

Model Post-partum Program for Rural Populations in Haiti

Technical Assistance to CPB

HAITI

Introduction

Several countries have successfully offered postpartum services based at urban hospitals as a mechanism to provide preventive and curative medical services to both mother and infant. Many women visit the same facility for pre-natal care, to deliver their babies, and to attend an interval postpartum clinic. In Haiti, where a majority of the population still live in rural areas, and where 91% of rural women deliver at home (EMMUS II, Table 7.4), the challenge was to devise a strategy to provide a package of accessible peri-natal services that would meet the needs of clients. To accomplish this, the Comite de Bienfaisance de Pignon (CBP) enhanced training of traditional birth attendants (TBAs) and tested integrating a postpartum service into their existing peri-natal program, thereby establishing one of the first integrated rural peri-natal programs in the Latin America & Caribbean (LAC) region. During this second phase, CBP examined the impact on client participation of reducing the stipends for the enhanced TBAs. CBP also opened a postpartum clinic at two additional sites, one with paid and the other with unpaid enhanced TBAs.

Background

Since 1984, CBP has conducted programs in education, agriculture, potable water, community development and health. In the health sector, CBP provides a full range of preventive and curative services to a population of 150,061 living in five rural communes in the north of Haiti. Child survival services are delivered through a network of rally posts held each month. A hospital and four clinics (one in each commune) offer reproductive health services including pre-natal and family planning clinics. Prior to the study, CBP already reported the highest contraceptive prevalence rate in Haiti (29%), but women in the first six months postpartum had a rate of only 9% despite the clear advantages of spacing. A pre-natal clinic in each commune offered a medical examination, basic blood chemistry and urinalysis, but fewer than half of pregnant woman attended the pre-natal clinic at least once. Even in the commune of Pignon, which has a well-equipped hospital, 90% of births were at home, usually assisted by a matrone (traditional birth attendant).

Phase One

In Haiti, matrones not only deliver babies, they also serve as primary health providers during the pre-natal and postpartum periods. During 1993 and 1994, CBP trained over 500 traditional birth attendants from the five communes and integrated them into the health services through monthly in-service training sessions. The training covered pre-natal care, nutrition, identification and referral of high-risk pregnancies, hygiene, birthing techniques, neonatal care, breastfeeding, immunizations and family planning.

Under an initial sub-contract with the Population Council, CBP selected 10 Super-matrones in May 1994 and provided them with another week of training. The training covered peri-natal care as well as the identification both of high risk pregnancies and of deliveries through the monitoring of maternal blood pressure, fetal position and fetal heart rate. The Super-matrones also learned how to measure uterine height and each completed a week-long residency at the Pignon hospital which covered complications of delivery as well as the provision of modern methods of family planning.

With support from INOPAL II, CBP opened a postpartum clinic staffed by a full time nurse hygienist. Traditionally, women in Haiti spend the first 1 to 3 months postpartum in semi-seclusion. On average, women resume their normal activities, including sexual relations, 6 weeks postpartum. Super-matrones, matrones and promoters referred postpartum women to the clinic. The clinic offered medical check-ups of the mother and infant by the nurse with referrals to a physician as required; the medical examination of mother and child at the postpartum clinic were free, but clients paid subsidized fees for required laboratory tests or medicines. The nurse also provided child immunizations and vitamin A supplements, if necessary, and referred the mother to the monthly rally post closest to her home. The nurse provided the mother individual counselling in breastfeeding, nutrition, and family planning. Family planning services were available next door to the clinic to any interested women.

The Super-matrones identified pregnant women, determined their probable due date, screened for high blood pressure and made referrals to the pre-natal and postpartum clinics; they made a particular effort to identify and refer women with high risk of complications during delivery. On a rotation basis, they assisted with counselling at the pre-natal and postpartum clinics. For these services they received a monthly stipend of 600 Haitian Gourdes (about US\$ 40).

