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DEPARTMENT OF SOCIAL & PREVENTIVE MEDICINE

UNIVERSITY OF THE WEST INDIES, MONA

Progress Report No. 3

for the period July 22nd to Nov. 12th, 1980

Project No. 532-0040-Health Improvement
for Young Children in Cornwall County, Jamaica

USAID Contract No. 532-79-12

A. Background

This is the 3rd progress report of the project which started in October, 1979. The aims of the project are, with respect to Cornwall County,

i) to evaluate the training of personnel serving in Type I health centres.

ii) to devise methods for continuing use in measurement of effectiveness of primary health care services.

iii) to assess the efficiency of primary health care services.

The first and second progress reports described activities with respect to (i) and (ii) above. By July, 1980 data collection under both these headings was nearing completion. A preliminary report for the parish of Trelawny has been presented to a meeting of health personnel there.

B. Activities during the current period

Data collection for aims (i) and (ii) has been completed for all five parishes, and many analyses have already been made.

Reports of preliminary results for the parishes of Hanover, St. James and Westmoreland have been made by the research assistants to senior health personnel in these parishes. The reports have been received with much interest by the health staff. They have been followed by discussion relating to problems identified by the research assistants and possible ways of overcoming the problems. Documents presented at these meetings are attached (Appendixes I, II and III).

Most analysis have now been completed, some of them using the facilities of the Computing Centre, U.W.I.

Under aim (iii) above, it has been decided that attempts will be made to measure efficiency of services by reference to existing records, viz, the accounts kept by Cornwall County Health Administration relating to costs of the services, and estimates of numbers of sessions held at various health centres and numbers of patient contacts made. The latter information should be available through the MCSRS (Monthly Clinic Summary Report System) which has been implemented in many of the health centres in Cornwall.

C. Future plans (to December, 1980)

i) Evaluation of efficiency of services, as indicated in B above.

ii) Presentation of preliminary findings to staff in the parish of St. Elizabeth. This is scheduled for 17th November and will be the last of such meetings.

iii) Preparation of detailed reports on certain aspects of the research, one on training and one on effectiveness of services. These will be prepared as M.Sc. (Nutrition) theses and will be produced in very small numbers.

iv) Preparation of a report summarising all aspects of the research, to be made available in sufficient quantity for distribution within the health services and to other interested persons, and which will constitute the final formal report for the aspects of the project Health Improvement for Young Children in Cornwall County, Jamaica, performed by the Department of Social & Preventive Medicine, U.W.I.

Staff

i) There have been no further changes among the key personnel of the project.

ii) A secretary has been appointed as from late October, 1980, to the end of December, 1980. She works at DSPM, Kingston.

iii) Dr. S. Ismail of the Tropical Metabolism Research Unit has continued to give valuable help, especially with respect to analysis.

D. Other Matters

i) The typewriter given to the project by USAID has been returned to DSPM, Kingston.

ii) It is estimated that by the end of December, there will have been under-expenditure of funds to the extent of about $20,000 Ja.

Following discussions with Dr. Gary Cooke, USAID, we have been led to believe it may be possible to obtain an extension of time within which the remaining funds might be usefully spent.

Dr. W. Patterson (Chief Medical Officer of Health, Ministry of Health), Dr. B. Wint, Mr. G. Cooke and DSPM personnel have discussed several ideas for further research/dissemination of information, though so far no decision has been made. Among the various proposals are (a) a workshop to describe the new health system in Cornwall to other Jamaican health personnel and to develop plans for future training; and further research in Cornwall to determine (b) the infant mortality rate for the County and/or (c) the degree of coverage of the population by the health services, and/or (d) the further employment of a research assistant to implement the scheme for continuous assessment of effectiveness of health services devised during the main part of this project.

E. General

Work has progressed smoothly.

We wish to thank the health personnel of Cornwall who in one way or another have been involved with this project for their invaluable support and interest.

We also thank the research assistants for their continued work and cooperation.

.....
Dr. Carlos A. Mulraine
Project Director

.....
Mrs. P. Desai
Project Coordinator

November 12, 1980

APP. I

THE EFFECTIVENESS OF INSERVICE TRAINING FOR TYPE I HEALTH CENTRE PERSONNEL - PRELIMINARY REPORT - HANOVER 1980.

BY : B. F. HANNA.

INTRODUCTION:-

This is a preliminary report for the parish of Hanover. The work described is part of a larger project covering all five parishes in Cornwall County. The aim of the study was to evaluate the knowledge of staff of Type I Health Centres, namely District Midwives and Community Health Aides. Apart from their basic training and in-service training prior to 1978, these persons received training via a series of workshops and in-service training sessions held in the parish 1978 - 1979 which was specially intended to prepare staff for their roles and responsibilities with respect to type I Health Centres in the new scheme of Primary Health Care currently being implemented in Cornwall County. A supplementary aim was to make a comparison between Pilot and Non-Pilot areas.

METHODS:-

The investigation here reported, took place in May to June 1980. Three types of assessment were used as follows.

(1) Attendance by staff at training sessions.

A sample of staff was chosen as follows: All staff of the two fully staffed Type I Health Centres in the Pilot area of the parish were included. For comparison, two Type I HEalth Centres from Non-Pilot areas were selected. The staff in the sample thus comprised 2 District Midwives and 4 Health Aides from Pilot areas and similarly, 2 District Midwives and 4 Community Health Aides from Non-Pilot areas, making a total of 12 in all. A list of the various topics covered at the workshops and training sessions held in the parish during 1978 - 1979 was prepared. The staff members in the sample were asked which topics they had covered and which they had not. If there were topics that they had not covered they were asked why not. The list contained 18 topics for which workshops or training sessions really been held, but also included 6 topics that were not really covered to test the reliability of the staff's response. (See Appendix I).

(II) QUESTIONNAIRES TO ASSESS KNOWLEDGE OF STAFF.

Questionnaires covering various topics on which training was offered were devised and administered to the 12 staff in the sample described above. A specimen questionnaire is attached (appendix ii). The questionnaire related only to topics which might be known by both District Midwives and Community Health Aides, and contained among other things 3 questions regarding the staff's application of nutritional knowledge. The results of this will be presented with the results of the 3rd aspect of the investigation (below).

(iii) APPLICATION OF NUTRITIONAL KNOWLEDGE

Application of nutritional knowledge by District Midwives was assessed as follows: Mother of children age 0 - 24 months, who attended Child Welfare Clinics and were seen and advised by District Midwives, were interviewed just after their consultation with the Midwife. They were asked to repeat the nutritional advice they had been given by the midwife, and this was later assessed for its appropriateness with regard to the age of the child, its nutritional status and its present feeding regime as recorded on the Child Health record cards at that particular clinic by the midwife. The sample consisted of 4o mothers from the pilot areas and 40 from the non-pilot areas. They were chosen for convenience, the criteria for inclusion in the sample were simply that they attended the Child Welfare Clinics on the particular days on which it was convenient for the investigator to be present.

As indicated in (ii) above, application of nutritional knowledge was partly made by replies to certain questions in the questionnaire.

RESULTS

(1) ATTENDANCE BY STAFF AT TRAINING SESSIONS

Table I shows the 18 topics covered in the training sessions, and the numbers of district midwives and Community Health Aides who said they had covered each of the topics.

The mean number of topics covered by each person was 8.2 and ranged from 0 - 14. Some topics (General Nutrition, Family Planning) were covered by almost all persons in the sample and some (Layette and Clothing, Ethics) were not covered by anyone in the sample.

App 1

There was a marked difference in the number of topics covered between district midwives and Community Health Aides and also between pilot and non-pilot areas. Community Health Aides attended considerably more sessions than district midwives, and personnel in the pilot areas attended more sessions than those in the non-pilot areas.

TABLE I : NUMBER OF PERSONS ATTENDING TRAINING SESSIONS - HANOVER.

SESSIONS	NO. OF PERSONS ATTENDING				
	PILOT AREAS		NON-PILOT AREAS		TOTAL
	DISTRICT MIDWIVES n = 2	COMMUNITY HEALTH AIDES n = 4	DISTRICT MIDWIVES n = 2	COMMUNITY HEALTH AIDES n = 4	n = 12
Growth & Development	0	3	1	1	5
General Nutrition	2	4	1	4	11
Gastroenteritis	1	3	0	2	6
Interpersonal Relationships	2	3	1	2	8
Interviewing	2	3	1	0	6
Communication	2	4	1	1	8
Visual Aids	2	2	1	0	5
Diabetes & Hypertension	0	3	0	2	5
Medical Terms	0	1	0	0	1
Layette & Clothing	0	0	0	0	0
Child Care & Protection	1	2	1	3	7
Mental Retardation	0	1	0	0	1
Poisons and Accidents	0	1	0	3	4
Dental Health & Nutrition	0	3	0	2	5
Structure, Function & Care of the Breasts.	0	2	1	2	5
Family Planning	2	41	1	4	11
Ethics	0	0	0	0	0
Management	2	4	1	0	7
Mean (per person)	8.0	11.5	5.0	6.5	8.2

App I

TABLE III : LEVEL OF KNOWLEDGE OF VARIOUS TOPICS BY SAMPLE OF 12 DISTRICT MIDWIVES AND COMMUNITY HEALTH AIDES.

