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PHASING THE INTRODUCTION OF MCH/FP SERVICES
THE SUDAN COMMUNITY BASED FAMILY HEALTH PROJECT

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INTRODUCTION

The community based approach for delivering integrated health services is proving a viable and valuable means for extending health care coverage in many areas of the developing world. In such programs reliance is usually placed on community residents as local resources in their own communities. In using local people as community health workers, program planners face many challenging difficulties. Often the educational background of such people is minimal and prior experience in community health outreach lacking. To overcome such deficiencies, a number of carefully designed strategies may be employed. For example, a carefully conceived and executed training course is a necessary prerequisite to program implementation. Similarly, a well-structured system of supervisory support is needed to maintain services once they are in the field. A number of programs have also focused upon the idea of limiting the number of health interventions introduced through such programs to a select few. An important additional strategy that was developed in the Sudan Community Based Family Health Project was the phased introduction of services through successive rounds of field level retraining and household visiting.

The Sudan Community Based Family Health Project was implemented in February, 1981 in 85 villages stretching along the Nile for a distance of 140 kilometers north of Khartoum. An extended period of needs and resources assessment indicated the

type of services that could be most usefully provided--oral rehydration, family planning, immunization, and nutrition education--as well as the local person who could most effectively provide them--village midwives. That the majority of midwives were illiterate was an added challenge to project planners and their concern with how these distinct interventions could be successfully introduced into the communities. A phased approach wherein each intervention was reviewed during a refresher training session and introduced separately during three rounds of household visits seemed the most reasonable solution. Subsequent experiences and achievements indicate that the phased introduction of services is a strategy that could be usefully employed in community based programs elsewhere.

PROJECT OVERVIEW

The Sudan Community Based Family Health Project was carried out by the Department of Community Medicine of the Faculty of Medicine, University of Khartoum, in cooperation with the Ministry of Health of the Government of the Sudan. Funds for the project were provided by the Research Division of the Office of Population of the United States Agency for International Development (AID) and administered by AID/Khartoum. The Center for Population and Family Health (CPFH) of Columbia University, also funded by USAID, provided technical assistance to the project, particularly in the areas of evaluation and operations research.

The basic premise of the project was that largely illiterate, government-trained village midwives, who are widely available in rural areas of the Sudan, could deliver a selected set of maternal and child health care and family planning (MCH/FP) services if they were provided good training as well as sufficient support and supervision. It was further assumed that the delivery of services would be improved by sequential introduction of these interventions during three distinct rounds of retraining and household visiting by the midwives.

On the basis of a primary health care priority needs and resources assessment, and feasibility estimates of the tasks which could be carried out by the village midwives, it was decided that in addition to their regular midwifery services, the midwives should be able to:

- o Train mothers in the use of oral rehydration therapy in the treatment of diarrhea, which is the major killer of children and infants, and provide them with oral rehydration packets;
- o Inform mothers regarding the advantages of birth spacing and contraceptive methods, and provide contraceptive pills;
- o Motivate mothers concerning immunization and support Extended Program of Immunization (EPI) activities in their communities;
- o Educate mothers in infant and young child nutrition.

The core activities of the University of Khartoum staff involved in carrying out the project included:

- o Planning all aspects of the project;
- o Introducing the project to community leaders and eliciting their support;
- o Developing the curriculum and training the village midwives to carry out the MCH/FP activities;

- o Providing assistance in supervision and support;
- o Carrying out a variety of surveys and other activities required to monitor and evaluate the project.

The Sudan Community Based Family Health Project can be divided into three periods: preparation, implementation, and maintenance. Preparation was completed in February, 1981. In addition to the overall planning, the preparatory period included designing and conducting a baseline survey and training courses and orientation sessions for the midwives, other community health personnel, and community leaders.

