



Memorandum

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Branch, Division of Reproductive Health, Center for Health Promotion and
Education (CHPE)

Subject Foreign Trip Report (AID/RSSA): Nairobi, Kenya, October 20-November 13, 1982

To William H. Foege, M.D.
Director, Centers for Disease Control
Through: Dennis D. Tolsma
Acting Director, CHPE _____

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SUMMARY

Based on the results of the clinic management evaluation conducted by the Program Evaluation Branch, Division of Reproductive Health (DRH), for the Family Planning Association of Kenya (FPAK) from February 16-March 7, 1982, FPAK invited DRH to assist in evaluating its training program for traditional birth attendants (TBA's). The objectives of the evaluation are to assess (1) whether trained TBA's are practicing midwifery in the way they were taught; (2) whether trained TBA's are more likely than untrained TBA's to refer village women for prenatal, high risk delivery, postnatal, and family planning care; (3) whether village women who plan to use contraceptives would prefer to receive services from a clinic, or from a person trained to provide family planning services who lives in the village; (4) whether village women who want to receive family planning services in the village would prefer to receive them from a trained TBA or from another trained woman from the village; and (5) whether village women would prefer to receive family planning services from a TBA who is trained both in midwifery and family planning or only in family planning.

During their 4-week consultation, Drs. Dalmat, Lee, and O'Reilly assisted FPAK in (1) completing and pretesting all data collection instruments (a TBA questionnaire, a community survey questionnaire, and a health worker interview form); (2) selecting a Kenyan study director and field supervisor; (3) planning the field work; and (4) developing a study budget. Copies of the questionnaires are available upon request.

Currently, the community survey questionnaire is being translated into four Kenyan languages in Kenya. Also, FPAK is in the process of recruiting and selecting interviewers from the four Provinces from which TBA's were trained and where interviewing will take place.

Drs. Dalmat, Lee, and O'Reilly will return to Kenya the last week of January 1983 to assist with the (1) training of interviewers, (2) selection of survey team supervisors from among interviewers, (3) training of supervisors, and (4) the establishment of quality control procedures during the first few weeks of interviewing. During the 6 weeks of field work, 86 TBA's will be interviewed using the TBA questionnaire, along with over 1,500 women living in the TBA's villages using the community survey questionnaire.

We are able to make three recommendations based on our work to date:

(1) TBA Selection

Emphasis should be given to selecting TBA's for training from sub-locations, locations, and districts where access to health facilities with trained nurse-midwives is difficult. FPAK's methodology for selecting lay educators should be adapted and used in selecting all TBA's to be trained in the future.

(2) Supervision and Support of TBA's

As it is difficult to free up staff in underserved areas for the purpose of supervising and providing continuing education to, and supporting trained TBA's in their work, FPAK and/or the Ministry of Health should consider hiring full-time supervisors.

Training Methodology

The training curriculae used covered all major topical areas. However, a lecture methodology is not sufficient for training TBA's. More hands-on experience, direct observation, and use of anatomical models and other physical and visual aids should be used during training. Also, verbal pre- and post-tests should be administered to all trainees to ensure that they are absorbing what is being taught. The results of these tests should be documented for program evaluation purposes.

All other findings, conclusions, and recommendations presented in this report are preliminary. Not until all data are collected, analyzed, and interpreted will we be able to present final findings, conclusions, and recommendations.

I. PLACES, DATES, AND PURPOSE OF TRAVEL

During their consultations, Drs. Dalmat, Lee, and O'Reilly and Ms. Zahniser assisted with (1) the FPAK evaluation of TBA training, (2) planning a reproductive epidemiology workshop for Anglophone Africa, and (3) a followup to the evaluation of FPAK clinic management. The specific dates of arrival and departure for each of the four CDC consultants, as well as a summary of the purpose of each consultation and the places where each consultant traveled are listed below:

<u>Consultant</u>	<u>Dates</u>	<u>Places</u>	<u>Purpose</u>
M. Dalmat	10/17-19/82	Washington, DC	Plan TBA evaluation with FPAK Research and Evaluation Officer on TDY at World Bank
	10/20-29/82	Nairobi, Mombasa	Followup to management study; Reproductive Epidemiology Workshop planning.
	10/30-11/13/82	Nairobi, Nyeri, Eldoret	Initiate TBA evaluation.
C. Zahniser	10/21-30/82	Nairobi, Mombasa	Reproductive Epidemiology Workshop planning and Observer Checklist revisions
Nancy Lee	10/27-11/20/82	Nairobi, Nyeri, Eldoret, Mombasa, Machakos	Develop TBA questionnaires, interview TBA's and health staff, assess TBA selection and training procedures, test Observer Checklist

K. O'Reilly	10/29-11/20/82	Nairobi, Nyeri, Eldoret, Mombasa, Machakos	Develop TBA and community questionnaire, train TBA interviewers, pretest com- munity questionnaire, develop survey budget
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Administrative arrangements made by Dr. Dalmat and Ms. Zahniser for the Anglophone Africa Reproductive Epidemiology Workshop to be presented by Johns Hopkins University (JHPIEGO) and DRH from May 23-June 3, 1983, in Mombasa, Kenya, are described in a separate foreign trip report (Kenya, October 20-30, 1982, dated January 18, 1983).

This travel was in accordance with the Resource Support Services Agreement (RSSA) between CDC/CHPE/DRH and AID/S&T/POP/FPSD.

II. PRINCIPAL CONTACTS

A. U.S. Agency for International Development (USAID)

1. Mr. Spencer Silberstein, Population Advisor, Nairobi
2. Dr. Rose Britanak, Health and Nutrition Advisor, Nairobi
3. Ms. Barbara Kennedy, Population Advisor, Regional Economic Development Support Officer/East Africa (REDSO/EA)

B. Nairobi Family Planning Association of Kenya (FPAK)

Nairobi

1. Mr. E. J. M'Rabu, Chairman
2. Mrs. Angela W. Gethi, Executive Director
3. Mrs. Millicent Odera, Research and Evaluation Officer
4. Mrs. Penina Ochola, Consultant
5. Mr. E. M. Muteru, Administrative Officer
6. Dr. R. S. Nyanyi, Medical Officer
7. Mr. G. M. Mgiri, Training Officer
8. Mrs. Nguru Kanywa, Information and Education Officer
9. Mr. John Gathecha, Youth Program Officer

Nyeri:

10. Mrs. Janet Mwigai, Nursing Sister, Nyeri Clinic
11. Mrs. Milka Wahome, Field Educator, Nyeri District
12. Mrs. Marion Ndrangu, Field Educator, Nyeri District
13. Mrs. Phoebe Wambuga, Field Educator, Nyeri District
14. Mrs. Helen Mwangi, Field Educator, Muranga District
15. Dr. Kanyi, Sessional Doctor

Eldoret:

16. Mr. Mathias Yego, Area Officer
17. Mr. Zedekiah Luvavo, Field Worker Supervisor
18. Mrs. Evelyn Jepkoeck, Field Educator
19. Dr. V. Kiprotick, Sessional Doctor

Mombasa:

20. Mrs. Ruth Odindo, Nursing Sister, Mombasa Clinic
21. Mrs. Grace Mbutu, Nurse Midwife, Mombasa Clinic
22. Mrs. Mary Mwamoda, Area Officer
23. Mrs. Bessie Dzila, Field Educator
24. Mrs. Hoglah Sirya, Field Educator

Machakos:

25. Mrs. Blanche Mumina, Field Educator
26. Mrs. Beth Nziioki, Field Educator
27. Mr. Nthenge, Secretary of the Machakos FPAK

C. Ministry of Health

Nairobi:

1. Dr. John G. Kigundu, Director, National Family Welfare Centre (NFWC)
2. Mr. Dominic Mutua, Senior Statistical Officer, NFWC

Nyeri:

3. Mr. H. A. Ndenda, Chief Nursing Officer, Provincial Hospital
4. Dr. E. W. Mwangi, Medical Superintendent, Provincial Hospital
5. Dr. John Githiari, Provincial Obstetrician/Gynecologist
6. Dr. Mwashani, Provincial Pediatrician
7. Mrs. Rose Gichuki, District Public Health Nurse
8. Mrs. Mary Ndrangu, District Family Planning Nurse Educator

Eldoret:

9. Mrs. Elizabeth Soy, District Public Health Nurse
10. Mrs. Christine Lusitche, Nursing Sister in Charge, District Hospital
11. Mrs. Frasier Gaya, Nurse in Charge, Obstetric Ward, District Hospital
12. Mrs. A. Kiprotick, Community MCH Nurse, District Hospital
13. Mr. T. Otieno, Community Health Officer, Pediatrics
14. Mr. Christopher Wakhisi, District Health Education Officer