LEVEL OF KNOWLEDGE	TOPICS
(i) Most well known (75 - 100% completely correct answers)	Growth & Development of the young child, General Nutrition Interpersonal Realtionships Layette and Clothing Structure, function & Care of the Breasts Ethics
(ii) Moderate (50 - 74% completely correct answers)	Gastroenteritis Communication Diabetes & Hypertension Poisons and Accidents Dental Health and Nutrition.
(iii) Least well known (Less than 50% completely correct answers)	Interviewing Visual Aids Medical Term and their meanings Child Care and Protection Mental Retardation Family Planning Management

When asked why they had not attended curtain of the training sessions, the reply most commonly given was that, no notice about the sessions had been received. Table II.

(ii) QUESTIONNAIRES TO ESSESS KNOWLEDGE OF STAFF

The maximum number of correct answers it would have been possible to give on the questionnaire s was 135. In practice, persons in the sample gave from 67 - 109 correct replies, with a mean of 96. The District Midwives scored an average (slightly higher than the Community Health Aides, means 107, 90 respectively and there was slight difference between pilot and non-pilot areas.

App 1

TABLE II : REASONS GIVEN FOR NON-ATTENDANCE OR NON-PARTICIPATION AT TRAINING SESSIONS - HANOVER.

REASONS	NO.OF REPLIES
No notice received	11
On maternity leave	1
Transportation problem	1
Death in Family	1
On sick leave	1
TOTAL REPLIES	15

Table III shows the level of knowledge on the various topics by the staff who were interviewed in approximate order from most well-known to least well-known. There was no correlation between people's total scores and the number of topics they covered, nor between the number covering particular topics and their knowledge on that topic.

(iii) APPLICATION OF NUTRITIONAL KNOWLEDGE

As indicated earlier, one of the ways in which this was assessed was by replies to 3 questions on the questionnaire.

The questions were:-

(a) How would you treat a 6-month old child with Grade I malnutrition? (The accepted answer would be: give supplementary feeding which should include thick porridge, food from the family pot and adequate amount of milk - breast milk, cow's milk or skimmed milk powder).

(b) On a home visit, what advise would you give to the mother of a 5-month old child with Grade I malnutrition? The accepted answer would be: advise the mother to continue breast-feeding, feed thick porridge made with milk from a clean cup and spoon, and give fruit juice regularly.

(c) If onoone of your home visits, you found a child with Grade III malnutrition, what would you do? (Since personnel in Type I Health Centre are not equipped to handle severe cases of malnutrition it is expected that these would be referred to a Type II Health Centre, a Nurse Practitioner or a Hospital).

In reply to (a) concerning a 6-month old child with Grade I Malnutrition, 9 out of the 12 persons gave completely correct answers, and the rest gave partially correct answers (i.e. they said the child should get supplementary feeding, but did not state fully what this entailed). In reply to (b) concerning the 5-month old child with Grade I malnutrition there were also/fully correct replies and 3 partially correct replies (partially correct was a failure to state fully what was entailed in supplementary feeding). /9

The replies of the district midwives to these questions were slightly more correct (88% of replies) than those of the Community Health Aides (69% of the replies). There were consistent differences between personnel in pilot and non-pilot areas.

The question (c) about Grade III malnutrition was correctly answered by 2 of the 4 district midwives and by 3 of the 8 Community Health Aides.

The other way in which nutritional knowledge was applied was by the joint consideration of Child Health records and interviews with the mothers of children 0 - 24 months old who attend Child Welfare Clinics, regarding appropriateness of nutritional advise given. The age ranges of children whose mothers were interviewed are shown in table IV and table V shows their nutritional status on the clinic day on which the interviews were conducted. The appropriateness of advice given is summarised in table VI. Most of the time (82%) of the advice given was graded by the interviewer as "fair", it was judged to be "good" on 18% of the occasions and "poor" on 2% of the occasions. Advice was graded "good" more often in pilot areas than in non-pilot areas.

Assessment of the appropriateness of advice given by District Midwives was made very subjective because of the general tendency of midwives not to write enough information on the children's present feeding regime and the nutritional advice given to the mothers in the appropriate section on the Child Health record cards. In 67% of the cases no nutritional advice were recorded in pilot areas, and 60% in non-pilot areas Table VII

TABLE VI : APPROPRIATENESS OF NUTRITIONAL ADVICE GIVEN BY DISTRICT MIDWIVES TO MOTHERS OF CHILDREN 0 - 24 MONTHS OLD WHO ATTENDED CHILD WELFARE CLINICS - HANOVER.

AREA	APPROPRIATENESS OF ADVICE			
	GOOD(%)	FAIR(%)	POOR(%)	TOTAL
PILOT				
n = 40	28	72	0	100
NON-Pilot				
n = 40	7	90	3	100
TOTAL	18	81	2	100

Present feeding regime was not recorded on the cards 82% of the time in the pilot areas and 20% of the time in the non-pilot areas (See table VIII). In 17% of the cases in pilot areas and 35% of those in the non-pilot areas, mothers attending Child Welfare Clinics stated that they were not given any nutritional advice during consultation with the midwife. Table IX.

Table X shows the percentage of malnourished children who made changes in nutritional status between previous and present visit. In the pilot areas 37% of these children made some improvements in nutritional status, 50% neither improved nor deteriorated and 12% actually deteriorated. In the non-pilot areas, 71% of malnourished children made some degree of improvement, 12% remained static and 17% deteriorated.

A positive correlation was obtained between the number of advice graded "Fair" and "Poor" and the number of malnourished children in the sample.

DISCUSSION.

As we described in "methods" the check list of 24 topics which were offered during 1978 - 79 falsely contained 6 topics which had never been offered to check the reliability of the respondent's memory. With regards 5 of these respondents all replied they had not covered such topics. It is therefore concluded from these responses that the memories and replies of the persons in the sample were reliable. The sixth topic "First Aid"

App I

was, in retrospect, not a very good one as people may have said 'yes' to this, confusing it with the genuine topic "Poisons and Accidents", so replies to this question were not included in the analysis.

It appears that some workshops and in-service training sessions were poorly attended or even not attended at all by the sample due to failure to receive notices about the sessions. It may be useful to device a more reliable way of informing staff on time about forthcoming training sessions. The sample considered here is of course only small, but it appears that the affectiveness of training sessions may be reduced due to poor attendance. Yhaing

It is difficult to interpret the finding that the staff's knowledge was not correlated to their attendance at workshops. It is recognised that the knowledge the staff had could have been gained from a number of sources such as basic training, others in-service training, casual learning on-the-job reading, radio, newspaper or televison. However, one would have expected at least a general relationship between attendance and training sessions to have emerged. The reasons given for non-attendance were not selective in the sense that people chose to attend or not to attend on the basis of their perceived existing knowledge; this kind of selective attendance might have masked any expected relationship between attendance and knowledge, but such selection did not seem to have occurred.

There appears to be a need for further training in Ranover, especially in the topics listed in part III of table III viz interviewing, Visual Aids Medical Terms and their meanings, Mental Retardation, Family Planning and Management.

There is also need for considerable improvement in the nutritional advice given by midwives to mothers who attends Child Welfare Clinics as the results seen to indicate that the nutritional status of young children in any prescribed area is influenced by the nutritional advice given to the mothers. Forthis purpose it may be recommended that workshop could be arranged where midwives participated in practical demonstrations on interviewing and giving of appropriate nutritional advice. This should be extended to include Community Health Aides as they are required to give nutritional advice on their regular home visits.

It is also important that midwives recognize the importance of getting full details of the child's present feeding regime from mothers at each visit, writing this, as well as the advice given, as this not only serves the purpose of evaluation but more importantly as a guide to follow-up and monitoring the child's nutritional status on subsequent visits.

TABLE IV : AGE RANGE OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

AGE RANGE (MONTHS)	PILOT n = 40		NON-PILOT n = 40	
0 -4	7	17.5%	7	17.5%
5 - 6	7	17.5%	0	-
7 - 12	11	27.5	18	45 %
13 - 24	15	37.5%	15	37.5%

TABLE V : NUTRITIONAL STATUS OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

GOMEZ GRADE	PILOT n = 40		NON-PILOT n = 40	
/ N	2	5%	1	2.5%
N	29	72.5%	27	67.5%
I	9	22.5%	8	20 %
II	0	-	4	10 %
III	0	-	0	-

TABLE VIII : % OF CASES IN WHICH FEEDING REGIME WAS NOT RECORDED ON CHILD HEALTH RECORD CARDS BY DISTRICT MIDWIVES

AREA	F	%
Pilot n = 40	33	82.5
Non-Pilot n = 40	8	20

TABLE IX : % OF CASES WHERE MOTHER STATED NO ADVICE ON FEEDING WAS GIVEN

AREA	F	%
Pilot n = 40	7	17.5%
Non-Pilot n = 40	14	35

TABLE VII : % OF CASES WHERE NUTRITIONAL ADVICE WAS NOT RECORDED ON CHILD HEALTH RECORD CARDS BY DISTRICT MIDWIVES.

AREA	F	%
Pilot n = 40	27	67.5
Non-Pilot n = 40	24	60

TABLE X : % OF MALNOURISHED CHILDREN WHO MADE CHANGES IN NUTRITIONAL STATUS BETWEEN PREVIOUS AND PRESENT VISIT.

AREA	CHANGES IN NUTRITIONAL STATUS					
	IMPROVED		STATIC		DETERIORATED	
Pilot n = 16	6	37.5%	8	50%	2	12.5%
Non-Pilot n = 17	12	70.6%	2	11.8%	3	17.6%

Appendix I

EVALUATION OF THE EFFECTIVENESS OF THE PRIMARY HEALTH CARE PROGRAMME

PRELIMINARY REPORT

HANOVER, 1980

BY

B. MELVILLE

AIM - To determine the success of the Primary Health Care Programme in Hanover.