With the initiation in February, 1980 of the first of three rounds of household visiting to introduce and promote project health interventions, implementation of the project began. To fully prepare the midwives for the intense activity of household visiting, each round of visits was preceded by a refresher course. During these refresher courses, midwives reviewed lessons learned during the formal three-week training course and were instructed in procedures to follow in the upcoming home visit. Refresher courses were conducted by project trainers and social workers in conjunction with regional supervisors and local medical personnel. The refresher courses were held in the project communities, one community at a time.

The first round of household visits was completed within one month. It focused upon introducing and instructing village mothers in oral rehydration therapy as an intervention for treating the dehydration that results from childhood diarrhea. During a second round of home visiting, the midwives first reviewed oral therapy and then introduced birth spacing as

a concept and technique for improving the health of both mothers and children. In the third household visit round, after reiterating messages of the first two rounds, the midwives concentrated upon nutrition education as a means for improving the health status of community residents.

While the objective of the household visits was mainly to educate mothers, the midwives also distributed supplies of Oralyte packets and oral contraceptives to village women. However, while Oralyte was given to all women who were visited and instructed in oral therapy, family planning pills were only given to women who indicated a desire to use them. A small charge was collected for each cycle of pills distributed. The packets of Oralyte were given free of charge.

Concurrently with the initiation of each household visit round, vaccinations were administered to village children by an EPI team that accompanied those coming to conduct the refresher course. The retraining/vaccination sessions were scheduled in advance so that village midwives and medical personnel could inform and motivate villagers to bring their children for vaccination. Three refresher courses held approximately one month apart in each project community provided the opportunity for correctly administering the several doses required for DPT and Poliomyelitis. In addition, children were given measles and BCG vaccines.

Upon completion of the last home visit round in early June, 1981, the maintenance period of the project began. During this period, midwives continued to provide midwifery services and to function as a source of both information and supplies for the new

health interventions.

TRAINING, RETRAINING AND SUPERVISION

In developing new health programs, considerable attention is usually given to training. Health outreach workers, whether they are volunteers or government employees must learn about the new health interventions and how to use them. For community level workers, training programs that are interactive and practical will likely be appropriate and productive. This approach was taken in the Sudan Community Based Family Health Project and achieved positive results.

Prior to implementation, a training program of three weeks duration was held to train the project area midwives in the four health interventions. The training was conducted at the same midwifery schools where the village midwives had originally been trained for nine months in obstetrics. After recognizing the difficulties of training non-literate persons, many of the techniques utilized in midwifery school training (e.g. role playing, discussion, sensory perception, practicums), as well as some of the midwifery school instructors themselves, were incorporated into project training activities. Evaluation of the course showed that midwives improved markedly in knowledge and attitudes relevant to all of the project interventions (see El Tom, et al. 1983).

While the village midwives were selected as the key persons to deliver services in the Sudan project, a number of other community members also had some involvement in project activities. Short training courses were also organized for these

people. In addition to seminars that were held for local religious leaders and sanitation workers, a two-week course covering project interventions was given to community paramedics of whom there were 50 in the project area. While the practices of these paramedics were more toward curative services, the short training course served to orient them towards the possibilities for preventive care at the village level. Subsequently, these paramedics provided village level support and supervision for the activities of the midwives.

Supervision is a key issue in community based programs. Clearly development and maintenance of on-going professional support for health workers is a more difficult undertaking than a short training course. In the Sudan project, considerable efforts were made in the area of supervision. Of special interest were the efforts to integrate the program into the health system and to involve community paramedics in local level supervision of village midwives. As with training activities undertaken in the project, supervisory experiences within the project have also been documented (see El Tom, 1984).

The maxim "what is simple is best" has obvious relevance for community based programs. In training midwives for the Sudan project, simple explanations coupled with opportunities for trainees to become actively involved in discussing and practicing specific health interventions produced good results. However, in supervision lack of transportation and motivation kept regional supervisors from making regular monthly visits. To compensate, the simple expedient of integrating community paramedics into the

program was applied to create a level of local supervisory support. The short, focused refresher courses that were held in project communities just prior to each round of household visits served to bridge the gap between centralized training and the need for decentralized supervision.