D. Pathfinder Fund

1. Mr. James Crawford, Regional Director for Africa and the Middle East
2. Mrs. Freda Mudoga, Regional Program Officer, Nairobi Office
3. Mrs. Felicity Chavanga, Administrator, Nairobi Office

E. Nairobi University

1. Professor J. K. Mati, Dean, Medical School
2. Mrs. Margaret Nabutete, WHO Research Administrator

F. Central Bureau of Statistics (CBS)

1. Linda Werner, Demographer
2. Zachery Gichohi, Director, Kenya Contraceptive Prevalence Survey

G. Family Planning International Assistance (FPIA)

1. Mrs. Nancy Harris, Regional Director for Africa
2. Mr. Andrew J. Franklin, Associate Regional Director

H. Centre for African Family Studies (CAFS)

1. Professor de Graft-Johnson, Director
2. Mrs. Jane Kwawee, Program Officer
3. Mr. Ezekiel Kalaule, Program Officer

I. Other

1. Dr. Katja Janovsky, Director of Program Planning, African Medical and Research Foundation (AMREF)
2. Mr. Greg Owino, Radio Language Arts Project, Kenya Institute of Education

3. Mrs. Margaret Okelo, Survey Coordinator, Kenya Breast-Feeding Survey
4. Mrs. Roselyn Otory, Project Coordinator, Karachuonyo Project, Western Province
5. Ms. Bonnie Pedersen, Project Director, International Program for TBA's, American College of Nurse-Midwives

III. BACKGROUND

FPAK began offering services in 1969 and now operates 10 freestanding family planning clinics in towns and cities. Initially, FPAK was the only organization providing family planning services in Kenya. The thrust of FPAK's program was the provision of clinic-based services to mostly urban, well-educated, middle-to-high income women for a fee. Since that time, the Ministry of Health, through its National Family Welfare Centre (NFWC), has come to offer free family planning services at 350-400 of its MCH facilities and from one large freestanding family planning clinic affiliated with the University of Nairobi Medical School. Currently, family planning services are also provided from a number of municipal government clinics (free of charge), private church-related facilities (for fee), and freestanding private, fee-for-service family planning or obstetrical-gynecologic clinics. Since other institutions are now providing clinic-based services, FPAK has begun pioneering alternative delivery mechanisms in Kenya.

Today, FPAK, which receives support from the Pathfinder Fund, an AID grantee, not only provides clinic services but also supports mobile clinic, outreach, community distribution, and informational and educational activities in Kenya. To ensure that the clinic services are operating efficiently and are not being weakened by the community-oriented activities, and based on Pathfinder Fund's recommendation, FPAK invited PEB/DRH/CHPE to evaluate the management of its clinics through Patient Flow Analysis and to assess the quality of the care provided. The results of that study are reported in Foreign Trip Report, Kenya, February 16-March 7, 1982, dated May 7, 1982. During this consultation (October-November 1982), Dr. Dalmat reviewed recommendations offered in the trip report of the preceding consultation with FPAK's management and assessed progress made toward implementing some of them. Ms. Zahniser assisted FPAK staff in revising and testing one of the diagnostic tools--the "Observer Checklist"--that will soon be used by FPAK supervisors to identify clinic staff performance problems and the source of these problems (Refer to Section V-C of this report for details).

As part of its recent community-oriented initiatives, FPAK trained approximately 160 TBA's in 1980-1981. The primary purpose of the training was to improve the safety of TBA midwifery practices. In addition, FPAK taught TBA's about the benefits and importance of family planning. FPAK hoped that the TBA's who are respected in their communities would promote family planning and refer women to clinics for services. Following the completion of the Patient Flow Analysis/Assessment of Quality of Services conducted jointly with CDC, FPAK invited the DRH to evaluate its training program for TBA's. Mrs. Gethi, the Executive Director of FPAK, requested this evaluation in order to have a factual basis for (1) exploring ways in which TBA's may be retrained as village distributors, and (2) establishing stronger linkages between village and outreach distribution activities and clinic operations without disrupting the management of the clinics.

Dr. Dalmat discussed the evaluation of TBA training with Mrs. Gethi and Mrs. Odera in Kenya during the last consultation and over the phone prior to returning to Kenya in October 1982. Based on these conversations, Dr. Dalmat obtained enough guidance to enable him and Drs. Lee and O'Reilly to prepare preliminary study objectives, methodology, data collection instruments, and work plans before leaving Atlanta.

IV. TBA EVALUATION

A. Study Objectives

The study has been planned and is being implemented to

"point ways in which TBA's can best be utilized at the grassroots level for health, generally, and family planning specifically."

Mrs. Angela Gethi
Executive Director
Family Planning Association of Kenya

The major questions that this study addresses include:

1. Are TBA's who participated in FPAK training programs in 1981 practicing midwifery, promoting antenatal, post-partum and inter-partum care, including family planning, and referring high risk pregnant women to health facilities as advocated by the curriculum?
2. Do the midwifery, promotional (particularly as related to family planning), and referral practices of trained TBA's differ from those of untrained TBA's who work in the same sublocations?
3. Do local health professionals support the training and practice of TBA's for the purposes of assisting with emergency home deliveries, attending normal home deliveries, and distributing contraceptives?
4. Have trained TBA's had direct professional contact with local health workers since their training? If so, has this contact influenced the quality or range of the services they offer or the TBA's credibility in the eyes of villagers or health professionals?
5. Are women who live in villages served by trained TBA's more likely to accept antenatal, post partum, and family planning services than women who live in villages served by untrained TBA's? Are they more likely to accept family planning services from a trained person from the village?

The answers to these questions will be used by FPAK in collaboration with the Ministry of Health in defining:

1. The range of MCH services, including midwifery and family planning, that could be offered by a trained TBA.

2. The differences in local circumstances (such as access to health facilities, density of population and settlement patterns, availability of transportation and travel time year-round, local values, etc.) that would suggest differences in the role to be played by TBA's from different locations, districts, and Provinces.
3. The relationship of the TBA's to the rest of the health system in terms of function, referral, technical supervision, recordkeeping and reporting, resupply, etc.
4. The nature and methodology to be used in "preservice" and "in-service" training.

B. Methodology

Data will be collected from four sources during the course of this study.

1. Interview of Traditional Birth Attendants (TBA's)

From among the 78 TBA's who received the fully-developed FPAK training program in 1981, a total of 38 have been randomly selected and will be interviewed. For each trained TBA selected, an untrained TBA from a neighboring village will also be randomly selected and interviewed. In addition, two TBA's from each of the five areas served by the Karachuonyo Midwife Training Project will be interviewed. The questionnaire to be used in interviewing all 86 TBA's is available on request. The questionnaire is used to examine: (1) The TBA's sociodemographic characteristics; (2) how she learned midwifery; (3) any formal training she may have received; (4) her relationship to other TBA's or apprentices; (5) the antenatal, delivery, and post-partum advice and service that she offers, with special emphasis on high risk referrals and aseptic technique during delivery; (6) the frequency with which she assists with deliveries and the number of villages from which women seek help; (7) her knowledge and personal experience with childspacing; (8) whether she offers advice about family planning and would be willing to distribute contraceptives if trained and supervised; (9) and whether she is paid or would like to be paid, and whether in-kind or in cash for deliveries.

To date, 27 trained TBA's (6 from Central, 7 from Rift Valley, 6 from Coastal Province, and 8 from Eastern Province) have been interviewed during the process of pretesting the TBA questionnaire. Thirteen of the TBA's already interviewed were among the randomly selected 38 (50 percent) of the trained TBA's who serve rural areas. Twenty-five more trained TBA's will be interviewed during Phase 2 of the study. Thirty-eight untrained TBA's will also be selected and interviewed during Phase 2.

2. Interview of Women Living in the Villages of Trained and Untrained TBA's

A team of interviewers (three interviewers, one supervisor, and a driver) from each Province will interview one woman of reproductive age from approximately 25 households in each of the 86 villages of trained and untrained TBA's. We expect to obtain at least 1,770 completed interviews (assuming a rate of completion of 82 percent). The questionnaire to be used in this survey was pre-tested during Phase 1 of the study and is available upon request. This instrument will be used to learn: (1) The pregnancy history of women;

(2) who delivered their last baby and whether they would use the same source again; (3) what TBA services they have, do, or would use if available; (4) their interest and willingness to receive contraceptives from a TBA; (5) their knowledge and/or use of family planning methods; (6) and the distance and cost of traveling to the nearest health clinic.