METHOD - By using Child Health, Ante-natal and Environmental Health Indicators, and a questionnaire to determine why certain basic Child Health and Maternal Health activities were not conducted regularly at the Health Centres.

THE SAMPLE - Clinic records of children born between 1st January 1977 and 31st August 1979, and clinic records of all pregnant women whose first visit was not earlier than 1st July 1978 and whose date of delivery was before 1st March 1980. 4 Community Health Aides, 4 Midwives and 3 Public Health Nurses were questioned

APP I

RESULTS:

TABLE I

AGE OF GESTATION AT FIRST VISIT.

HEALTH CENTRES	AGE OF GESTATION AT FIRST VISIT					
	0 - 16 Weeks		17 - 28 Weeks		29 - 40 Weeks	
	NO.	%	NO.	%	NO.	%
PILOT						
No. 15	8	14.3	41	73.2	7	12.5
No. 16	22	36.7	27	45.0	11	18.3
TOTAL	30	25.9	68	58.6	18	15.5
NON-PILOT						
No. 17	13	26.0	31	62.0	6	12.0
No. 18	4	12.5	23	71.9	5	15.6
TOTAL	17	20.7	54	65.9	11	13.4

TABLE II

NUMBER OF VISITS MADE BY PREGNANT WOMEN IN THE STUDY TO ANTENATAL CLINIC.

HEALTH CENTRES	NO. OF VISITS DURING PREGNANCY					
	1 - 2		3 - 4		5 or more	
	NO.	%	NO.	%	NO.	%
PILOT						
No. 15	14	25	24	42.9	18	32.1
No. 16	12	20	19	31.7	29	48.3
TOTAL	26	22.4	43	37.1	47	40.5
NON-PILOT						
No. 17	12	24	25	50	13	26
No. 18	15	46.9	11	34.4	6	18.7
TOTAL	27	32.9	36	43.9	19	23.2

TABLE III

PERCENTAGE OF PREGNANT WOMEN WHO HAVE HAD TEST FOR VDRL

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
No. 15	8	14.3
No. 16	7	11.7
TOTAL	15	12.9
NON-PILOT		
No. 17	27	54
No. 18	16	50
TOTAL	43	52.4

TABLE IV

PERCENTAGE OF PREGNANT WOMEN WHOSE VDRL WAS TAKEN BUT THE RESULT WAS NOT RETURNED TO THE HEALTH CENTRE.

HEALTH CENTRE	NO.	PERCENTAGE
PILOT		
No. 15	3	37.5
No. 16	0	
TOTAL	3	37.5
NON-PILOT		
No. 17	11	40.7
No. 18	6	37.5
TOTAL	17	39.5

TABLE V

PERCENTAGE OF PREGNANT WOMEN COMPLETELY IMMUNIZED AGAINST TETANUS

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
No. 15	34	60.7
No. 16	31	51.7
TOTAL	65	56.0
NON-PILOT		
No. 17	26	52.0
No. 18	14	43.7
TOTAL	40	48.9

TABLE VI

PERCENTAGE OF PREGNANT WOMEN WHO HAD URINE TEST AND HAEMOGLOBIN DONE AT FIRST VISIT.

HEALTH CENTRES	HB AT FIRST VISIT		URINE AT FIRST VISIT	
	NO.	%	NO.	%
PILOT				
No. 15	1	1.8	19	34
No. 16	2	3.3	17	28.3
TOTAL	3	2.6	36	31.0
NON-PILOT				
No. 17	6	12	24	
No. 18	7	21.9	2	
TOTAL	13	15.9	26	31.7

Appx

TABLE VII

NUTRITIONAL STATUS OF CHILDREN AT SIX MONTHS IN CORNWALL COUNTY BY WEIGHT FOR AGE

HEALTH CENTRES	> NORMAL		NORMAL		GRADE I		GRADE II		GRADE III	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
PILOT										
No. 15	3	8.3	25	69.4	8	22.2	0	0		
No. 16	5	10.0	38	76.0	6	12.0	1	2		
TOTAL	8	9.3	63	73.3	14	16.2	1	1.2		
NON-PILOT										
No. 17	3	7.3	27	65.9	9	22.0	1	2.4	1	2.4
No. 18	0	0	26	76.5	8	23.5	0	0	0	0
TOTAL	3	4	53	70.7	17	22.7	1	1.3	1	1.3

TABLE VIII

NUTRITIONAL STATUS OF CHILDREN AT ONE YEAR IN CORNWALL COUNTY BY WEIGHT FOR AGE

HEALTH CENTRE	NORMAL		NORMAL		GRADE I		GRADE II		GRADE III	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
PILOT										
No. 15	0		17	54.8	14	45,2	0	...	-	
No. 16	1	2.2	29	64.4	14	31.1	1	2.2		
TOTAL	1	1.3	46	60.6	28	36.8	1	1.3		
NON-PILOT										
No. 17			21	56.8	12	32.4	3	8.1	1	2.7
No. 18			22	64.7	11	32.3	1	2.9		
TOTAL			43	60.6	23	32.4	4	5.6	1	1.4

TABLE IX

PERCENTAGE OF BABIES IN THE STUDY GETTING B. C. G. WITHIN SIX MONTHS OF BIRTH

HEALTH CENTRES	NO. OF CHILDREN	PERCENTAGE
PILOT		
No. 15	15	44.1
No. 16	15	30.6
TOTAL	30	36.1
NON-PILOT		
No. 17	15	38.5
No. 18	24	70.5
TOTAL	39	53.4

TABLE X

PERCENTAGE OF BABIES IN THE STUDY GETTING FIRST D.P.T/POLIO WITHIN SIX MONTHS OF BIRTH

HEALTH CENTRES	D. P. T.		POLIO	
	NO.	%	NO.	%
PILOT				
No. 15	28	82.3	28	82.3
No. 16	42	85.7	42	85.7
TOTAL	70	84.3	70	84.3
NON-PILOT				
No. 17	30	76.9	30	76.9
No. 18	32	94.1	32	94.1
TOTAL	62	84.9	62	84.9

TABLE XI

PERCENTAGE OF CHILDREN IN THE STUDY WHO HAVE HAD AT LEAST 3 D.P.T./POLIO IMMUNIZATIONS BY 2 YEARS OF ~~BIRTH~~ age.

HEALTH CENTRES	D. P. T.		POLIO	
	NO.	%	NO.	%
PILOT				
No. 15	31	91.2	28	82.3
No. 16	43	87.8	44	89.8
TOTAL	74	89.2	72	86.7
NON-PILOT				
No. 17	35	89.7	35	89.7
No. 18	31	91.2	31	91.2
TOTAL	66	90.4	66	90.4

TABLE XII

PERCENTAGE OF CHILDREN IN THE STUDY WHO ATTENDED CHILD WELFARE CLINIC BEFORE SIX MONTHS OF AGE.

HEALTH CENTRES	NO.	PERCENTAGE OF CHILDREN
PILOT		
No. 15	34	100
No. 16	46	93.9
TOTAL	80	96.4
NON-PILOT		
No. 17	31	79.5
No. 18	32	94.1
TOTAL	63	86.3

TABLE XIII

PERCENTAGE OF CHILDREN IN THE STUDY WHO DID NOT ATTEND CHILD WELFARE CLINIC UNTIL AFTER SIX MONTHS OF AGE.

HEALTH CENTRES	NO.	PERCENTAGE OF CHILDREN
PILOT		
No. 15	0	
No. 16	3	3.6
TOTAL	3	3.6
NON-PILOT		
No. 17	8	20.5
No. 18	2	5.9
TOTAL	10	13.7

App I

Obstacles cited

~~REASONS GIVEN~~ BY PUBLIC HEALTH NURSES, DISTRICT MIDWIVES AND COMMUNITY HEALTH AIDES IN HANOVER ~~FOR NOT DOING~~ in carrying out VARIOUS CHILD HEALTH AND MATERNAL HEALTH ACTIVITIES AT THE TYPE I HEALTH CENTRES.

NO.	ACTIVITIES	~~REASONS~~ Obstacles	C.H.AS NO.	DMS NO.	P.H.NS NO.
1.	~~Failure to record~~ Recording weights of children and pregnant women at each visit	No Scale ~~It is usually done~~ None	3 1	3 1	2 1
2	(a) ~~Failure to test~~ Testing urine at all visits (b) ~~and take~~ Taking blood pressure	No materials for testing urine No specimen ~~It is usually taken~~ None	4 2	4 1 4	2 3 3
3	~~Failure to do VDRL~~ Taking blood samples for VDRL Taking blood samples for VDRL.	No place for storage No materials for taking blood samples Mother may make first visit late in pregnancy ~~It is usually done~~ None		3 3 0 1	0 3 1 0
4.	~~Failure to do Hb at~~ Hb exam at giving first visit (copper sulphate method)	No materials for doing Hb ~~It is not done at H/Centre~~	4	3 ~~4~~	2 ~~1~~
5	~~Failure to give~~ Giving B.C.G. if mother brings baby within 12 months of birth	Contraindications			3
6	~~Failure to give complete~~ Completion of DPT/Polio by 1 year assuming appropriate visits by mother and baby.	No DPT/Polio vaccine Contraindications No storage facilities P.H.N may not attend Child Welfare Clinic	1 4	1 2 1 1	1 3
	~~Failure to give complete Tetanus Toxoid~~ Completion of Tetanus Toxoid	No Tetanus Toxoid vaccine Mother make first visit late in pregnancy Mothers may not attend P.H.N. referral clinic	1 2	1 4 2	1 3

All Midwives said that they did not encounter any problems in taking accurate birth weight of babies.

