and other procedures were proceeding well. The main problem appears to be in the transport of families. A large vehicle is in constant use and time up almost full time picking up families and returning them home following examination. As the clinical center is in Kararumo (the bottom of the study area) the distances to the homes can be very great. The above procedures would be difficult to carry out in the households.

The clinical laboratory at Embu is functioning fully now. One well-trained technician and assistant are carrying out hematologic studies, serum ferritin by the ELIZA method, examination of blood and stool parasites and urinalyses.

Also, it was decided to do the cellular immunology work at Embu because of the impossibility of transporting bloods to Nairobi on a daily basis by 2 p.m. each day. It was not fiscally or logistically possible. Therefore, Mr. Wilson Mugishu the senior technologist was trained to do E-rosettes for T-cell determination. He was trained and being supervised by Mr. David Eha, who was trained and "checked out" by Dr. E. Richard Stiehm, a UCLA immunologist - Mr. Eha, who works at Kenya Medical Research Institute (KMRI), will run duplicate determinations for quality control. An additional microscope had to be purchased to carry out the cellular immunology.

The immunoglobulins and other immunology will be carried out in Dr. Bowry's laboratory in Nairobi. If for some reason this cannot be accomplished there, Dr. Stiehm's lab will be used for quality control checks for all projects. All secretory antibody work on saliva and breast milk will be carried out by Dr. Runjit Chandra's laboratory in Newfoundland.

Cognitive Function

Dr. Marian Sigman spent 3-1/2 weeks in the field from late January to mid-February. Her trip report has been submitted. She carried out training of 2 additional field staff to do the school age testing. She further trained the two enumerators who were trained to work with toddlers and taught them the rest of the Bayley scales and reviewed the quality of their work.

Dr. Sigman together with Dr. Cattle and Mr. Nyaga, a social scientist who has since left the project, trained the activity enumerators in the methodology for observing mother-child interactions and for school yard and classroom observations on the schoolers. Also, Dr. Sigman was able to train two of the staff, and nurse and a school teacher to carry out the Brazelton newborn testing.

Recruitment of a psychologist took place. Several of us interviewed three candidates and hired a Kenyan woman with an M.A. in psychology who appeared to be well-trained. She will supervise the day-to-day testing in the field. She will start work by May 1st.

Dr. Sigman did some quality control (% variance) and tests for replicability). Dr. Sigman also conferred with Dr. Marion Yarrow by phone and with Dr. Ted Wachs in trying to work out the observation procedures for school-age children. This is presented in her trip report. She had a most fruitful visit and will return in the summer to carry out training for adult testing and for consultation and quality control.

Dr. Meme promised that he would check the performance of the Brazelton testing periodically after Dr. Sigman leaves. Dr. Meme was trained and certified by Dr. Brazelton under auspices of the Kenya Nutrition CRSP project.

Food Intake

Ms. Susan Weinberg has been overseeing the food intake by herself as the Kenyan Nutritionist from KMRI left the project. We are trying to recruit another Kenyan nutritionist to work as a counterpart for Ms. Weinberg. We took advantage of Dr. Calloway's presence to review the food intake methodology.

The method is basically one of weighing and recall for 2 consecutive days per month with recall of the evening meal on the 3rd morning. The enumerators enter the HH at 7:30-8:00 a.m. and recall the previous evening meal and if necessary, breakfast, then observe, weigh and measure all food prepared and eaten until they leave the HH at 4:30-5:00 p.m.

Snacks and food taken out of the home are obtained by recall from the person in question whenever possible (e.g., schooler; lead male). The HH thus

far are tolerating these procedures fairly well. There are plans to use the FI enumerator to observe activity and/or interactions since they are in the HH anyway.

Food Composition Analyses

There are, at this time, no satisfactory food tables for Kenyan foods. Therefore, for the early reporting of data the "best available" information will be used, e.g., FAO, Platt, and USDA food tables. Following our own analyses, the values will be corrected.