3. Interviewing Health Workers

Staff from the Provincial and district hospitals (obstetrics/gynecology and pediatric departments, maternity wards, etc.), Ministry of Health (MOH) health centers and subcenters, and FPAK clinics (clinic staff, field and lay educators, and "sessional" doctors) are being interviewed in each geographic area where TBA's are being interviewed. We are trying to assess the health worker's (1) personal involvement in the selection, training, support, and supervision of TBA's; (2) opinions on the helpful and harmful aspects of TBA's midwifery work; (3) opinion as to whether traditional midwives should be trained and if so, to do what and how; and (4) judgement as to whether or not, if trained and supervised, TBA's should distribute contraceptives and if so, whether they should receive payment for their work.

4. Critique of Training Curriculum

In Phases 1 and 2 of the study, we will be interviewing trainees and reviewing training materials and methods. This is being done from two perspectives: (1) Looking for the most efficient, longlasting way to transfer knowledge and skills to TBA's; (2) looking for ways in which to build bridges between TBA's and local health workers so that a continuing, supportive relationship of trust, respect, and assistance can be initiated.

C. Implementation

1. Phases of Work

During Phase 1, Drs. Dalmat, Lee, and O'Reilly, together with Ms. Penina Ochola,* FPAK consultant, (1) learned how this evaluation fits into FPAK's program and future plans; (2) elicited from FPAK management the specific objectives of the study; (3) developed and pretested the TBA questionnaire by interviewing 27 traditional midwives, 13 of whom fell into the randomly selected study sample; (4) examined land tenure and settlement patterns as well as the family composition of 10-20 families in 15 villages in order to assess the appropriateness of sampling and survey procedures; (5) modified and pretested the community survey questionnaire; (6) developed a study budget for FPAK's review and Pathfinder Fund's approval and funding; (7) established job descriptions for study personnel in addition to criteria and procedures for their selection; (8) obtained Survey of Kenya maps and identified the location of most trained TBA's on the corresponding district level maps; (9) interviewed and recruited senior study team members; and (10) planned the implementation of the community survey and the completion of TBA interviews. On November 12,

*Miss Ochola, a highly trained and skilled nurse-midwife/public health nurse, is the Assistant Director of the Community Health Support Unit, African Medical and Research Foundation (AMREF).

1982, Dr. Dalmat presented a preliminary verbal report covering the highlights of Phase 1 findings to Mrs. Gethi, the other senior staff member of FPAK, and to the Management Committee of FPAK.

During the second phase, Ms. Penina Ochola and Dr. Lee will supervise the interviewing of trained and untrained TBA's. In addition, Ms. Ochola and Drs. O'Reilly and Dalmat will assist the study director, Mrs. Millicent Odera of FPAK, and field supervisor Mrs. Margaret Oketo, a Kenyan nurse-midwife, in training the four Provincial teams of interviewers and establishing administrative procedures and controls.

During a 2-day session, Drs. Dalmat and O'Reilly will then assist Mrs. Odera and Mrs. Okelo in training the survey team supervisors to randomly select households within villages, deploy interviewers, correct each community questionnaire and maintain quality control, and coordinate the work of the team with the field supervisor. Dr. O'Reilly will work with the four teams during the first 3 weeks of field work. Dr. Lee and Ms. Ochola will also participate in the 2-day supervisor training session and will train the supervisors to interview TBA's using the TBA questionnaire. Dr. Lee and Ms. Ochola will then rotate among the four teams during the first 2 weeks of field work to supervise the TBA interviews and to resolve any problems that the team supervisors may have in using the TBA questionnaire.

After the 6 weeks of field work, the questionnaires will be coded in Nairobi; then they will be sent to CDC for keypunching and editing. CDC will generate an initial set of tables and invite the study director and/or field supervisor to CDC to further analyze the data during Phase 3. The Kenyan and CDC study team members will prepare a final report, including program recommendations and a paper for publication.

2. Community Survey Timetable

The community survey, to be conducted in Phase 2 of the study, is projected to take place on the following timetable:

Monday, 1/31- Saturday, 2/5	Training of interviewer candidates; selection of interviewers, designation of supervisors
Mon.-Tues. 2/7-8	Training of supervisors for field work and for TBA interviews
Wednesday, 2/9	Four teams begin field work
Saturday, 3/19	Completion of field work
Friday, 4/1	Completion of coding in Nairobi
Friday, 4/14	Questionnaires received in Atlanta
Friday, 5/26	Keypunching and editing completed at CDC

Analysis at CDC:

6/30	Preliminary
7/31	Complete

Report of findings:

7/15	Preliminary
9/15	Complete

3. Staff

(a) Study Director

(1) Selection Criteria

The study director should (1) have formal training in research and evaluation techniques; (2) have field experience in performing evaluations, developing questionnaires, interviewing, and managing study teams; (3) should have experience in managing surveys, interviewers, and survey budgets; and (4) should be available for up to 24 days of field work during the 6 weeks of actual interviewing.

(2) Responsibilities

1. Recruit, interview, and select participants for interviewer training.
2. Participate in training of interviewers.
3. Select interviewers and team supervisors from among participants.
4. Manage all money and contracts associated with the survey.
5. Fire staff, if necessary, and replace as needed.
6. Assist the field supervisor in maintaining quality control standards, i.e., review a sample of completed questionnaires and send interviewers back to the household as necessary.
7. Ensure safe delivery of questionnaires to CDC.
8. Participate in detailed analysis of data, including working at CDC if funds are available.
9. Participate in preparation of the final report and a publication.

(b) Field Supervisor

(1) Selection Criteria

The field supervisor should (1) have extensive experience in interviewing Kenyan women in more than one language from more than one socioeconomic group; (2) should have experience in supervising others who interview respondents; (3) should be accustomed to extensive field work, living on the road and under rural conditions; and (4) should be available for up to 36 days of field work during the 6 weeks of data collection.

(2) Responsibilities

1. Participate in interview and selection of participants for interviewer training.
2. Participate in training of interviewers.
3. Participate in selection of interviewers and team supervisors.
4. Train supervisors in team coordination and quality control.
5. Review all completed questionnaires and return interviewers to villages as needed to clarify questions.
6. Reinterview a subsample of respondents as a check on validity.
7. Rotate among teams, spending 3-5 days in the field with a team each week.
8. Maintain control over all questionnaires distributed to and collected from team supervisors.
9. Resolve all field problems unless they require changes in personnel, in which case the study director will be notified.
10. Participate in the analysis, interpretation, and reporting of findings.
11. Participate in the scheduling of team routes and revisits.

(c) Team Supervisors

(1) Selection Criteria

In addition to meeting the criteria listed for interviewers, the four team supervisors should (1) be fluent in the local language of the Province; (2) exhibit leadership qualities, including common sense in resolving problems, exemplary personal conduct, concern for and assistance in improving the performance of others, and facility for organizing people to participate in a logical sequence of activities; (3) demonstrate competence in interviewing and probing; and (4) be respected by the other trainees from the Province.

(2) Responsibilities

1. Accurately convey instructions from survey director and field supervisor to team members.
2. Maintain strict control over questionnaires before and after completion, and make sure that they are safely returned to the field supervisor.
3. Direct the work of the team, including the routes to be taken by the driver, random selection of households, deployment of interviewers to households, and return visits.
4. Review every questionnaire before leaving the village and return interviewers, as necessary, for completion or clarification of responses.
5. Arrange for team accommodations, and present the team to the local authorities.
6. Resolve or report all field problems.
7. Maintain team esprit and discipline.
8. Assure that team members have the necessary work supplies at all times.
9. Coordinate local work with FPAK field educators who will act as local guides.
10. Interview trained and untrained TBA's.

(d.) Interviewers

(1) Selection Criteria

Interviewers should (1) be fluent in local language of Province; (2) be thorough in questioning, listening, probing, and recording responses; (3) be easy for other team members to get along with; (4) be receptive to constructive criticism and guidance; (5) be punctual and reliable; (6) write legibly; (7) be well-organized; (8) be available for 6 weeks of intensive field work following the training; and (9) should not have any personal habits, activities, preferences, or attitudes that could jeopardize the field work or discredit the findings.

(2) Responsibilities

1. Accompany the team to every village where interviewing will be done as directed by the field supervisor and team supervisor.
2. Complete interviews thoroughly.
3. Return for clarification or additional information to villages and households as directed by the team supervisor.
4. Assist in maintaining team esprit and discipline.