PROBLEMS RELATED TO THE PRIMARY HEALTH CARE PROGRAMME

1. Shortage of drugs and materials for dressing
2. Shortage of scales
3. Problems with equipment.

App I

Appendix

COMMENTS:

From the results, it seems that there is no difference between the pilot and non-pilot districts in Hanover. Maybe more emphasis should be placed in developing pilot districts. It can also be argued that development of pilot districts started recently.
As a result one may not expect to see any significant difference between pilot and non-pilot districts presently.

Appil

EVALUATION OF IN-SERVICE TRAINING

PRELIMINARY REPORT - ST. JAMES 1980

BY : B. F. HANNA

PART I — ATTENDANCE AT TRAINING SESSIONS

AIM : To describe attendance at training sessions in St. James 1978 - 1979 by staff of Type I Health Centres and to find reasons for non-attendance.

METHODS : By interviewing a sample of District Midwives and Community Health Aides to see which sessions they attended.

SAMPLE : The District Midwife and two Community Health Aides in two pilot area Type I Health Centres and the District Midwife and two Community Health Aides in two other Type I Health Centres randomly chosen from Non-pilot areas in St. James. Thus a total of 12 persons were included in the sample.

RESULTS : TABLE I

NO. OF PERSONS ATTENDING TRAINING SESSIONS - ST. JAMES

	NO OF PERSONS ATTENDING				
	PILOT AREA		NON-PILOT AREA		
TRAINING SESSIONS	D/MIDWIFE n = 2	C.H.A.s n = 4	D/MIDWIFE n = 2	C.H.A.s n = 4	TOTAL
Growth & Development	1	3	0	1	5
General Nutrition	1	3	0	3	7
Gastroenteritis	1	3	0	2	6
Interpersonal Relationships	2	4	2	2	10
Interviewing	2	4	2	4	12
Communication	2	4	2	3	11
Visual Aids	1	4	0	3	8
Diabetes and Hypertension	0	2	0	1	3
Medical Terms	1	2	0	0	3
Layette and Clothing	1	2	0	0	3
Child Care & Protection	0	3	0	1	4
Mental Retardation	1	1	0	0	2
Poisons and Accidents	1	3	2	3	9
Dental Health & Nutrition	0	2	0	4	6
Structure, Care & Function of the Breasts.	0	3	0	1	4
Family Planning	2	4	1	4	11
Ethics	0	1	0	0	1
Management	2	2	1	0	5
Mean (per person)	9	12.5	5	8	9.2

It may be seen from the table that some sessions were very well attended (Interpersonal Relationships, Interviewing, Communication, Family Planning) by persons in the sample while others (Diabetes & Hypertension, Medical Terms & their Meanings, Layette & Clothing, Mental Retardation and Ethics) were poorly attended. The mean number of attendances was 9.2 per person out of a total of 18 sessions

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TABLE II

SUMMARY OF REASONS GIVEN FOR NON-ATTENDANCE AT WORKSHOPS AND IN-SERVICE TRAINING SESSIONS - ST. JAMES

REASONS FOR NON-ATTENDANCE	NUMBER	%
No Notice Received	10	58.8
Lateness of notices	1	5.9
Sessions held before employment	1	5.9
Industrial Action	1	5.9
Postponement of sessions without notice	1	5.9
On Vacation	1	5.9
June Floods	1	5.9
Non-payment of travelling allowance	1	5.9
TOTAL	17	100.1

The main reason given for non-attendance was that notices were not received (10 out of 17 replies). It would appear that better notification procedures need to be put in effect so that training sessions may be better attended.

PART II — ASSESSMENT OF KNOWLEDGE OF STAFF

AIM — To assess knowledge of Type I Health Centre Staff on topics covered by Training Sessions in St. James 1978 - 1979.

METHODS — By Questionnaires covering the 18 topics of the Training Sessions, 86 questions with 135 possible correct answers.

SAMPLE — 12 District Midwives and Community Health Aides as described in Part I

RESULTS — TABLE III

AVERAGE SCORES FOR DMs AND CHAs ON QUESTIONNAIRES - ST. JAMES

AREA	HEALTH CENTRE	D M		CHA	
PILOT	7	106	78.5%	95	70.4%
	10	110	81.5%	93.5	69.3%
NON-PILOT	8	94	69.6%	102	75.6%
	9	101	74.8%	104.5	77.4%

The persons in the sample gave 87 - 110 correct replies out of 135 with a mean of 100. Expressed as a percentage - 64.4% - 81.5% - mean 74.1%. Midwives scored on average, only slightly higher than Community Health Aides. (means 103, 99 respectively). There was no significant difference in average scores between pilot and non-pilot areas. Community Health Aides in the Non-pilot area had a higher average score than their District Midwife counterparts.

TABLE IV

72

DISTRICT MIDWIVES AND COMMUNITY [illegible] LEVEL OF KNOWLEDGE IN VARIOUS TOPIC - ST. JAMES.

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LEVEL OF KNOWLEDGE	TOPICS
(i) Most well-known (75 - 100% completely correct answers).	General Nutrition Gastroenteritis Diabetes and Hypertension Layette and Clothing Child Care and Protection Structure and Care of the Breasts Ethics
(ii) Moderate (50 - 74% completely correct answers)	Growth and Development of the young child Interpersonal Relationship Communication Visual Aids Medical Terms and their Meanings Dental Health and Nutrition Family Planning
(iii) Least well-known (Less than 50% completely correct answers)	Interviewing Mental Retardation Poisons and ACcidents Management

Table IV shows the levels of knowledge of various topics in approximate order from topics most well-known to least well-known.

There was no correlation between total scores of persons in the sample and the number of topics covered at the workshops or training sessions they attended. Neither was there any correlation between the number covering particular topics and their knowledge on that topic.

COMMENTS

It may be useful to have further training sessions on those topics listed in part III of table IV which were least well-known.

The lack of correlation between level of knowledge and the number of topics covered at workshops and training sessions tend to indicate that the staff's knowledge has been derived from many possible sources such as basic training, experience, books, radio, TV etc, and that the influence of the training sessions is not very obvious.

PART III APPLICATION OF NUTRITIONAL KNOWLEDGE

AIM : To assess the skills of staff at Type I Health Centres in applying nutritional knowledge.

METHODS : (a) Three questions on the questionnaires described in Part II concerned the application of nutritional knowledge. Staff replies to these questions were assessed seperately.

(b) Interviews with mothers of children 0 - 24 months of age who attend Child Welfare Clinics were used. After consultation with the midwife, the mothers were interviewed to find out what nutritional advice had been given. The information given by mothers as well as the advice written on the Child Welfare Record Cards were compared and judged for their appropriateness with regards to the age of the child, its present feeding regime and its nutritional status as they appeared on the card filled in by the Community Health Aides and Midwife.

THE SAMPLE: 12 persons as described in parts I & II

40 Mothers/children attending Child Welfare Clinic in Pilot areas and 40 Mothers/children attending Child Welfare Clinics in non-pilot areas. The mothers/children chosen were those who happened to attend on the days chosen by the investigator for his visit according to his own convenience and the monthly schedule of clinics.

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RESULTS (i) One of the questions by which application of nutritional knowledge was assessed was " How would you treat a 6-month old child with Grade I malnutrition?" A partially correct answer would be - to give supplementary feeding - and a fully correct answer would be - to describe in addition that appropriate supplementary feeding would be thick porridge, food from the family pot and an adequate amount of breast milk, cow's milk or skimmed milk powder. All 12 persons gave at least a partially correct answer but only 7 gave fully correct answers.

Another question was, " On a home visit, what advice would you give to the mother of a 5-month old child with Grade I malnutrition?" A partially correct answer would be - to give supplementary feeding - a fully correct answer would be - to describe this as - continued breast feeding, thick porridge with milk and fed from a cup and spoon and fruit juice regularly. All 12 persons gave replies that were at least partially correct and again 7 gave fully correct replies.

Considering the two above questions togather, there were consistent differences between persons in pilot and non-pilot areas. (57% to 43% respectively) Midwives gave fully correct replies more often (75%) than the Community Health Aides (50%). In view of the smallness of the sample these results may not be very reliable.

The third question was " If on one of your home visits, you found a child with Grade III malnutrition, what would you do?" The correct reply (refer to a Type III Health Centre, Nurse Practitioner, Doctor or Hospital) was given by all 4 District Midwives and only 2 of the 8 Community Health Aides

(ii) The results refer to nutritional advice as remembered by mothers, judged in relation to age, grade of malnutrition and present feeding regime of the children. The age ranges of children whose mothers were interviewed are shown in Table V

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App II

TABLE V

AGE RANGE OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

AGE RANGE (MTHS)	PILOT N = 40		NON-PILOT N = 40	
0 - 4	15	37.5%	5	12.5%
5 - 6	10	25%	11	27.5%
7 - 12	10	25%	16	40.0%
13 - 24	5	12.5%	8	20%

TABLE VI.