It was determined by Dr. Kinoti, Carter, Neumann and Calloway that proximate analyses can be carried out in Nairobi at the Nutrition Laboratory of the Medical Research Center of KMRI. Raw foods and cooked foods will be gathered and stored until this starts. There will be analyses of cooked foods as well as analyses of composite diets by the International Atomic Energy Commission per arrangement by Dr. Doris Calloway.

It is hoped that the Department of Nutrition at UC Berkeley will carry out duplicate analyses for quality control.

Socioeconomic questionnaires, as well as those for sanitation and hygiene, were finalized and made ready for use in the main study under Dr. Cattle and the 2 Kenyan Social Scientists, Mr. Nyaga and Ngare.

Anthropometry is being done by a single purpose team who are doing all the measurements. This is under the direction of Drs. A.A. Jansen and Dr. E. Carter with a senior supervisor covering all clusters.

Reproduction. Dr. A.A. Jansen comes to the field for 2-3 days per week to direct this functional area. He has trained his groups in examining, measuring and following the pregnant women through to delivery and lactation. Most deliveries are being carried out in the hospitals or Health Center. The physicians will examine each neonate and do a Dubowitz test for gestational age on all infants whose BW are 2800 grams or less.

Case Studies

Under Dr. Dorothy Cattle, 20 households have now been involved in case studies.

These have included structured, semi-structured, and non-structured interviews and observations by a highly trained staff supervised by Dr. Cattle and the social scientist. Also, Ms. Weinberg has had a group of her enumerators doing quantitative food intake in these HH as well. Aspects of activity, household production, expenditures, decision making etc., are being covered. The write-up will be ready in April.

Data Flow and Management

Mr. William Martin is in charge of data flow from the research site in Embu to data entry in Nairobi production of a clean tape for the University of

Nairobi and the shipment of a clean tape to UCLA. He is assisted by Mr. E. Njeru who has a B.S. in Statistics. This process starts with the issuing of blank forms at a cluster office, the checking of all completed forms by the supervisors, the editing of the forms for errors missing data and the forwarding and accounting of forms by Njeru and Mr. Martin. There is an extensive system of logging in of forms at every step. Forms are separated for data entry onto tape and one set is sent to UCLA. The computer carries out range checks and a printout of errors and outliers are sent back to the field supervisors who are given 48-72 hours to correct what is correctable and these are then promptly returned to Nairobi. The corrected tape is copied and one tape then is sent to UCLA. After the May meetings SAS tapes will be prepared at UCLA to be sent to Management Entity shortly after being received from the field.

The data entry is now being done by a commercial firm with very competent and well-trained staff. Their tapes are readable at UCLA. The computer set-up at the University of Nairobi was not able to hand the Nutrition CRSP volume of work.

Also, an iron prefabricated office has been erected adjacent to the office in Embu which serves as a fire-proof area for record storage and any work with the research records.

Administrative Issues and Problems

1. Field Staff One-Day Strike

A one day work stoppage greeted Drs. Balderston, Dr. Bwibo, Carter and myself on our first day in Embu - February 18th.

This work stoppage apparently was organized by a handful of the male staff. The issues had to do with salary, professional status, bicycles, representation and a mechanism for presenting grievances and demands and that certain senior staff change their attitude and behavior toward field staff. The Kenyan senior investigators and UC staff met and listened to the group "representatives" list of complaints and demands. The strike was skillfully handled by our Kenyan colleagues, Drs. Bwibo, Thairu, Meme and by Dr. Carter. Through a supervised election an employees committee was formed which now meets regularly with the Field Director and Kenyan Principal Investigator.

A modest salary increase was initiated as well as reclassification of certain positions. The bicycle issue is being looked into and other justified grievances were addressed.

Mr. William Martin is now working closely with the field director on personnel matters. The Kenyan co-administrator who handled personnel left his position on one day's notice.

Change of Kenya Principal Investigator

Professor Nimrod Bwibo, now Principal of the College of Health Sciences, which includes the Medical School has replaced Dr. James Kagia as Kenyan Principal Investigator. Now that the Nutrition CRSP is so complex and

involves so many more departments than just the Department of Community Health it is more appropriate for Professor Bwibo to assume the overall Kenyan leadership of the project rather than a member of a single department. Professor Bwibo is an able administrator and has excellent rapport with the field staff and field director and is a very effective leader. All recognized the earlier contributions of time and energy spent on behalf of the Nutrition CRSP by Dr. James Kagia and all hope he will continue to play an active role in the project.