D. Preliminary Findings

(1) Geographic Coverage

Drs. Dalmat and Lee developed a spot map (pinpointing the location of the 78 TBA's trained by FPAK in 1981) on a population density plastic overlay placed on top of a map of Kenya that depicted administrative demarcations and transportation networks. While the number of TBA's trained by FPAK is insignificant in comparison to the thousands of TBA's that practice midwifery in Kenya, we found that TBA's selected for training came from the most populous areas of Kenya. In light of the intention to explore using TBA's as village distributors of contraceptives in rural Kenya under the supervision of nurses, this appeared to be a positive finding at first examination.

While in Nairobi, Drs. Dalmat and O'Reilly compiled some basic health system statistics for the districts in which the TBA's trained by FPAK live: (1) Size (square kilometers), (2) population, (3) population per doctor or community health officer (i.e., physician's assistant), (4) population per trained nurse (See Table 1), (5) number of FPAK, MOH, and private health facilities, (6) population per health facility, (7) square kilometers per health facility (See Table 2), and (8) the proportion of home deliveries versus health facility deliveries (See Table 3). We collected these statistics in order to assess similarities or discrepancies in (1) access to health facilities and professionals and (2) the use of these facilities for delivering babies among the various districts from which TBA's were trained by FPAK. These two variables may be used by FPAK in deciding the relative need for future training of TBA's by district.

We used the population per health facility found in each district as a proxy for the catchment population of the districts' health facilities. We also used the number of square kilometers per health facility as a proxy for the catchment area served by the districts' facilities. When we related catchment population to catchment area (See Table 4) as an estimate of the population's access to health facilities, we were then able to rank the districts for which data were available in descending order, from greatest access to least access. We then ranked the districts according to the proportion of births that were delivered at home in descending order, from greatest proportion to least. Finally, we examined the relationship between access to health facilities and home deliveries and found that there was a strong negative correlation (-.824). As one might expect, the people in districts who have the greatest access to health facilities are least likely to deliver their babies at home but will instead go to a health center or hospital for the delivery.

This finding suggests that FPAK may want to give more emphasis to training TBA's in sparsely populated districts with few health facilities. The one factor that needs to be weighed into this type of decision is the concomitant need to supervise and support TBA's after they are trained, particularly if they are to begin providing family planning services at the village level. If FPAK does decide to train TBA's in sparsely populated, underserved areas, FPAK will need to consider employing or arranging for nurse-supervisors in sufficient numbers to effectively support the midwifery and family planning work of the TBA's.

(2) TBA Selection

Of the 22 health workers formally interviewed by our team, 8 had been involved in selecting TBA's for training in 1981. Seven of these were field educators, and one was a local FPAK volunteer. The field personnel who selected the participants for the four courses were given varying amounts of time to select TBA's, some as few as 3-5 days. Due to the time constraints, the most expedient approaches were generally taken. These approaches are summarized in Table 5. In addition to the field educators and FPAK volunteer, members of a women's development group, location chiefs, sublocation assistant chiefs, village elders, and even TBA's themselves were involved in the selection process. At times the selection was made by the individual field educator or volunteer without outside input. At other times, the decisions were delegated to a group or chief. Selections were sometimes made from among TBA's included on a list compiled from the area--alternatively the selection was made from among those TBA's known to the person(s) involved in making the choice. Five of those selecting TBA's used experience in midwifery (years as a midwife or number of deliveries per year) as a criterion for selection. Reputation or the community's trust in the TBA and proximity to the candidate were the most commonly used selection criteria.

A better procedure for selecting TBA's in the future is needed. FPAK has reportedly standardized the use of a selection procedure in recruiting lay educators that should be considered prior to selecting TBA's for training in the future. Essentially, (1) the field educators make the chiefs aware of the number of positions to be filled in the location and FPAK's criteria for TBA; (2) the chief identifies candidates in consultation with the assistant chiefs, elders, women's groups, and other leaders; (3) the chief and/or other leaders narrow down the number of candidates to three individuals, using FPAK's criteria; and (4) a representative of FPAK interviews these candidates and makes a final selection. Extrapolating from criteria used in the selection of lay educators, criteria applicable to TBA selection might include:

- respectable, decent person (good parent, religious, exemplary hygiene, not involved in scandals)
- demonstrates a spirit of voluntarism and service through participating in community activities
- respected and trusted by community leaders (e.g., has delivered their wives' babies)
- active midwifery practice
- record of safe deliveries
- availability of time for midwifery
- willingness to be trained and supervised
- interest in teaching mothers

If FPAK decides to train TBA's to provide family planning services as well, TBA's should be screened to ensure that they do not have deep-rooted biases against family planning.

In the past, one-to-two TBA's were selected from each location within a district. While this may appear to be evenhanded, there are a number of other factors that need to be considered by FPAK in deciding which districts or locations should send TBA's for training.

- (1) Relative Need--How accessible are health facilities to the population of a district? This can be estimated in much the same way as we did in Section D (1), Geographic Coverage. Do the topography and availability of transport allow for relatively easy access to these facilities for most of the population?
- (2) Ability to support trained TBA's--Ideally, trained TBA's should be supervised and provided continuing education, particularly if they will be providing family planning services. (If they distribute contraceptives, they will have to be resupplied.)

Are there FPAK or MOH nurses already working in the area who could supervise trained TBA's, or would nurses need to be hired to supervise TBA's? What is a realistic ratio of TBA's to nurse-supervisors immediately after training and on a long term basis? Is public transport adequate so that supervisors will do their jobs and do them well? If not, what alternatives are feasible (e.g., motorbikes, scheduled use of vehicles and drivers)?

FPAK may find that "relative need" and "ability to support" are inversely related. That is, in areas such as Taita-Taveta, where the need for trained TBA's to assist with home deliveries (and potentially community-based distribution of contraceptives) is great, it would be difficult to supervise and support TBA's because the district is large, sparsely populated, and has few nurses and health facilities. These observations are not meant to frustrate FPAK's efforts but are intended to help FPAK plan for the selection, training, and followup support of trained TBA's prior to implementing training projects. It is likely that such plans will vary greatly by Province and district.

(3) TBA Characteristics

The general demographic characteristics of the 27 TBA's interviewed are presented in Table 6. The average age of the 27 TBA's interviewed was 57 years. The average age was lowest for the TBA's from the Rift Valley--49 years--and highest for the TBA's from the Machakos area--65 years. Many of the women interviewed did not know their exact age, but we feel we are able to reliably estimate their age in most cases by using a historical calendar developed by the Central Bureau of Statistics of Kenya.

The religious affiliations of the TBA's were as follows: Muslim 5, Catholic 2, African Independent Church (AIC) 8, other Christian 12.

Two-thirds of the TBA's are currently married; the rest are widows. Forty-eight percent of married and widowed TBA's reported that their husbands had more than one wife.

Table 7 presents general characteristics of the midwifery experience of the 27 TBA's interviewed. The average number of years in practice was 27. The range in the number of deliveries performed by the TBA's per year is quite wide. However, these should be viewed as estimates, since most of the TBA's do not keep records and had to estimate their number of deliveries. Thirty-seven percent of the TBA's reported that they are the only midwife in their village. Forty-four percent report that they act as a "consultant" to other TBA's when they have difficulties with deliveries. Forty-eight percent of the midwives say that they are teaching midwifery to someone else.

Most of the TBA's (85 percent) usually have contact with a pregnant woman before delivery. TBA's in the Rift Valley and Machakos areas usually see women in the first 6 months of pregnancy while TBA's in the Nyeri and Mombasa areas most often see them initially in the woman's seventh or eighth month. Almost half of all the TBA's give their clients both a prenatal exam and counseling.

(4) Training Course Content and Conduct

A specific evaluation of the courses is difficult, since we were not able to observe the actual training. Our knowledge of the courses comes from reports that summarize each of the four courses and from interviews with people who participated in the courses.

Four 1-week courses were conducted during separate weeks in November 1981 in Nyeri, Eldoret, Mombasa and Machakos. Each course was organized by the local FPAK clinic employees following guidelines developed by senior staff members from the national headquarters in Nairobi. The FPAK area officers in each of the four locales were asked in October 1981 to organize courses.

FPAK/Nairobi asked that the following topics be covered in each of the four courses:

- (1) Antenatal care, including high risk patients
- (2) Clinic visit--antenatal examination
- (3) Labor--first, second, and third stages:
 - (a) events
 - (b) hygiene
 - (c) medications
 - (d) complications
- (4) Post-partum care
- (5) Care of the newborn
- (6) Breast-feeding
- (7) Nutrition and malnutrition
- (8) Personal hygiene and sanitation
- (9) Family planning
 - (a) necessity
 - (b) methods

As specified by FPAK/Nairobi, local Ministry of Health personnel (mainly from the local hospital) with expertise in various perinatal and family planning areas were asked to participate in the course. Most of these people were nurses, physicians, and health educators.