THE PHASED APPROACH TO INTRODUCING NEW SERVICES

The village midwives were a most appropriate choice for introducing MCH/FP services in these communities for a number of reasons:

- o They were themselves village women already in close contact with women and children;
- o They had already been selected by their communities to undergo the nine-month training course to become midwives and received a small monthly stipend from the community council for their work;
- o They were established and respected members of their communities and were not likely to emigrate.

In the same way that the above factors led to selection of midwives to provide outreach services, so did other socio-cultural factors influence the design of the specific strategy for introducing services. That much of female life in Sudanese villages, for example, is traditional and centered around the home provided the rationale for utilizing female service providers to introduce services through household visiting. Similarly, because family planning was thought to be a sensitive issue, emphasis was placed upon the health benefits of birth spacing and the need for private discussion. For related reasons, it was also decided that family planning should not be the first intervention introduced and that sequential introduction of separate interventions would avoid confusion. By

having each round preceded by a short, focused retraining session in the community setting, protocols for introducing each intervention were reviewed and field practice opportunities were provided.

The refresher courses were structured in the following manner. According to a pre-established schedule, the training team, consisting of one project trainer, a social worker, the senior dispensary inspector responsible for supervising community paramedics, and the senior health visitor responsible for supervising village midwives, arrived in the village. They were accompanied by EPI staff. After arrival in the community, the vaccination team set up in the local health center. At the same time, the midwives, local paramedics, project trainer, social worker, and regional supervisors convened in a separate location, usually at the community paramedic's house. The retraining proceeded by means of instruction, discussion, and role playing to review previous lessons and activities and to prepare for the home visit. After all the material was covered, several houses in the community were visited by the group, with one midwife assigned responsibility for conducting the activities of the home visit. Her performance was monitored by the entire group and critiqued by her colleagues, the local paramedic, and the other members of the training team. The process was repeated for each midwife.

One interesting aspect of the refresher course approach was the opportunity it provided for encouraging the active participation of community medical personnel and regional supervisors in a

support capacity. In addition, the entire exercise reinforced the concept that training, retraining, and supervision are related and complementary activities. The refresher courses also gave project staff valuable feedback on how project activities had proceeded to a given point. As a result, adjustments and refinements were made in response to experiences emanating from the field.

In the retraining, specific attention was also given to discussing and practicing precise protocols for introducing each of the various health interventions. For example, field investigation of oral rehydration made it clear that this relatively simple technology could nevertheless be confusing and complicated for rural residents. Consequently, a precise but simple regimen for teaching women about oral rehydration was developed and reviewed in the initial retraining session. Subsequently midwives followed this protocol during the first home visit and reviewed and reinforced it in subsequent visits.

Similar structure was provided for introducing modern contraception to village mothers. In addition to encouraging midwives to be sensitive and discrete in discussing birth spacing and family planning, a mnemonic device was reviewed during the refresher course. This device had been developed with the midwives during the formal training course to help them remember the various contraindications to oral contraceptives. Similarly, the nutrition component concentrated upon a few simple messages supporting breast feeding, timely introduction of food supplements, weaning, and utilization of selected locally available and inexpensive foods appropriate for infants and small

children. In the remainder of this paper, details on how each of the three interventions were introduced are presented. The paper concludes with a discussion of some of the results that were achieved through the phased approach.

Oral Rehydration Therapy

The procedure for instructing mothers in the use of oral rehydration therapy was developed during several field visits to project villages and refined during the midwives' training course. In each home visited during the first round, the midwife explained the basic principles of oral therapy and requested that mothers bring a vessel called the kora so they could be shown the proper way to prepare an oral rehydration solution. Previous investigation revealed that kora were available in virtually all households in the project area as well as in most other parts of the Sudan. By pouring water from a one liter container into the vessel, the midwife calibrated the kora by marking a line at the water level. It was suggested by the midwives themselves that a stone found on the banks of the Nile be used to place a fine, indelible mark on the enamel-like surface of the kora. This was tried and worked extremely well.