Administrative Staff in Kenya

Mr. William Martin has been an excellent addition to the project. Working with the Field Director Dr. Eric Carter, he has taken on a number of areas -- quarterly fund requests and monitoring of expenditures on behalf of the subcontract, fiscal management, inventory, purchasing, personnel relationships, data flow, the vehicle fleet maintenance, maintenance of buildings and equipment and many other aspects of management and day-to-day project operations.

Mr. Martin has an excellent accountant working with him and will have an administrative assistant to assist him. Also, the addition of an Apple II-E will assist him greatly and will serve as a field work management tool for Dr. Carter in the complex scheduling task.

Problems Identified

There is a desperate need for additional vehicles for supervisory staff who cover all of the clusters and for the physicians so that they have maximum mobility to visit ill target individuals when necessary.

To ease the situation immediately, Dr. Doris Calloway recommended we lease two, 4-wheel drive vehicles immediately. Four wheel drive vehicles are essential in the rains. Also, 2 Toyota Landcruisers have been ordered from UNICEF but will not arrive until July, 1984. USAID waiver has already been obtained. The vehicle situation, as of last week, is extremely critical as the existing landcruiser was badly damaged in a recent accident and is now out of commission. Fortunately, there were no injuries.

(2) Need for Kenyan Nutritionist to work with Ms. Susan Weinberg the UC Nutritionist. This is for the Food Intake Work. Perhaps a new graduate could be recruited who could be trained by Ms. Weinberg in Field Nutrition work.

(3) Need for a Kenyan senior field person to work closely with Dr. Carter and then, eventually, to step into Dr. Carter's position. Dr. Carter will leave for Medical School in March 1985.

(4) Consultant - Kenyan Economist whose expertise is in rural micro-economics.

(5) Need for bicycles for the supervisory staff to give them more mobility.

(6) Need to have a procedure and funding set aside for training purposes. About three of the Kenyan staff has expressed a strong desire to be

able to obtain graduate degrees in their field and have expectations that the Nutrition CRSP would support this.

We have a training obligation and are following through on budgeting for "scholarships" on a competitive basis for the University of Nairobi - a selection committee is being set-up in Kenya under Professor Bwibo, Carter and others.

Other People Visited in Kenya

USAID

Dr. Rose Britanak remains very supportive and interested in the Nutrition CRSP. The meetings are mainly for exchange of information. A recurring concern of hers is that the Nutrition CRSP honor is commitment to the training of Kenyan professional staff. Sources of additional training funds mainly by USAID are being sought.

Also, Dr. Britanak is concerned that we exchange information with policy people in Kenya and that planning for an intervention phase occur at an appropriate time.

Dr. Miriam Were, new chairperson of Department of Community Health, was briefed about the project. She was invited to the field to see the project first hand and to explain the project in detail. She felt that when she became Chair of the department she had not been fully briefed about the project. Also, Dr. Jansen of her department recently presented a seminar to the Department of Community Health. The Nutrition CRSP scientists offered their services in teaching, field training and supervision to the department's graduate students.

Addendum

Attrition of Kenyan Field Staff as of April 1, 1984

Dr. Waswa has left the project as of April 1st. He was accepted into an MPH program directed by Dr. Mirium Were. This is a great loss as he received a great deal of training for the project. Hopefully, a replacement will be forthcoming shortly. One physician cannot manage the field work.

Mr. B. Nyaga -- social scientist left the project abruptly with no notice. He was an excellent field worker and hopefully can be replaced.

Mrs. A. Pertet, the Kenyan nutritionist left her position as field nutritionist as of February. No one has replaced her as yet. Ms. Weinberg has a very heavy burden to carry as the only nutritionist and hopefully a Kenyan nutritionist can be recruited as quickly as possible.