Most of the course consisted of lecture sessions attended by all the TBA's. Reportedly, the TBA's were encouraged to ask questions and offer comments. If the lecturer needed to illustrate part of the lecture, he or she used a black-board. The TBA's observed antenatal examinations at the nearest MOH hospital clinic. Only some of the TBA's personally participated in an exam. There were no other practical demonstrations or hands-on training opportunities to learn midwifery techniques.

There was no standardized oral testing of the TBA's knowledge and practices, either before, during, or after the course.

Except for part of the course in Eldoret, the lecturers used the local language of the TBA's. Some of the Eldoret lecturers could not speak Nandi, so an interpreter was used. Reportedly, this caused some difficulties.

Since we did not observe any of the courses, it is difficult to formulate a detailed assessment. However, we can offer several general recommendations.

- (a) One month for the organization and preparation of these courses may not have been sufficient time. A preferred amount of preparatory time would be 2 or 3 months.
- (b) The topics presented in the course were well chosen and applicable to the TBA's work.
- (c) Lectures were probably not the best way to teach a group of older women, especially since most had not attended school. Two other teaching techniques may be better:
 - (i) Practical demonstrations and experience. This is most important. The TBA's should get direct experience examining pregnant women who are at different stages of pregnancy. They should also observe at least one woman in labor and her delivery by a nurse-midwife to highlight the appropriate steps and techniques. Routine examination and care of the newborn could be demonstrated at this time. As a general approach, practical demonstrations are probably the best way to teach these women. These demonstrations are best done for small groups of TBA's, about four to six women per group. To the extent feasible, the equipment used by TBA's in their home environments should be used during these sessions (e.g., new razor blades, soap, cord ligature, etc.).
 - (ii) Small group discussion sessions. This format will encourage the TBA's to ask questions, thus enabling the instructors to know whether the TBA's understand what they are being taught.
- (d) A standard oral pretest before the course would enable the instructors to evaluate what the women need to learn. This would be useful in modifying the course content immediately before and during the course. Likewise, a similar test given at the end of the course could assess what the TBA's had learned and what they still needed to know. The results of both pre- and post-tests should be recorded for each TBA.
- (e) Readily available visual aids, anatomic models, and equipment would enhance the lectures and small discussion groups. Preference should be given to using instructional aids that have been designed for semiliterate people.

- (f) The results of the interviews of the TBA's and formal health workers suggest that the courses successfully introduced the TBA's to the health system. The TBA's seemed very willing to refer women to the hospital and clinics, and the formal health workers supported the future training of TBA's. However, it would be extremely beneficial to establish the supervisory responsibilities of FPAK and MOH staff for TBA's prior to their training. In this way, the supervisors would be able to participate in the training and establish a good, trustful, working relationship during the course.
- (g) During the initial training, emphasis should continue to be on midwifery practices and on the importance of family planning. Once TBA's have reestablished themselves in their community and have had a chance to practice their new techniques and referral patterns, training in the specifics of using or dispensing contraceptives could then be taught individually through the supervisors or collectively through a series of short in-service training sessions.

5. Current Midwifery Knowledge

(a) High risk factors

We are trying to assess the TBA's knowledge of high risk pregnancy by asking them to list the problems that indicate a pregnant woman might have trouble with during her pregnancy or delivery. Figure 1 presents the numbers of TBA's from the pretest reporting various conditions as high risk. The most commonly reported high risk conditions were anemia and small stature. The graph may underrepresent what the TBA's know as it reports only the high risk conditions volunteered by TBA's spontaneously.

(b) Labor and referral

Figure 2 presents information on the number of TBA's who routinely perform various midwifery practices during a woman's labor. Most of the TBA's wash their hands prior to delivery and check the fetal position, but fewer wash the mother's perineum, perform vaginal exams, or give medicines or herbs for pain or for augmentation of labor.

We asked the midwives to list the reasons for which they might send a woman in labor to the hospital (Figure 3). Excessive bleeding during labor was the most common reason reported. As with Figure 1, this probably underrepresents the numbers of TBA's who would actually refer for these conditions, again because these were the conditions volunteered spontaneously.

(c) Delivery

The reported routine use of various TBA practices during a delivery are presented in Table 8. Most of the TBA's (70 percent) place the mother on her back for delivery. Eighty-nine percent of the TBA's report that they use either a new or boiled instrument to cut the umbilical cord. Again, most of the TBA's (70 percent) cut the cord before they deliver the placenta, but five of eight in Machakos and two of six in Mombasa cut the cord after delivery of the placenta. Approximately one-third of the TBA's apply something to the cut

cord, including ash, baby powder, or alcohol. Two TBA's apply the mother's saliva to the cut cord. Of note, none of the TBA's from Machakos applies anything to the cord.

(d) Post-partum followup

During the interviews, we tried to assess the TBA's knowledge of post-partum complications. As seen in Table 9, about 30 percent of the TBA's know that they should clear the baby's respiratory tract if it is not breathing well. Most (63 percent) recommended conservative therapy for a small perineal tear, while most (67 percent) referred any woman with a large tear to the hospital. Thirty percent of the TBA's knew at least one of the correct causes of post-partum hemorrhage; 37 percent admitted that they didn't know any of the causes.

About half of the TBA's feel that a mother should begin breast feeding her newborn immediately (Table 10). The other half recommend a delay, which is most often for only 1-4 hours. Some recommend that the newborn be fed water or sugarwater before breast milk. Most TBA's recommend that a mother breast-feed her infant whenever it wants (63 percent), and that the child be breast-fed for at least 1 year (96 percent). Also, 89 percent of the TBA's believe that a baby should receive other food by the age of 6 months.

(6) Knowledge and Support of Family Planning

To assess their knowledge of methods of contraception, we asked the TBA's to list all the ways that a woman could avoid pregnancy. Figure 4 graphs the numbers of TBA's that mentioned each method spontaneously. Most knew of the pill (81 percent), injections (70 percent), and the IUD (67 percent). If they did not spontaneously name a certain method, we later asked them specifically about the method. In this manner, almost all of the TBA's knew of the pill, IUD's, and injections.

Almost all of the TBA's (96 percent) reported that they have referred women to family planning clinics (either FPAK or MOH) for contraception (Table 11). When asked whether women would prefer to obtain family planning methods from a clinic or from a TBA, the majority (63 percent) thought that women would prefer using a clinic.

Fifty-nine percent of the TBA's said that they would be willing to dispense contraceptives. Of note, seven of eight TBA's from Machakos would be willing, whereas only one of seven from the Rift Valley would be willing. This may be related to whether the TBA receives money for deliveries: None of the TBA's in the Rift Valley area receive money, whereas seven of eight of the Machakos TBA's are paid for their services (the same seven TBA's that are willing to dispense contraception). About half of the TBA's who are not paid report that they would like money for their work.

(7) Health Workers' Support of TBA Home Deliveries

From the 16 completed interviews with FPAK and MOH health workers in Nyeri and Eldoret, we found general support for the work of TBA's. Only one person felt that TBA's should not be allowed to continue attending home deliveries (Table 12). One person felt that TBA's should be permitted to assist with emergency deliveries only and should refer all other women to health centers or hospitals

for both normal and complicated deliveries. Fourteen of 16 respondents felt that TBA's should continue to assist with home deliveries if trained and supervised.

The 15 respondents that felt TBA's should continue to attend home deliveries were asked to state the most helpful and harmful aspects of the TBA's midwifery practices. The most commonly stated positive aspects included (in descending order from most to least frequently stated): (1) TBA's help out with emergency deliveries; (2) TBA's refer complicated cases to health centers and hospitals which may otherwise result in unsafe home deliveries; (3) TBA's are trusted and deliver babies within the home environment; (4) the health outcomes of deliveries with a TBA's assistance are better than unattended home deliveries; (5) TBA's are easy to find and are nearby when they are needed (ease of access); and (6) the cost of delivery to a TBA's client is minimal. Three of the respondents reported that there are no significant harmful aspects of TBA's midwifery practices. The other 12 respondents reported the following negative aspects (in descending order from most to least frequently stated): (1) TBA's inadequately handle obstetrical complications, including breech and transverse presentations, larger tears, prolonged labor, and post-partum hemorrhaging; (2) TBA's do more than they are capable of or should; (3) TBA's use poor hygiene practices or do not take adequate care of their equipment.