After placing the mark on the kora the midwives demonstrated how the packets of Oralyte which they provide are mixed with the proper amount of one liter of water. They placed particular emphasis upon the need to make the solution in the correct volume. Mothers are then instructed as to how they should give the fluid to infants and children with diarrhea, what other fluids and foods should also be given, and at what point medical attention

should be sought if the diarrhea does not abate. In addition, mothers are informed that they should use each batch of oral rehydration solution that they have prepared only for a 24-hour period. After 24 hours, the fluid should be thrown away, and a new batch made if it is still needed. Packets of oral rehydration salts were left in each home visited.

A particularly important part of the oral rehydration component of the project involved gaining the cooperation and support of the medical personnel who man clinics and dispensaries in project area communities. During preliminary investigation, it became apparent that oral therapy was not well known, accepted or encouraged by these workers. During the training provided in preparation for the project, all project area medical personnel were taught about oral therapy. As a result they came to fully support the oral rehydration component and provided valuable back-up support to the instructions and motivational activities of the midwives.

Family Planning

The second household visit round acquainted mothers with the concept and means of spacing their children. During training and refresher courses, it was recommended to midwives that they raise the subject of family planning when they could meet individually with women in the privacy of their own homes. Project experiences clearly indicate that if midwives could meet with women in the proper setting, what they had to teach about birth spacing would be well received.

After generally acquainting women with the concept of birth spacing, midwives proceeded to introduce oral contraceptives as one of the means by which pregnancy may be delayed. If women indicated some interest in becoming acceptors, the midwives proceeded to check for contraindications to pill use and provided detailed instructions as to how the pills must be taken. The midwives were also instructed to provide counsel on side effects and to make referrals when appropriate.

Nutrition

In the third home visit round, the midwives encouraged better nutrition for infants by promoting a few simple messages. They gave support to breastfeeding, promoted early introduction of some solid foods and encouraged the use of nutritious weaning foods. The impact of this component was not be as dramatic as that for oral rehydration and family planning, in part because there was no readily visible technology comparable to the ORS packets or the pill cycles that were distributed. With no new technology or medicaments, it may be much more difficult to get fast results.

Vaccinations

The vaccination component of the project was undertaken as a cooperative effort with the Ministry of Health. The team of vaccinators who accompanied project staff members during the several months of refresher training administered vaccines on a mass campaign basis. The midwives and local medical personnel informed and motivated mothers to bring their children to

the local dispensary on the appointed day. While the midwives were participating in the refresher course, the vaccination team administered the appropriate vaccines to all who were brought to receive them. Records were kept to provide a basis for estimating the extent of coverage of this mass campaign approach.

The difficulty of maintaining an effective cold chain made routine service delivery of vaccinations difficult. Many of the project communities were without refrigerators or electricity. In those clinics where there were refrigerators, cuts in electricity were sufficiently frequent to cause difficulties in cold chain maintenance. Until such problems are overcome, it will not be possible to institute vaccinations as a routine service in the project area communities.

RESULTS AND CONCLUSIONS

Evaluation of the Sudan Community Based Family Health project concentrated upon assessing processes and measuring outcomes during the initial year of project activities. A variety of research methods were utilized including field observations of midwives' performances, collection and collation of service statistics on contraceptive acceptors, mini-survey on family planning and oral rehydration acceptance and use, and baseline and follow-up surveys to ascertain changes in a variety of knowledge, attitude, and practice measures relevant to the project interventions. In this section some of the major results of this evaluation are presented.