NUTRITIONAL STATUS OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

GOMEZ GRADE	PILOT N = 40		NON-PILOT N = 40	
N	2	5%	4	10%
N	31	77.5%	24	60%
I	7	17.5%	11	27.5%
II	0	-	1	2.5%
III	0	-	0	-

The appropriateness of advice given is summarized in Table VII

TABLE VII

APPROPRIATENESS OF NUTRITIONAL ADVICE GIVEN BY DISTRICT MIDWIVES TO MOTHERS OF CHILDREN 0TO 24 MONTHS OLD WHO ATTEND CHILD WELFARE CLINICS IN ST. JAMES.

AREA	APPROPRIATENESS OF ADVICE			TOTAL
	GOOD %	FAIR %	POOR %	TOTAL
PILOT n = 40	25	62.5	12.5	100
NON-PILOT n = 40	17.5	77.5	5	100
TOTAL	21.25	70	8.75	100

Most of the time (70%) the advice given was graded by the interviewer as "Fair". They were to be "good" on 21 % of the occasions and "poor" on 9 of the occasions. Advice was graded good" more oftern in pilot areas than in non-pilot areas.

Assessment of the appropriateness of advice given by Midwives was at times quite subjective because of the tendency of some midwives not to write enough information such as the children's present feeding regime and the nutritional advice given to mothers in the appropriate sections on the Child Health Cards.

TABLE VIII

% OF CASES IN WHICH FEEDING REGIME WAS NOT RECORDED ON CHILD HEALTH RECORD CARDS BY DISTRICT MIDWIVES.

AREA	f	%
Pilot n = 40	3	7.5%
Non-pilot	10	25.0%

In 7.5% and 25% of the cases present feeding regime was not recorded by the Midwife in Pilot and Non-pilot Health Centres respective. This is not as pronounced in St. James as in the other parishes.

TABLE IX

% OF CASES WHERE NUTRITIONAL ADVICE WAS NOT RECORDED ON CHILD HEALTH RECORD CARDS BY DISTRICT MIDWIFE.

AREA	f	%
Pilot N = 40	3	7.5
Non-pilot N = 40	11	27.5

In 7.5% and 27.5% of the cases nutritional advice was not recorded on the Child Health Record Cards by midwives in Pilot and Non-pilot areas respectively. This is also not as pronounced in St. James as in other parishes. It would appear that sometimes no nutritional advice is given to mothers as Table X indicates.

TABLE X

% OF CASES WHERE MOTHER STATED NO ADVICE ON FEEDING WAS GIVEN.

AREA	f	%
PILOT n = 40	5	12.5%
Non-pilot n = 40	4	10%

In 12.5% and 10% of the cases mothers stated that no advice on Feeding her baby was given by the midwife on the day she attended Clinic. Table XI shows the percentage of malnourished children who made changes in nutritional status between previous and present visit.

TABLE XI

% OF MALNOURISHED CHILDREN WHO MADE CHANGES IN NUTRITIONAL STATUS BETWEEN PREVIOUS AND PRESENT VISIT

AREA	CHANGES IN NUTRITIONAL STATUS					
	IMPROVED		STATIC		DETERIORATED	
PILOT n = 6	4	66.7%	2	33.3%	0	-
Non-pilot n = 16	4	25%	9	56.3%	3	18.8%

In the pilot area of the 6 malnourished children 4 made some improvement while 2 remained unchanged. Of the 16 malnourished children in the non-pilot areas 4 improved, 9 made no change and 3 actually deteriorated.

COMMENTS

Nutritional knowledge of all staff as assessed by these methods is considered quite fair. However, in view of its importance, staff should be given the opportunity to revise and refresh their knowledge on this topic. In particular, a large proportion of the sample were under the impression that children with Grade III could be helped by advice and food demonstrations or by staff at Type I Health Centres and this misconception should be corrected.

Much improvement is indicated in the area of application of nutritional knowledge by staff, if the nutritional status of children in the parish is

to be further improved. There is a need for training of midwives on a more practical basis on interviewing and giving of appropriate nutritional advice For this purpose it may be recommended that workshops be arranged where they participate in practical demonstrations on interviewing and giving of appropriate nutritional advice. This should be extended to include Community Health Aides since they are required to give nutritional advice on their regular home visits.

Midwives also need to recognize the importance of getting full details on the Child's present feeding regime from the mothers at each visit, writing this as well as, the advice given, on the Child Health Cards. This not only serves the purpose of evaluation but more importantly as a guide to follow up and monitoring the child's nutritional status on subsequent vosits.

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Appendix II

EVALUATION OF THE EFFECTIVENESS OF THE PRIMARY HEALTH CARE PROGRAMME

PRELIMINARY REPORT

ST. JAMES, 1980.

B. MELVILLE.

AIM : To determine the success of the Primary Health Care Programme in St. James.

METHOD : By using Child Health, Ante-natal and Environmental Health Indicators, and a questionnaire to determine why certain basic Child Health and Maternal Health Activities were not conducted regularly at the Health Centres.

THE SAMPLE : Clinic records of children born 1st January 1977 and 31st 1979, and clinic records of all pregnant women whose first visit was not earlier than 1st July and whose date of delivery was before 1st March 1980. A 4 Community health Aides and 4 Midwives were questioned.

Appx II

TABLE I

AGE OF GESTATION AT FIRST VISIT

HEALTH CENTRE	AGE OF GESTATION AT FIRST VISIT					
	0 -16 Weeks		17 - 28 Weeks		29 - 40 Week	
	NO.	%	NO.	%	NO.	%
PILOT						
Mt. Carey	13	18.1	45	62.5	14	19.4
Bickersteth	12	19.0	41	65.1	10	15.9
TOTAL	25	18.5	86	63.7	24	17.8
NON-PILOT						
Flanker	14	18.2	55	71.4	8	10.4
Tower Hill	11	20.4	38	70.4	5	9.3
TOTAL	25	19.1	93	71.0	13	9.9

TABLE II

NUMBER OF VISIT MADE BY PREGNANT WOMEN IN THE STUDY TO ANTE-NATAL CLINIC

HEALTH CENTRES	NO. OF VISITS DURING PREGNANCY					
	1 - 2		3 - 4		5 or More	
	NO.	%	NO.	%	NO.	%
PILOT						
Mt. Carey	12	16.7	19	26.4	41	57.0
Bickersteth	18	28.6	22	34.9	23	36.5
TOTAL	30	22.2	41	30.4	64	47.4
NON-PILOT						
Flanker	26	33.8	30	39.0	21	27.3
Tower Hill	16	29.6	20	37.0	18	33.3
TOTAL	42	32.1	50	38.2	39	29.8

TABLE III

PERCENTAGE OF PREGNANT WOMEN WHO HAVE HAD TEST FOR VDRL

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
MT. Carey	71	98.6
Bickersteth	55	87.3
TOTAL	126	93.3
NON-PILOT		
Flanker	74	96.1
Tower Hill	47	87.0
TOTAL	121	92.4

App II

TABLE IV

PERCENTAGE OF PREGNANT WOMEN WHOSE VDRL WAS TAKEN BUT THE RESULT WAS NOT RETURNED TO THE HEALTH CENTRE.

HEALTH CENTRE	NO.	PERCENTAGE
PILOT		
Mt. Carey	6	8.5
Bickersteth	18	32.7
TOTAL	24	19.0
NON-PILOT		
Flanker	26	35.1
Tower Hill	11	23.4
TOTAL	37	30.6

TABLE V

PERCENTAGE OF PREGNANT WOMEN COMPLETELY IMMUNIZED AGAINST TETANUS

HEALTH CENTRE	NO.	PERCENTAGE
PILOT		
Mt. Carey	49	68.1
Bickersteth	31	49.2
TOTAL	80	59.3
NON-PILOT		
Flanker	54	70.1
Tower Hill	25	46.3
TOTAL	79	60.3

TABLE VI

PERCENTAGE OF PREGNANT WOMEN WHO HAD URINE TEST AND HAEMOGLOBIN DONE AT FIRST VISIT.

HEALTH CENTRES	HB AT FIRST VISIT		URINE AT FIRST VISIT	
	NO.	%	NO.	%
PILOT				
Mt. Carey	60	83.3	63	87.5
Bickersteth	13	19.0	50	79.4
TOTAL	73	54.1	113	83.7
NON-PILOT				
Flanker	20	26.0	72	93.5
Tower Hill	26	48.1	42	77.8
TOTAL	46	35.1	114	87.0

App II

TABLE VII

PERCENTAGE OF PREGNANT WOMEN WHOSE WEIGHTS WERE TAKEN AT ALL VISITS

HEALTH CENTRES	WEIGHTS AT ALL VISITS	
PILOT	NO.	%
MT. Carey	60	83.3
Bickersteth	2	3.2
TOTAL	62	46.0
NON-PILOT		
Flanker	53	68.8
Tower Hill	52	96.3
TOTAL	105	80.2

TABLE VIII

NUTRITIONAL STATUS OF CHILDREN AT SIX MONTH IN CORNWALL COUNTY BY WEIGHT FOR AGE

HEALTH CENTRES	NORMAL		NORMAL		GRADE I		GRADE II	
	NO.	%	NO	%	NO.	%	N.	%
Mt. Carey			22	75.9	7	24.1	0	0
Bickersteth			14	73.7	4	21.0	1	5.3
TOTAL			36	75.0	11	22.9	1	2.1
NON-PILOT								
Flanker	1	3.4	19	65.5	8	27.6	1	3.4
Tower Hill	1	4.3	16	69.6	5	21.7	1	4.3
TOTAL	2	3.8	35	67.3	13	25.0	2	3.8

TABLE IX

NUTRITIONAL STATUS OF CHILDREN AT ONE YEAR IN CORNWALL COUNTY BY WEIGHT FOR AGE

HEALTH CENTRES	NORMAL		NORMAL		GRADE I		GRADE II		GRADE III	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
PILOT										
Mt. Carey			15	65.2	8	34.8	0	0		
Bickersteth			12	66.7	5	27.8	1	5.5		
TOTAL			27	65.8	13	31.7	1	2.4		
NON-PILOT										
Flanker			12	57.1	6	28.6	2	9.5	1	4.8
Tower Hill c			12	60.0	6	30.0	1	5	1	5
TOTAL			24	58.5	12	29.3	3	7.3	2	4.9

31

Appt 4

TABLE X

PERCENTAGE OF BABIES IN THE STUDY GETTING B.C.G. WITHIN SIX MONTHS OF BIRTH.