(8) Contact Between Health Workers and TBA's

Of the 22 health workers interviewed in Nyeri, Eldoret, Mombasa, and Machakos, 8 participated in the selection of TBA's for training (Table 13). Seven of these eight were field educators--one field educator who was interviewed did not select TBA's.

Fifteen of the 22 health workers interviewed participated in the training of TBA's, 3 in the planning and organization of the courses, 5 as lecturers, and 7 as facilitators or observers. The persons who planned or lectured are all nurses and doctors. The seven facilitators are all field educators.

Of the 15 persons who participated in the training, on their own initiative, 4 had supervised TBA's. Three of the four made technical inputs into the midwifery and family planning activities of the TBA's. (Two of these three field educators are nurses by training.) The fourth field educator provided only family planning advice, instruction, and assistance.

Eight of the 22 health workers who were interviewed received or facilitated referrals from TBA's. Five of the eight are nurses or physicians, and three are field educators. Of the eight, seven participated in the training of the TBA's.

These findings support our observations from other countries and training programs that suggest that participation in the training of midwives can help to strengthen the ties between supervisor and the person being supervised. We recommend that supervisory responsibilities be decided before future TBA training programs so that the future supervisors have the opportunity to participate in the training.

(9) Attitudes of Health Workers Toward TBA Provision of Family Planning Services

All of the 15 health workers who completed an interview in Nyeri and Eldoret felt that childspacing is important to the health of women and their babies. Eleven felt that the ideal interval between pregnancies would be between 2 and 3 years while four felt that it would be between 4 and 5 years.

Ten of the health workers interviewed think that TBA's could distribute contraceptives at the village level. Six of the 10 stated that TBA's should be allowed to provide the pill only if properly trained and supervised. Four other respondents were opposed to TBA's doing anything other than promoting family planning and referring women to clinics for service.

Of the 10 respondents who favored TBA's providing family planning methods, 7 were willing to supervise the TBAs' work at the village level. Three reported that they lacked the time to supervise TBA's. Eight of the respondents stated that TBA's should be paid in cash or in kind for providing family planning services. One respondent was opposed to TBA's being paid, and the tenth was uncertain.

V. FOLLOWUP ACTIVITIES TO PATIENT FLOW ANALYSIS/ASSESSMENT OF QUALITY OF SERVICE STUDY

A. Review of Service Statistics

Dr. Dalmat compared the average daily attendance, based on the service statistics of Nyeri and Eldoret FPAK clinics, for the months of August-October 1981 with the same 3-month period in 1982.

<u>Average No. Clients Served per Day</u>	<u>Aug-Oct 1981</u>	<u>Aug-Oct 1982</u>	<u>Percentage Change</u>
Nyeri	35	39	11
Eldoret	12	16	33

While data from other clinics also need to be examined before drawing conclusions about trends in clinic utilization, FPAK should be encouraged by these findings.

For the period, August-October 1982, Eldoret clinic had the following distribution of method choice among its clients: Depo-Provera (70.2 percent), pill (12.7 percent), IUD (11.5 percent), and other (5.7 percent). During this same period, 68 percent of Depo-Provera users came to the clinic on the day of their appointments as compared to 64 percent for IUD users and 50 percent for pill users.

B. Mobile Clinics

Since they began functioning, the performance of the two mobile clinics operating out of the Nyeri clinic and the two mobile clinics operating out of the Eldoret clinic calls into question the cost-effectiveness of this mode of service delivery:

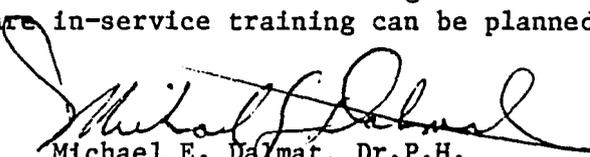
Average Clients Served per Month
per Mobile Clinic

<u>Nyeri</u>	
Nanyuki	16
Kutus	12
<u>Eldoret</u>	
Chemnoet	10
Kesses	3

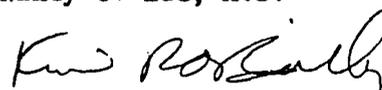
Each mobile clinic session makes use of a vehicle, consumes gasoline, and utilizes a full day of a nurse's and driver's time (at a minimum). These scarce resources may be better utilized to supervise community-based distribution (CBD) of contraceptives.

C. Observer Checklist

A checklist was developed for evaluating the quality of services provided in the FPAK clinics. This Observer Checklist was first introduced by Dr. Dalmat (See AID/RSSA Kenya Trip Report of 5/7/82) and is included in CDC foreign trip report (Kenya, October 20-30, 1982, dated January 18, 1983). Ms. Zahniser, R.N., M.P.H., Nurse Educator, revised the checklist in Atlanta and pilot-tested it at the Emory-Grady Family Planning Program. The checklist was again revised by Ms. Zahniser in Kenya with the assistance of two FPAK nurses. Ms. Zahniser discussed this checklist in depth with Mr. Mutua from the MOH and Dr. Nyanyi, the medical director of FPAK. Dr. Nyanyi was extremely positive and supportive of this instrument. He and Dr. Nancy Lee field-tested the checklist in the Nairobi FPAK clinic. Revisions have been made and are included in Appendix A, based on their comments. Dr. Nyanyi will use the Observer Checklist to assess in-service training needs. He will also distribute the checklist during an in-service training program to all nurses working in FPAK clinics as a standard for the delivery of services. Following this training, Dr. Nyani will use the checklist to evaluate the quality of counseling and clinical services offered in FPAK clinics. Based on the findings from this assessment, relevant programs for future in-service training can be planned.


Michael E. Dalmat, Dr.P.H.


Nancy C. Lee, M.D.


Kevin R. O'Reilly, Ph.D.

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TABLE 1

AREA, POPULATION AND HEALTH MANPOWER
BY DISTRICT, KENYA, 1982

<u>District</u>	<u>Area</u>	<u>Population</u>	<u>Population Per M.D./P.A.*</u>	<u>Population Per Nurse</u>
Nyeri	3,351 km ²	487,000	7,855	1,917
Kirinyaga	1,490 km ²	295,000	18,438	2,543
Muranga	2,529 km ²	647,000	19,606	2,863
Uasin Gishu	3,784 km ²	301,000	8,853	1,627
Nandi	2,745 km ²	299,000	14,238	5,246
W. Pokot	9,100 km ²	158,000	9,875	1,197
Lamu	6,814 km ²	42,000	3,818	977
Taita/Taveta	16,975 km ²	156,000	6,000	1,147
Machakos	14,156 km ²	1,200,000	8,165	2,495

*P.A. = Health Officer (physician's assistant)

TABLE 2

RELATIVE ACCESS TO HEALTH FACILITIES IN DISTRICTS
FROM WHICH TBA'S WERE TRAINED

<u>District</u>	<u>No. Facilities</u>	<u>Pop/Facility (Catchment Pop)</u>	<u>KM²/Facility (Catchment Area)</u>	<u>Catchment Population/ Area</u>
Nyeri	71	6,860	47	146
Kirinyaga	41	7,200	36	200
Muranga	70	9,000	35	257
Uasin Gishu	67	4,490	57	79
Nandi	48	6,230	57	109
W. Pokot	20	7,900	455	17
Lamu	16	2,625	426	6
Taita/Taveta	28	5,571	606	9
Machakos	60	20,000	236	85

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TABLE 3

AVERAGE NUMBER OF DELIVERIES PER MONTH
BY DISTRICT AND PLACE OF DELIVERY, 1979

<u>District</u>	D E L I V E R I E S					
	TOTAL		INSTITUTIONAL		HOME	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Nyeri	14,691	100	13,476	92	1,215	8
Uasin Gishu	435	100	333	77	102	23
Nandi	3,427	100	3,197	93	230	7
W. Pokot	782	100	142	18	640	82
Taita/Taveta	2,114	100	144	7	1,970	93

TABLE 4

RELATIONSHIP BETWEEN CATCHMENT POPULATION/AREA
AND HOME DELIVERIES BY DISTRICT, 1979

<u>District</u>	CATCHMENT POPULATION PER CATCHMENT AREA		HOME DELIVERIES AS PERCENTAGE OF TOTAL BIRTHS	
	<u>Ratio*</u>	<u>Rank Order</u>	<u>% **</u>	<u>Rank Order</u>
	Nyeri	146	1	8
Nandi	109	2	7	5
Uasin Gishu	79	3	23	3
W. Pokot	17	4	82	2
Taita/Taveta	9	5	93	1