A number of field visits were made to project villages both during the intensive period of household visiting and in the

subsequent maintenance phase. The overwhelming impression of all visitors to the project area, including University project staff, CPFH staff, other Sudanese officials, and foreign visitors, has been that the midwives have been both highly motivated and capable in providing basic MCH/FP services to their communities. More systematic observations undertaken by project and CPFH staff have revealed particular strengths in retaining and imparting information about family planning and oral rehydration. These observations are substantiated by quantitative data from a variety of sources, which are presented in the following for each of the four project interventions.

Oral rehydration

In May, 1981, one month after the initiation of family planning services and two months after the initiation of the oral rehydration services, a mini-survey was conducted to determine the impact of the project on the use of ORS and oral contraceptives. From among the village women that had been visited by the midwives, 145 women were interviewed. All respondents were under 50 years old and had one or more children five years old or younger.

As indicated in Table 1, the ORS intervention proved immediately successful. Over 90% of those interviewed recognized the ORS packets and could correctly prepare the solution. 84% of all households had a calibrated container for use in the preparation of the ORS. Among those whose children had recently had diarrhea, 98% of the women reported using ORS as a treatment.

As indicated in Table 2, some of these findings were later verified with data from a more in-depth and comprehensive follow-up survey, conducted among 2245 village women 8-12 months after the initiation of project services. In the follow-up survey 75% of all households had a kora that had been calibrated for the preparation of the oral rehydration solution. Among those women with diarrheal children under five years of age, 76% treated their children with ORS. Additionally the follow-up survey revealed that well over half of all the sampled households contained ORS packets at the time of interview. In those households that did not have ORS packets, 59% had used all the ORS already and 72% planned to obtain more ORS from the midwives.

It is worth noting that the proportion of women that use the ORS to treat their diarrheal children was highest among the least educated segment of the population. To summarize Table 3, among those with elementary education or less, 76.8% reported using ORS to treat diarrheal children, compared with 60.5% among those with an intermediate education or more. That the midwives appear to have been relatively more successful in introducing and promoting ORS among mothers with lower education is an interesting finding that appears within the other interventions as well.

Family Planning

Data concerning the family planning intervention are available from four sources: service statistics, the mini-survey and both the baseline and follow-up surveys. In the mini-survey, as indicated in Table 1, three-fourths of the women interviewed reported that the midwife had explained family planning to them.

This proportion was slightly lower in the follow-up survey, in which 59% (N=2081) reported discussing family planning with the midwife. The difference is due to sample selection procedures -- the mini-survey included only women with children under five years who had previously been visited by the midwife; the follow-up survey was a random sample of all married women between the ages of 15 and 45. Midwives were instructed to discuss birth spacing only with those who were likely to be receptive towards such discussion and may have felt that those women with no children under five were less likely to desire family planning services.

Both the baseline and follow-up surveys permitted us to look at current contraceptive use within various subgroups of the population being served. To the project's credit, it is worth noting that increases in the level of current contraceptive use were greatest among the least educated and most inaccessible subgroups of the population. As indicated in Table 4, among those who never attended school, current use increased from 7.6% to 10.7%, and among those with pre or elementary schooling, usage increased from 14.6% to 19.2%. Current use in those villages on unpaved roads along the west bank of the Nile, the villages furthest from Khartoum, increased from 4.8% to 11.2%. In contrast, in those villages located along paved roads on the east bank, the most accessible and well-off villages, current use increased only from 17.6% to 18.6%. Introduction of family planning by midwives in this conservative setting served not only to de-sensitize people to this important health intervention, but also to differentially improve access among the least advantaged.

Immunization

The baseline and follow-up surveys also allowed us to compare pre- and post-intervention vaccination levels in the project area. As indicated in Table 5, prior to the project intervention, only 19.2% of the village women reported that their children had been vaccinated. Additionally, the proportion of women reporting that their children were vaccinated varied widely by education and accessibility to Khartoum (See Table 5). Of those women who have never had any schooling, 14.1% reported that their children had been vaccinated, as compared with 40.1% of those women who had an intermediate level of schooling or more. In the most disadvantaged and remote villages, those along unpaved roads on the west bank, 10.3% of the women reported that their children were vaccinated, as compared with 26.9% of those women in the most advantaged areas, the villages along the paved roads on the east bank.