HEALTH CENTRES	NO. OF CHILDREN	PERCENTAGE
PILOT		
Mt. Carey	13	44.8
Bickersteth	6	30.0
TOTAL	19	38.8
NON-PILOT		
Flanker	12	40.0
Tower Hill	14	58.3
TOTAL	26	48.1

TABLE XI

PERCENTAGE OF BABIES IN THE STUDY GETTING FIRST D.P.T./POLIO WITHIN SIX MONTHS OF BIRTH.

HEALTH CENTRES	D. P. T.		POLIO	
	NO.	%	NO.	%
PILOT				
Mt. Carey	27	93.1	27	93.1
Bickersteth	19	95.0	19	95.0
TOTAL	46	93.9	46	93.9
NON-PILOT				
Flanker	28	93.3	28	93.3
Tower Hill	23	95.8	23	95.8
TOTAL	51	94.4	51	94.4

TABLE XII

PERCENTAGE OF CHILDREN IN THE STUDY WHO HAVE HAD AT LEAST 3 D.P.T./POLIO IMMUNIZATIONS BY 2 YEARS OF BIRTH.

HEALTH CENTRES	D.P.T.		POLIO	
	NO.	%	NO.	%
PILOT				
Mt. Carey	26	89.7	26	89.7
Bickersteth	15	75.0	15	75.0
TOTAL	41	83.6	41	83.6
NON-PILOT				
Flanker	23	79.3	23	79.3
Tower Hill	21	87.5	21	87.5
TOTAL	44	83.0	44	83.0

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TABLE XIII

PERCENTAGE OF CHILDREN IN THE STUDY WHO ATTENDED CHILD WELFARE CLINIC BEFORE SIX MONTHS OF AGE.

HEALTH CENTRE	NO.	PERCENTAGE OF CHILDREN
PILOT		
Mt. Carey	27	93.1
Bickersteth	18	90.0
TOTAL	45	91.8
NON-PILOT		
Flanker	27	90.0
Tower Hill	21	87.5
TOTAL	48	88.9

TABLE XIV

PERCENTAGE OF CHILDREN IN THE STUDY WHO DID NOT ATTEND CHILD WELFARE CLINIC UNTIL AFTER SIX MONTHS OF AGE.

HEALTH CENTRE	NO.	PERCENTAGE OF CHILDREN
PILOT		
Mt. Carey	2	6.9
Bickersteth	2	10.0
TOTAL	4	8.2
NON-PILOT		
Flanker	3	10.0
Tower Hill	3	12.5
TOTAL	6	11.1

(PTO for next table)

NUMBER OF SCALES AT EACH HEALTH CENTRE (ST. JAMES)

HEALTH CENTRES	SCALE FOR WEIGHING CHILDREN UP TO 30 LBS.	SCALE FOR WEIGHING CHILDREN 30 LBS AND PREGNANT WOMEN
PILOT		
Mt. Carey	1	1
Bickersteth	1	0
NON-PILOT		
Tower Hill	1	1
Flanker	1	1

COMMENTS

From the results, it seems that there is no difference between the pilot and non-pilot districts in St. James. Maybe more emphasis should be placed in developing pilot districts. It can also be argued that development of pilot district started recently. As a result one may not expect to see any significant difference between pilot and non-pilot districts presently.

OBSTACLES CITED BY COMMUNITY HEALTH AIDES AND DISTRICT MIDWIVES IN CARRYING OUT CERTAIN MATERNAL AND CHILD HEALTH ACTIVITIES AT THE TYPE I HEALTH CENTRES (ST. JAMES).

	ACTIVITIES	OBSTACLES	C.H.A.s	D/MIDWIVES
			NO.	NO.
1.	Recording weights of children & pregnant women at each visit	1. No scale	2	1
		2. Mother & child may come to Clinic late.	0	1
		3. Problems with children during weighing.	1	1
		4. None	1	1
2. (a)	Testing urine at all visits	No specimen	4	3
		No materials for testing urine	2	3
		None	0	0
(b)	Taking blood pressure	None	4	4
3. (a)	Taking VDRL	No materials		1
		None		3
(b)	Returning results to Health Centre	None		4
4.	Hb examination at first visit (Copper Sulphate method)	No materials for testing		2
		None		2
5.	B.C.G. immunization if mother brings baby within two months of birth.			
6.	Completion of D.P.T./Polio by 1 year assuming appropriate visits by mother and baby	Contraindications	4	3
		No D.P.T./Polio vaccine	2	2
		None	0	0
7.	Completion of Tetanus Toxoid immunization during pregnancy	Mother make make first visit		3
		Irregular attendance by mother		1
		Mother may not attend P.H.N referral clinic		1
		None		0

App III

EVALUATION OF IN-SERVICE TRAINING

PRELIMINARY REPORT - WESTMORELAND 1980.

- BY B. F. HANNA.

PART I ATTENDANCE AT TRAINING SESSIONS

AIM To describe attendance at Training Sessions in Westmoreland 1978-1979 by staff of Type I Health Centres and to find reasons for non-attendance.

METHODS By interviewing a sample of District Midwives (DM) and Community Health Aides (CHAs) to see which sessions they attended.

SAMPLE The District Midwife and 2 Community Health Aides in 2 Pilot area Type I Health Centres and the DM and 2 CHAs in 2 other Type I Health Centres randomly chosen from non-pilot areas, in Westmoreland. Thus a total of 12 persons were included in the sample.

RESULTS Table I shows that some sessions (Communication, Family Planning) were well attended, while others (Gastroenteritis, Visual Aids, Dental Health and Nutrition, Layette and Clothing, Structure and Care of the Breasts) were poorly attended. Still others (Medical Terms, Mental Retardation and Ethics) were not attended by anyone in the sample. The mean no. of attendances was 6.4 per person out of a total of 18 sessions.

The main reason given for non-attendance was that no notice was received (11 out of 14 replies). It would appear that better notification procedures need to be put into effect so that training sessions may be better attended.

(PTO for table I)

TABLE II REASONS GIVEN FOR NON-ATTENDANCE AT TRAINING SESSIONS - WESTMORELAND

REASONS GIVEN	NO.	%
No notice received	11	78.6
Lateness of notices	1	7.1
Seminars not held due to June Floods	1	7.1
Sessions held before employment	1	7.1
TOTAL	14	99.9

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TABLE I NUMBER OF PERSONS ATTENDING TRAINING SESSIONS - WESTMORELAND

SESSIONS	NUMBER OF PERSONS ATTENDING				TOTAL
	PILOT AREAS		NON-PILOT AREAS		
	D/MIDWIVES n = 2	COMMUNITY HEALTH AIDES n = 4	D/MIDWIVES n = 2	COMMUNITY HEALTH AIDES n = 4	n = 12
Growth & Development	1	2	1	4	8
General Nutrition	1	3	1	3	8
Gastroenteritis	0	1	0	0	1
Interpersonal Relationships	2	2	1	2	7
Interviewing	2	1	2	3	8
Communication	2	4	2	3	11
Visual Aids	0	0	0	1	1
Diabetes and Hypertension	0	2	0	1	3
Medical Terms	0	0	0	0	0
Layette and Clothing	0	2	0	0	2
Child Care and Protection	0	2	0	1	3
Mental Retardation	0	0	0	0	0
Poisons and Accidents	0	3	0	3	6
Dental Health & Nutrition	0	1	0	0	1
Structure, Function & Care of the Breasts	0	2	0	0	2
Family Planning	2	4	2	4	12
Ethics	0	0	0	0	0
Management	2	0	2	0	4
MEAN (per person)	6.0	7.3	5.5	6.3	6.4

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PART II ASSESSMENT OF KNOWLEDGE OF STAFF - WESTMORELAND

AIM To assess knowledge of Type I Health Centre staff on topics covered by Training Sessions in Westmoreland 1978 - 1979.

METHODS By questionnaires covering the 18 topics of the Training Sessions containing 86 questions with 135 possible correct answers.

SAMPLE 12 District Midwives and Community Health Aides sd described in Part I.

RESULTS

TABLE III AVERAGE SCORES OF DMs AND CHAs ON QUESTIONNAIRES - WESTMORELAND.