Spearman's rank correlation coefficient = -0.824

* From Table 2

** From Table 3

TABLE 5
VARIOUS PROCEDURES AND CRITERIA USED FOR TBA SELECTION:
NYERI, ELDORET, MOMBASA, MACHAKOS -- 1981

<u>WHO SELECTED</u>	<u>SELECTION PROCESS</u>	<u>CRITERIA FOR SELECTION</u>
1. Women's development group, field educator (FE)	FE expressed need to select TBA; members made selection	1. Trust 2. Active in community
2. FE, Chief	FE expressed need, chief made selection on own	1. Experience as midwife 2. Reputation 3. Proximity
3. FE, Assistant Chief (AC)	FE identified TBA's, AC approved selection	1. Personal knowledge of individual 2. Reputation
4. FE	Selected on own	1. Proximity 2. Personal knowledge of individuals
5. FPAK volunteer	Interviewed 20 candidates, selected 5 on own	1. Experience as midwife 2. Personal knowledge of individuals
6. FE, AC's, TBA's	AC's made lists of TBA's, FE chose 1 @ location, if more than 1 in area, TBA's selected from among selves	1. Experience as midwife 2. Reputation
7. FE, Elders	FE asked elders to compile list of TBA's, FE selected on own	1. Many deliveries 2. Respect
8. FE, Elders	FE asked elders to compile list of TBA's, FE selected on own	1. "Best" TBA 2. Experience as midwife

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TABLE 6

CHARACTERISTICS OF TBA'S INTERVIEWED

<u>Characteristic</u>	(n=27)
Mean Age	57.3 yrs.
Parity (Mean)	7.8 children
Literate	30%
Understands Swahili	78%
Currently married	67%
Widowed	33%

TABLE 7

CHARACTERISTICS OF MIDWIFERY PRACTICE

<u>Characteristic</u>	(n=27)
Years in practice (Mean)	27
Deliveries/year	
Median	10
Range	2 - 400
villages served by TBA	2.8
Only TBA in village	37%
Consultant TBA	44%
Teaching midwifery	48%
First antenatal contact:	
0-6 mo. gestation	62%
7-8 mo. gestation	23%
at delivery	15%
Antenatal care:	
Exam only	30%
Advice only	11%
Exams and advice	48%
No care	11%

TABLE 8

TBA PRACTICES DURING DELIVERY

<u>Practice</u>	(n=27)
Positions Mother:	
On Back	70%
Squatting	19%
Both	11%
Uses new or boiled instrument	89%
Cord Cut:	
Before Placenta Delivered	70%
After Placenta Delivered	30%
Substance* put on cut cord	37%

*Mother's saliva, ash, baby powder,
alcohol

TABLE 9

KNOWLEDGE AND MANAGEMENT
OF POST-PARTUM COMPLICATIONS

<u>Complications</u>	(n=27)
Clears baby's respiratory tract:	30%
Small perineal tear:	
Keep clean	63%
Other	15%
Refer to hospital	7%
Nothing/no exper.	15%
Large perineal tear:	
Stitch/apply meds.	7%
Refer to hospital	67%
No experience	26%
Causes of post-partum hemorrhage:	
Laceration	15%
Retained placenta	11%
Uncontracted uterus	11%
Names 1 of above	30%
Doesn't know	37%

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TABLE 10

OPINIONS ON BREASTFEEDING

<u>Opinion</u>	(n=27)
Start breastfeeding:	
Immediately	46%
After delay (1-4 hours)	54%
Frequency of breastfeeding:	
On demand	63%
6-12 x daily	11%
3-5 x daily	15%
No opinion	11%
Duration of breastfeeding:	
< 1 yrs.	4%
1-2 yrs.	44%
≥ 2 yrs.	52%
Begin other food:	
< 4 mo.	37%
4-6 mo.	52%
> 6 mo.	11%

TABLE 11

ATTITUDES ON DISTRIBUTION
OF CONTRACEPTION

<u>Attitude</u>	(n=27)
Refer to FP* clinics:	96%
Women prefer FP from:	
Clinic	63%
Midwife	26%
Either	11%
Willing to dispense FP:	59%
Wants money for dispensing FP	63%**
Paid for deliveries	52%
Not paid, but would like payment	54%

*FP-Family Planning

**63% of the TBAs who are willing
to dispense FP

TABLE 12

ATTITUDES OF HEALTH WORKERS TOWARD TBA DELIVERIES:
DISTRIBUTION OF RESPONSES, NYERI AND ELDORET

<u>Responses</u>	<u>Question and Responses</u>
	1. <u>Should TBA's be allowed to continue home deliveries</u> (N=16)
1	No need for TBA's
1	Emergency cases only
7	Yes, or yes but better if trained
7	Only if trained and supervised
	2. <u>Helpful aspects of TBA's work</u> (N=15)
7	Emergency assistance
6	Referral of complicated deliveries
6	Home environment and trust
5	Improved health outcome over unattended deliveries
4	Ease of access for client
4	Cost to client
2	Support for family planning
2	Referral or care: Antenatal or postpartum
1	Decreased burden on hospital for normal deliveries
	3. <u>Harmful aspects of TBA's work</u> (N=15)
3	None
13	Inadequate handling of obstetrical complications
3	Do more than should
3	Poor hygiene, care of equipment
2	Cannot recognize high risk cases
2	Use of herbs
1	Push too soon

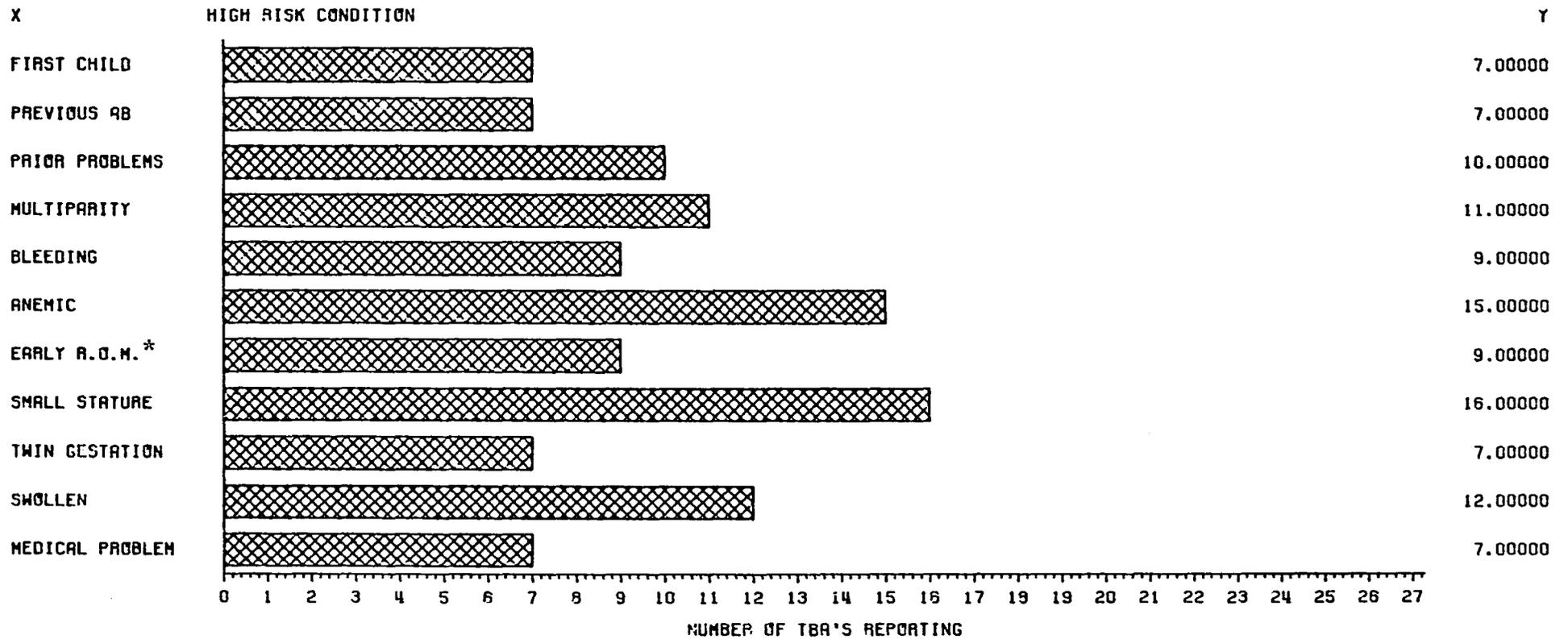
TABLE 13

CONTACT BETWEEN HEALTH WORKERS AND TBAs:
NYERI, ELDORET, MOMBASA, AND MACHAKOS

<u>Type of Contact</u>	<u>No. of Health Workers</u>
1. Selected TBAs (N=22)	8
2. Participated in TBA training (N=22)	15
Lectured	5
Planned and organized	3
Facilitated or observed	7
3. Supervised trained TBAs (N=15)	4
4. Received or facilitated TBA referrals (N=22)	7