It is worth noting that following the project intervention, these differences had not only been eliminated, but reversed. 60.7% of those women with no education reported their children were vaccinated, as compared with 52.6% of those women with intermediate schooling or more. And in the villages along unpaved roads on the west bank, 67.7% of the women reported their children were vaccinated as compared with 44.9% of those along paved roads on the east bank.

Nutrition

Finally, the baseline and follow-up surveys provided data concerning changes in nutrition attitudes and behavior. As indicated in Table 6, across all subgroups of the population, the follow-up survey yielded increases over the baseline survey in the proportion of women saying breastfeeding should be continued for 20 or more months, breastmilk was the best food for young children, and food and fluids should be increased for diarrheal children.

CONCLUSION

Obviously a number of elements contribute to the success of any health project. In the Sudan project, clearly the selection and use of village midwives as a most appropriate and trainable local level resource for providing MCH/FP services was an important part of project achievements. Similarly, concentrating upon a few selected and needed health interventions and developing precise protocols for introducing them to village mothers were also important aspects of the project. However, that the entire effort was conducted in a carefully phased manner, with community level refresher courses conducted to focus midwives upon the distinct objectives to be achieved in each home visit round, was another important element that contributed to the success of this project. Phasing the introduction of MCH/FP interventions is a strategy that is currently being replicated in a number of community based programs in Africa and elsewhere. The experience of the Sudan Community Based Family Health Project testifies to the utility of this approach.

References

El Tom, A.R., Mubarak, N., Wesley, S., Matthews, M.H., and Lauro, D. "Training Community Midwives: The Sudan Community-Based Family Health Project." CPFH Working Paper # 2, February, 1983.

Lauro, D. and El Tom, A.R. "Innovative Approaches to Supervision in Health Care: Lessons from the Sudan.: Forthcoming in the CPFH Working Paper Series.

Table I

Results of the Mini-Survey of Women Previously Visited by
Project Midwives, West Bank Area, Sudan Community-Based
Family Health Project, May 1981

Oral Rehydration	%
Women who recognized the oral rehydration solution (ORS) packet	97 (141/145)
Women who correctly prepared ORS	93 (135/145)
Households with a container calibrated for the preparation of ORS	84 (122/145)
Women whose children recently had diarrhea who used the ORS treatment	98 (46/47)
Family Planning	%
Eligible women who reported that the midwife had explained family planning to them	76 (106/139)
Women in favor of oral contraceptives	94 (100/106)
Current pill users	17 (18/106)
Pill users who correctly described how to take the pill	89 (16/18)

Note: 145 women who had been visited by a project midwife were interviewed. Of these, 139 were eligible for family planning counseling under the project guidelines (i.e., were married and living with their husbands).

Table 2

Oral Rehydration

Household has a marked
container for ORS preparation
(N=1431)

Yes	75.4%
No	24.6%

Children with diarrhea were
treated with ORS (N=595)

Yes	75.7%
No	24.3%

Household has one or more
ORS packets (N=1427)

Yes	54.1%
No	45.9%

Reasons for not having ORS
packet (N=663)

Used all packets	59.3%
Midwife brought none	25.5%
Refused/lost/ spoiled	13.3%
Other	1.9%

Plans to obtain more
ORS from midwife
(N=660)

Yes	72.4%
No	14.7%
Not sure	12.9%

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Table 3
Rehydration Practices

Proportion of Women Treating Diarrheal Children
with Oral Rehydration Salts by Education in Post-Test Survey

	Never Attended	Adult Education	Pre or Elementary	Intermediate or More
No	20.2%	17.6%	27.7%	39.5%
Yes	79.8%	82.4%	72.3%	60.5%
(N=)	(292)	(34)	(231)	(38)