AREA	HEALTH CENTRE	DM		CHA	
PILOT	B.M.	108	80%	91	67.4%
	G.P.	100	74.1%	80	59.3%
NON-PILOT	D.	109	80.7%	91.5	67.8%
	D.S.	109	80.7%	82	60.7%

The persons in the sample gave from 74 - 109 correct replies out of 135 with a mean of 93. Expressed as a percentage - 54.8% - 80.7% - mean 68.9%. Midwives scored on average much higher than Community Health Aides (means 107,86 respectively). There was very little difference in average scores between pilot and non-pilot areas.

TABLE IV LEVEL OF KNOWLEDGE OF VARIOUS TOPICS BY 12 MIDWIVES & CHAs - WESTMORELAND.

LEVEL OF KNOWLEDGE	TOPICS
(1) Most well-known (75-100% completely correct answers)	Growth & Development General Nutrition Layette & Clothing Structure, Function & Care of the Breast Ethics
(2) Moderate (50 - 74% completely correct answers).	Gastroenteritis Interpersonal Relationships Communication Visual Aides Diabetes & Hypertension Poisons and Accidents Dental Health & Nutrition
(3) Least well-known (less than 50% completely correct answers).	Interviewing Medical Terms and their meanings Child Care and Protection Mental Retardation Family Planning Management

Table Iv shows the levels of knowledge of various topics in approximate order from topics most well-known to least well-known.

There was no correlation between total scores of persons in the sample and the number of topics covered at the workshops ot training sessions they attended. Neither was there any correlation between the number covering particular topics

App III

and their knowledge on that topic.

COMMENTS

It may be useful to have further training sessions on those topics listed in Part III of Table IV which were least well-known.

The lack of correlation between level of knowledge and the number of topics covered at workshops and training sessions, tend to indicate that the staff's knowledge has been derived from many possible sources such as basic training, experience, books, radio, T.V. etc, and that the influence of the training sessions is not very obvious.

App III

PART III APPLICATION OF NUTRITIONAL KNOWLEDGE - WESTERNLAND

AIM To assess the skills of Staff at Type I Health Centres in applying nutritional knowledge.

METHODS (a) Three questions on the questionnaire described in Part II concerned application of nutritional knowledge. Staff replies to these questions were assessed seperately.

(b) Interviews with mothers of children 0 - 24 months of age who attended Child Welfare Clinics were used. After consultation with the Midwife, the mothers were interviewed to find out what nutritional advice had been given. The information given by mothers as well as the advice written on the Child Welfare Record cards were compared and judged for their appropriateness with regards to the age of the child, its present feeding regime and its nutritional status as they appeared on the card filled in by the Community Health Aides and Midwife.

THE SAMPLE 12 persons as described in parts I and II.

40 Mothers/children attending Child Welfare Clinic in pilot areas and 40 mothers/children attending Child Welfare Clinics in non-pilot areas. The mothers/children chosen were those who happened to attend on the days chosen by the investigator for his visit according to his own convenience and the monthly schedule of clinics.

RESULTS (1) One of the questions by which application of nutritional knowledge was assessed was "How would you treat a 6-month old child with Grade I malnutrition?" A partially correct answer would be - to give supplementary feeding - and a fully correct answere would be - to describe in addition, that appropriate supplementary feeding would be thick porridge, fed from the family pot, and an adequate amount of breast milk, cow's milk or skimmed milk powder. All 12 persons gave partially correct answers but only 7 gave fully correct answers.

Another question was, "On a home visit, what advice would you give to the mother of a 5-month old child with Grade I malnutrition?" A partially correct answer would be - To give supplementary feeding. A fully correct answer would be to describe this as - Continued breast feeding, thick porridge made with milk and fed from cup and spoon and fruit juice regularly. All 12 persons gave partially correct answers and again 7 gave fully correct replies.

Considering the two above questions together, there were no differences between persons in pilot and non-pilot areas.

Midwives gave fully correct replies more often (100%) than the Community Health Aides (30%) of the replies.

The third question was "If on one of your home visits, you found a child with Grade III malnutrition, what would you do?" The correct answer (refer to a Type III Health Centre, Nurse Practitioner, Doctor or Hospital) was given by all

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App III

District Midwives and only 3 of the Community Health Aides.

(ii) These results refer to nutritional advice as remembered by mothers judged in relation to age, grade of malnutrition and present feeding regime of the children. The age ranges of children whose mothers were interviewed are shown in Table V.

TABLE V AGE RANGE OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

AGE RANGE (MTHS)	PILOT n=40		NON-PILOT n = 40	
0 -4	4	10%	5	12.5%
5 - 6	5	12.5%	7	17.5%
7 - 12	14	35%	16	40%
13 - 24	17	42.5%	12	30%

Table VI shows their nutritional status on the Clinic day on which the interviews were conducted.

TABLE VI NUTRITIONAL STATUS OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

GOMEZ GRADE	PILOT n = 40		NON-PILOT n = 40	
>N	1	2.5%	1	2.5%
N	26	65%	23	57.5%
I	11	27.5%	11	27.5%
II	2	5%	4	10%
III	0	-	1	2.5%

The appropriateness of advice given is summarised in Table VII.

TABLE VII APPROPRIATENESS OF NUTRITIONAL ADVICE GIVEN BY DISTRICT MIDWIVES TO MOTHERS OF CHILDREN -0 - 24 MONTH OLD WHO ATTEND CHILD WELFARE CLINICS IN WESTMORELAND.

AREA	APPROPRIATENESS OF ADVICE			TOTAL
	GOOD%	FAIR %	POOR %	
PILOT n = 40	20	80	0	100
NON-PILOT n = 40	10	87	3	100
TOTAL	15	84	1.5	100

Most of the times (84%) the advice given was graded by the interviewer as "Fair". They were judged to be "good" on 15% of the occasions and "poor" on 1.5% of the occasions. Advice was graded "good" more often in the pilot areas than in the non-pilot areas.

Assessment of the appropriateness of advice given by midwives was at times quite subjective because of the tendency of some midwives not to write enough information

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App 14

TABLE XI

% OF MALNOURISHED CHILDREN WHO MADE CHANGES IN NUTRITIONAL STATUS BETWEEN PREVIOUS AND PRESENT VISIT.

AREA	CHANGES INN NUTRITIONAL STATUS					
	IMPROVED		STATIC		DETERIORATED	
PILOT n = 16	5	31%	7	44%	4	25%
Non-PILOT n = 20	6	30%	4	20%	10	50%

In the pilot area of the 16 malnourished children, 5 made some improvement, while 7 remained unchanged and 4 deteriorated. Of the 20 malnourished children in the non-pilot areas, 6 improved, 4 made no change and 10 actually deteriorated.

COMMENTS

Nutritional knowledge of all staff as assessed by these methods is considered quite fair. However, in view of its importance, staff should be given the opportunity to revise and refresh their knowledge on this topic. In particular, a large proportion of the sample were under the impression that children with Grade III malnutrition could be helped by advice and food demonstrations or by staff at Type I Health Centres and this misconception should be corrected. Much improvement is indicated in the area of application of nutritional knowledge by staff, if the nutritional status of children in the parish is to be further improved. There is need for training of midwives on a more practical basis on interviewing and giving appropriate nutritional advice. For this purpose it may be recommended that workshops be arranged where they participate in practical demonstrations on interviewing and giving of appropriate nutritional advice. This hsould be extended to include Community Health Aides since they are required to give nutritional advice on their regular home visits.

Midwives also need to recognize the importance of getting full details on the Child's present feeding regime from the Mothers at each visit, writing this, as well as, the the advice given on the Child Health Card. This not only serves the purpose of evaluation but more importantly as a guide to follow up and monitoring the child's nutritional status on subsequent visits.

Appendix III

EVALUATION OF THE EFFECTIVENESS OF THE PRIMARY HEALTH CARE PROGRAMME

PRELIMINARY REPORT

WESTMORELAND, 1980

B. MELVILLE.

AIM : To determine the sucess of the Primary Health Care Programme in Westmoreland.

METHOD : By using Child Health , Ante-Natal and Environmental Health Indicators, and a questionnaire to determine why certain basic Child Health and Maternal Health Activities were not conducted at the Health Centres.

THE SAMPLE : Clinic Records of children born 1st January 1977 and 31st 1979, and clinic records of all pregnant women whose first visit was not earlier than 1st July and whose date of delivery was before 1st March 1980. 6 Community Health Aides and 6 District Midwives were questioned.

Ann III

TABLE I AGE OF GESTATION

HEALTH CENTRES	AGE OF GESTATION AT FIRST VISIT					
	0 - 16 Weeks		17 - 28 Weeks		29 - 40 Weeks	
	NO.	%	NO.	%	NO.	%
PILOT						
Bath Mountain	3	12.0	11	44	11	44
Town Head	7	17.9	30	76.9	2	5.1
Georges Plain	21	29.2	37	51.4	14	19.4
TOTAL	31	22.8	78	57.4	27	19.8
NON-PILOT						
Beeston Spring	4	5.4	51	68.9	19	25.7
Belmont	7	8.3	61	72.6	16	19.0
Cornwall Mountain	10	15.2	47	71.2	9	13.6
TOTAL	21	9.4	159	71.0	44	19.6

TABLE II NUMBER OF VISIT MADE BY PREGNANT WOMEN IN THE STUDY TO ANTE-NATAL CLINIC.