FIGURE 1

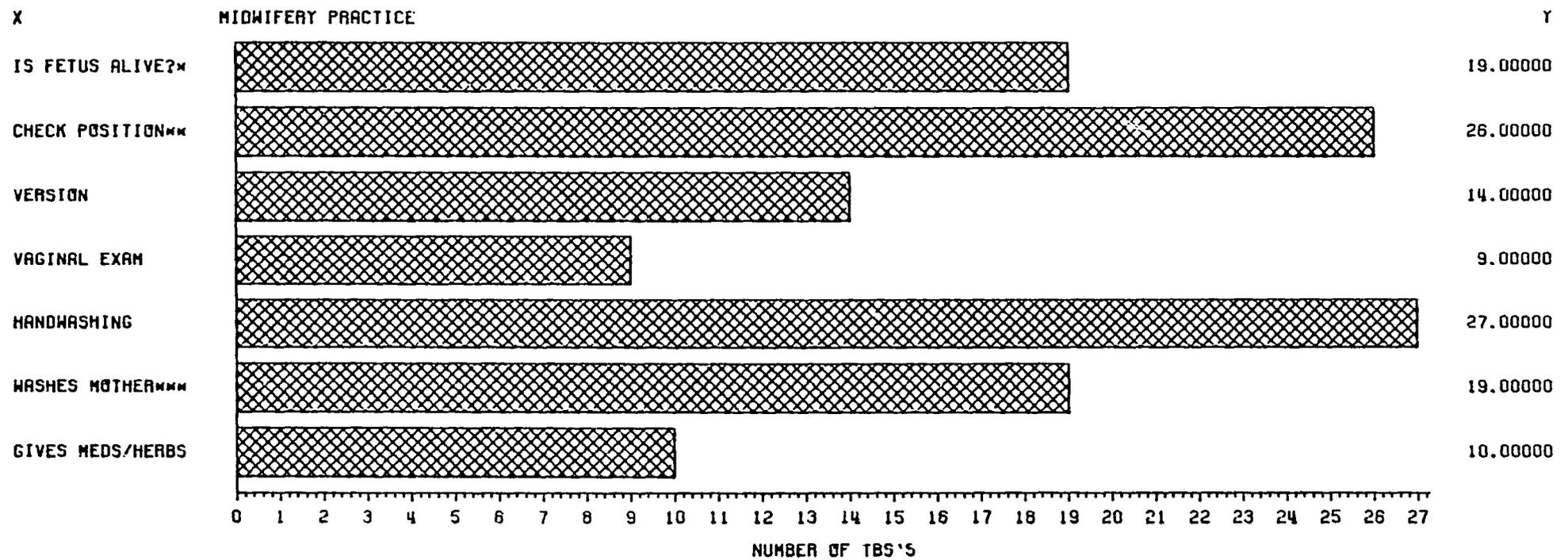
CAUSES OF HIGH RISK PREGNANCY REPORTED BY TBA'S



*R.O.M. - Rupture of Membranes

FIGURE 2

TBA MIDWIFERY PRACTICES DURING LABOR



*Checks fetal movement or fetal heartbeat

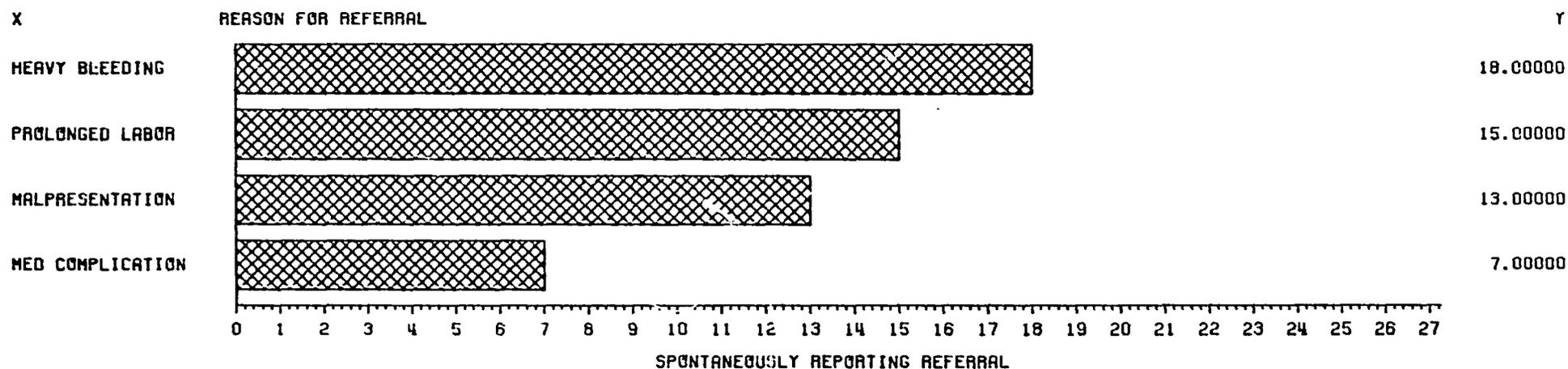
** Check position of fetus in Utero

*** Washes perineum

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FIGURE 3

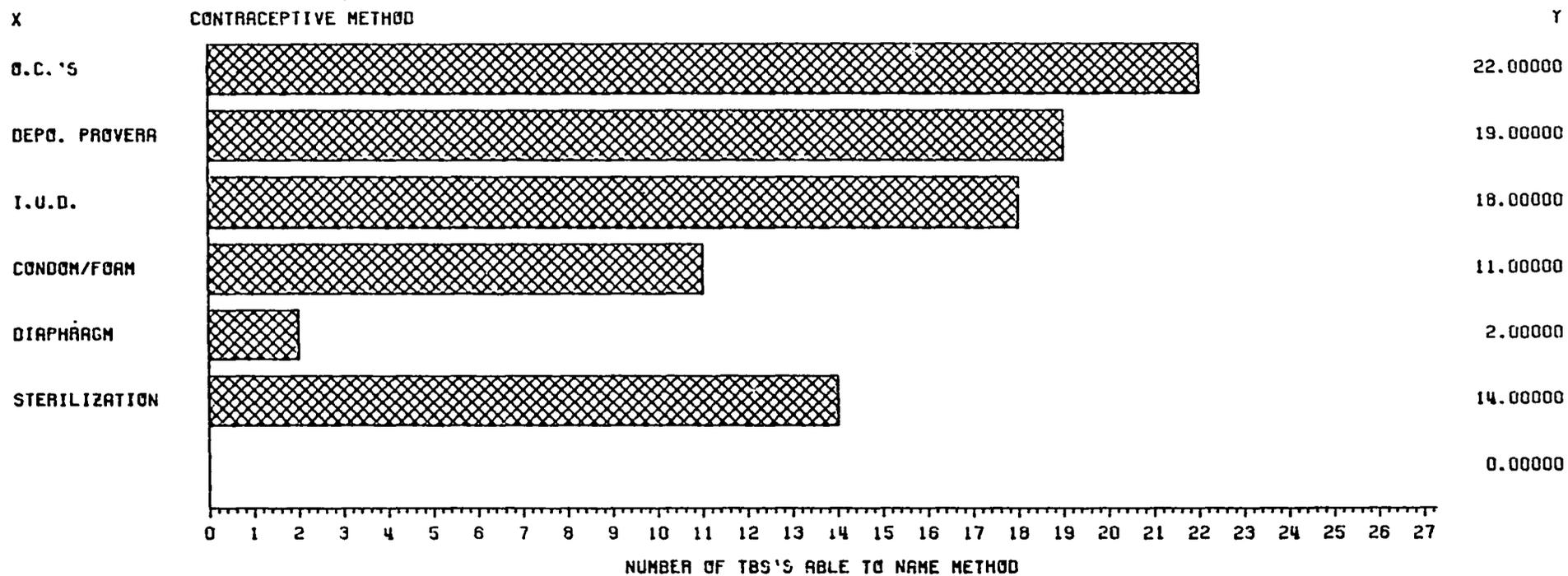
REASONS REPORTED BY TBA'S FOR REFERRING CLIENTS TO HOSPITAL DURING LABOR



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FIGURE 4

MODERN CONTRACEPTIVE METHODS NAMED BY TBA'S



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