Table 4

Contraceptive Practices

Proportions currently using and ever using contraception by education in baseline and post-test surveys

	<u>Never Attended</u>		<u>Adult Education</u>		<u>Pre or Elementary</u>		<u>Intermediate or More</u>	
	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test
Ever used	15.9% (159)	21.1% (223)	20.6% (34)	28.6% (26)	30.9% (173)	37.4% (244)	37.9% (35)	42.7% (58)
Currently using	7.6% (66)	10.7% (104)	9.4% (13)	9.6% (8)	14.6% (65)	19.2% (105)	24.4% (17)	18.6% (21)

Proportions currently using and ever using contraception by village location in baseline and post-test surveys

	<u>West Unpaved</u>		<u>East Unpaved</u>		<u>West Paved</u>		<u>East Paved</u>	
	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test
Ever used	14.4% (74)	20.2% (116)	10.6% (48)	16.9% (88)	31.5% (48)	38.8% (57)	33.2% (232)	41.9% (290)
Currently using	4.8% (21)	11.2% (57)	7.1% (27)	9.7% (45)	11.2% (15)	16.4% (22)	17.6% (98)	18.6% (114)

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Table 5

Vaccination Practices

Proportion of women reporting that their children under 5 are vaccinated

	Baseline Survey (N=1247)	Follow-up Survey (N=1097)
Vaccinated		
Yes	19.2%	60.2%
No	80.8%	39.7%

Proportion of women with vaccinated children by education in baseline and post-test surveys

	<u>Never Attended</u>		<u>Adult Education</u>		<u>Pre or Elementary</u>		<u>Intermediate or More</u>	
	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test
Vaccinated	14.1% (97)	60.7% (355)	12.6% (17)	65.9% (31)	22.7% (105)	60.4% (235)	40.1% (27)	52.6% (40)

Proportion of women with vaccinated children by village location in baseline and post-test surveys

	<u>West Unpaved</u>		<u>East Unpaved</u>		<u>West Paved</u>		<u>East Paved</u>	
	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test	Base-line	Post-test
Vaccinated	10.3% (41)	67.7% (277)	12.6% (42)	63.3% (169)	23.2% (28)	69.2% (74)	26.9% (136)	44.9% (141)

Table 6

Nutrition Attitudes and Practices

Attitudes toward length of breastfeeding if mother and child well
by village location in baseline and post-test surveys

	<u>West Unpaved</u>		<u>East Unpaved</u>		<u>West Paved</u>		<u>East Paved</u>	
	Base- line	Post- test	Base- line	Post- test	Base- line	Post- test	Base- line	Post- test
Less than 20 months	42.0%	30.9%	31.9%	17.9%	61.6%	41.2%	54.0%	36.3%
20 or more months	58.0%	69.1%	68.1%	82.1%	38.4%	58.8%	46.0%	63.7%

Proportion of respondents who say breastmilk is best food for young
child by village location in baseline and post-test surveys

	<u>West Unpaved</u>		<u>East Unpaved</u>		<u>West Paved</u>		<u>East Paved</u>	
	Base- line	Post- test	Base- line	Post- test	Base- line	Post- test	Base- line	Post- test
Breastmilk is best	44.5%	57.4%	55.5%	56.3%	36.0%	50.0%	50.1%	62.8%
	(241)	(370)	(263)	(345)	(57)	(80)	(373)	(519)

Proportion of respondents who tend to increase food, fluids and breastmilk
for sick children by village location in baseline and post-test surveys

	<u>West Unpaved</u>		<u>East Unpaved</u>		<u>West Paved</u>		<u>East Paved</u>	
	Base- line	Post- test	Base- line	Post- test	Base- line	Post- test	Base- line	Post- test
Increase food and fluids	14.9%	32.1%	19.0%	31.2%	15.1%	23.8%	12.5%	25.3%
	(91)	(207)	(90)	(191)	(24)	(38)	(93)	(209)