HEALTH CENTRES	NO. OF VISITS DURING PREGNANCY					
	1 - 2		3 - 4		5 or more	
	NO.	%	NO.	%	NO.	%
PILOT						
Bath Mounatin	10	40	10	40	5	20
Town Head	4	10.2	18	46.2	17	43.6
Georges Plain	11	15.3	24	33.3	37	51.4
TOTAL	25	18.3	52	38.2	59	43.4
NON-PILOT						
Beeston Spring	25	33.8	28	37.8	21	28.4
Belmont	18	21.4	32	38.0	34	40.5
Cornwall Mounatin	20	30.3	25	37.9	21	31.8
TOTAL	63	28.1	85	37.9	76	33.9

43

App III

TABLE III PERCENTAGE OF PREGNANT WOMEN WHO HAVE HAD TEST FOR VDRL.

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
Bath Mounatin	24	96.0
Town Head	35	89.7
Georges Plain	68	94.4
TOTAL	127	93.4
NON-PILOT		
Beeston Spring	45	60.8
Belmont	71	84.5
Cornwall Mounatin	54	81.8
TOTAL	170	75.9

TABLE IV PERCENTAGE OF PREGNANT WOMEN WHOSE VDRL WAS TAKEN BUT THE RESULT WAS NOT RETURNED TO THE HEALTH CENTRE

HEALTH CENTRE	NO.	PERCENTAGE
PILOT		
Bath Mounatin	20	83.3
Town Head	26	74.3
Georges Plain	24	36.3
TOTAL	70	55.1
NON-PILOT		
Beeston Spring	10	22.2
Belmont	23	32.4
Cornwall Mounatin	41	75.9
TOTAL	74	43.5

TABLE V PERCENTAGE OF PREGNANT WOMEN COMPLETELY IMMUNIZED AGAINST TETANUS

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
Bath Mounatin	2	8.0
Town Head	13	33.3
Georges Plain	12	16.7
TOTAL	27	19.9
NON-PILOT		
Beeston Spring	22	29.7
Belmont	52	69.1
Cornwall Mounatin	18	27.3
TOTAL	92	41.1

Appendix III

TABLE VI PERCENTAGE OF PREGNANT WOMEN WHO HAD URINE TEST AND HAEMOGLOBIN DONE AT FIRST VISIT

HEALTH CENTRES	HB AT FIRST VISIT		URINE AT FIRST VISIT	
	NO.	%	NO.	%
PILOT				
Bath Mountain	17	68.0	21	84.0
Town Head	7	17.9	34	87.2
Georges Plain	59	81.9	54	75.0
TOTAL	83	61.0	109	80.1
NON-PILOT				
Beeston Spring	16	21.6	60	81.1
Belmont	61	72.6	70	83.3
Cornwall Mountain	33	50.0	59	89.4
TOTAL	110	49.1	189	84.4

TABLE VII PERCENTAGE OF PREGNANT WOMEN WHOSE WEIGHTS WERE TAKEN AT ALL VISITS

HEALTH CENTRES	WEIGHTS AT ALL VISITS	
PILOT	NO.	%
Bath Mountain	0	0
Town Head	37	94.9
Georges Plain	12	16.7
TOTAL	49	36.0
NON-PILOT		
Beeston Spring	8	10.8
Belmont	24	28.6
Cornwall Mountain	43	65.2
TOTAL	75	33.5

TABLE VIII NUTRITIONAL STATUS OF CHILDREN AT SIX MONTHS IN CORNWALL COUNTY BY WEIGHT FOR AGE.

HEALTH CENTRES	NORMAL		NORMAL		GRADE I		GRADE II	
	NO.	%	NO.	%	NO.	%	NO.	%
PILOT								
Bath Mountain	2	8.0	18	72.0	5	20.0		
Town Head	2	7.1	19	67.9	7	25.0		
Georges Plain	1	4.2	17	70.8	6	25.0		
TOTAL	5	6.5	54	70.1	18	23.4		
NON-PILOT								
Beeston Spring	2	6.1	22	66.7	7	21.2	2	6.0
Belmont	3	9.7	20	64.5	8	25.8		
Cornwall Mountain			30	75.0	8	20.0	2	5.0
TOTAL	5	6.8	72	69.2	23	22.1	4	3.8

TABLE IX NUTRITIONAL STATUS OF CHILDREN AT 1 YEAR IN CORNWALL COUNTY BY WEIGHT FOR AGE.

HEALTH CENTRE	NORMAL		NORMAL		GRADE I		GRADE II		GRADE III	
	NO.	%	NO	%	NO.	%	NO.	%	NO	%
Bath Mountain	1	4.3	14	61.0	7	30.4	1	4.3		
Town Head			14	60.9	7	30.4	2	8.7		
Georges Plain			13	56.5	7	30.5	2	8.7	1	4.3
TOTAL	1	1.4	41	59.4	21	30.4	5	7.2	1	1.4
NON-PILOT										
Beeston Spring			17	60.7	9	32.1	2	7.1		
Belmont			18	60.0	10	33.3	1	3.3	1	3.3
Cornwall Mountain			23	63.9	11	30.5	2	5.5		
TOTAL			58	61.7	30	31.9	5	5.3	1	1.1

TABLE X PERCENTAGE OF BABIES IN THE STUDY GETTING D.C.G. WITHIN SIX MONTHS OF BIRTH.

HEALTH CENTRES	NO. OF CHILDREN	PERCENTAGE
PILOT		
Bath Mountain	0	0
Town Head	1	2.9
Georges Plain	1	3.0
TOTAL	2	2.2
NON-PILOT		
Beeston Spring	0	0
Belmont	1	3.1
Cornwall Mountain	0	0
TOTAL	1	.94

TABLE XI PERCENTAGE OF BABIES IN THE STUDY GETTING FIRST D.P.T./POLIO WITHIN SIX MONTHS OF BIRTH.

HEALTH CENTRES	D.P.T.		POLIO	
	NO.	%	NO.	%
PILOT				
Bath Mountain	21	84.0	21	84.0
Town Head	26	76.5	26	76.5
Georges Plain	25	75.7	25	75.7
TOTAL	72	78.2	72	78.2
NON-PILOT				
Beeston Spring	24	82.7	24	82.7
Belmont	26	81.2	26	81.2
Cornwall Mountain	38	84.4	38	84.4
TOTAL	88	83.0	88	83.0

TABLE XII PERCENTAGE OF CHILDREN IN THE STUDY WHO HAVE HAD AT LEAST 3 D.P.T./POLIO IMMUNIZATIONS BY 2 YEARS OF BIRTH

HEALTH CENTRES	D.P.T.		POLIO	
	NO.	%	NO.	%
PILOT				
Bath Mountain	23	92.0	23	92.0
Town Head	20	83.3	20	83.3
Georges Plain	29	87.9	28	84.8
TOTAL	72	87.8	71	86.6
NON-PILOT				
Beeston Spring	20	80.0	20	80.0
Belmont	29	90.6	29	90.6
Cornwall Mountain	41	91.1	40	88.9
TOTAL	90	88.2	89	87.2

TABLE XIII PERCENTAGE OF CHILDREN IN THE STUDY WHO ATTENDED CHILD WELFARE CLINIC BEFORE BEFORE SIX MONTHS OF AGE.

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
Bath Mountain	21	84.0
Town Head	27	79.4
Georges Plain	23	69.7
TOTAL	71	77.2
NON-PILOT		
Beeston Spring	25	86.2
Belmont	29	90.6
Cornwall Mountain	36	80.0
TOTAL	90	84.9

TABLE XIV PERCENTAGE OF CHILDREN IN THE STUDY WHO DID NOT ATTEND CHILD WELFARE CLINIC UNTIL AFTER SIX MONTHS OF AGE.

HEALTH CENTRES	NO.	PERCENTAGE
PILOT		
Bath Mountain	4	16.0
Town Head	7	20.6
Georges Plain	10	30.3
TOTAL	21	22.8
NON-PILOT		
Beeston Spring	4	13.8
Belmont	3	9.4
Cornwall Mountain	9	20.0
TOTAL	16	15.1

OBSTACLES CITED BY COMMUNITY HEALTH AIDES AND DISTRICT MIDWIVES IN CARRYING OUT CERTAIN MATERNAL AND CHILD HEALTH ACTIVITIES AT THE TYPE I HEALTH CENTRES IN (WESTMORELAND).

NO.	ACTIVITIES	OBSTACLES	C.H.A.s	D/MIDWIVES
			NO.	NO.
1.	Recording weights of children & pregnant women at each visit	1. No Scale	5	5
		2. Problems with children during weighing.	1	1
		3. None	1	1
2.(a)	Testing Urine at all visits	No specimen	5	3
		No materials for testing urine	4	5
		None	4	3
2.(b)	Taking Blood Pressure	None	6	6
3.	Taking VDRL	No storage facilities		2
		No materials		3
		None		1
		No P.H.N?		2
4.	Do examination at First Visit (Copper Sulphate method)	No materials for testing		5
		None		1
5.	Completion of D.P.T./Polio by 1 year assuming appropriate visits by mother and baby.	Contraindications	5	5
		No D.P.T./Polio vaccine	1	1
		None	2	2
6.	Completion of Tetanus Toxoid immunization during pregnancy	Mother make first visit late in pregnancy.		4
		Irregular attendance by mother		1
		Mother may not attend P.H.N. referral clinic.		1
		No Tetanus Toxoid vaccine		4

COMMENTS

From the results, it seems that there is no significant difference between the pilot and non-pilot districts in Westmoreland. Maybe more emphasis should be placed in developing pilot districts. It can also be argued that development of pilot districts started recently. As a result one may not expect to see any significant difference between pilot and non-pilot districts presently.