Phase One Results

During the first five months of operation, 208 women and their infants less than six months old attended the postpartum clinic. This represented 40% of the estimated 500 births during that period, which demonstrated a strong interest in the service. The physician responsible for the community health program in Pignon expressed great enthusiasm for the clinic since it enabled the staff to make early identification of a variety of medical problems and encouraged early participation in child survival activities.

At the postpartum clinic, 36 women accepted a modern method of family planning. When added to the 31 women who had accepted a modern method prior to their clinic visit, a total of 22% of women who attended the postpartum clinic left with a modern method of family planning, compared to a contraceptive prevalence of 9% prior to the study among women under 6 months postpartum. In addition, a large percentage of women who accepted family planning at the postpartum clinic selected one of the more effective methods. Overall, 83% of postpartum women who initiated family planning during the first phase selected either NORPLANT, an injectable, an IUD or VSC. Among all new CBP users during the same period, the percentage selecting these methods was only 30%.

The new program also appeared to have an important impact on the number of women utilizing the pre-natal services. The intervention period had 38% more first pre-natal visits and 20% more subsequent pre-natal visits when we compared three months following the opening of the postpartum clinic to the same three month period of a year earlier.

The responsible staff in the Population, Health and Nutrition Office of USAID/Haiti expressed great interest in scaling up the project, but there was concern about the cost and an interest in seeking cost-reducing alternatives. A second phase was designed to address these concerns.

Phase Two

The second phase included two simultaneous studies. The first examined the impact on services of reducing the stipend for Super-matrones supporting the original postpartum clinic. The second compared two communes with new postpartum clinics, one with paid and one with unpaid Super-matrones.

Study 1 - Decreasing Stipend for Super-matrones

Data for this comparison were collected over two years from the first commune to open a postpartum clinic, Pignon, which has a population of slightly more than 30,000 and is located in a rural area of Northern Haiti. It had an estimated 100 births per month. During the two study periods, the staff and available services were the same.

Study 2 - Paid versus Unpaid Super-matrones

During 9 months, data were collected for this comparison from two rural communes in Northern Haiti, namely Dondon and St. Raphael. They were selected due to their many similarities. Each had a total population of about 50,000 and a free-standing clinic operated under the Comite Bienfaisance de Pignon (CBP) in the small town for which the commune was named. Each commune had an estimated 165 births per month. Before and during the period of observation, both of the communes had the same make-up of clinic and field staff and offered the same integrated services including curative outpatient care as well as pre-natal and family planning clinics.

Methodology

Study 1 - Decreasing Stipend for Super-matrones

Design: Using a simple time series analysis, we compared the performance over 10 months of 10 Super-matrones receiving 600 Gourdes per month (on average equivalent to US \$40) to the performance of the same Super-matrones during a subsequent ten month period when stipends were reduced to 300 Gourdes per month. Dependent variables collected each month included 1. postpartum clinic referrals made by Super-matrones, 2. total postpartum clinic visits, 3. total pre-natal clinic visits, 4. first pre-natal clinic visits, and 5. per cent of postpartum clients who accepted a modern method of family planning. We were interested in first pre-natal visits since it quantifies individual women accessing this service.

Procedure: Prior to the study, the Pignon hospital already offered a full range of curative and preventive services, including family planning and pre-natal clinics. At the start of the first study period, the postpartum clinic was established and began to offer services from a site located on the grounds of the Pignon hospital. Postpartum services were available during both study periods every weekday from 8 am to 4 pm.

During both periods, the same full time nurse hygienist was in charge of the postpartum clinic. In addition, monthly day-long training and administration meetings were held during both periods at the Pignon hospital for all matrones working in the commune. The Super-matrones received an additional day of training each month during both time periods and were supervised by the same Field Supervisor.

Service utilization data were compiled from the Postpartum Clinic register and regular monthly service statistical reports. Data for each of the two time periods covered 10 months, August until May, from 2 consecutive years. The data from the months between the two study periods, June and July 1995, are not presented for two reasons. First, we wanted to avoid any seasonal bias, and second, these months were atypical because food was offered to all postpartum clinic clients during these two months; this resulted in a large temporary increase in client participation.

To determine the impact of the program at the end of the second phase, CBP randomly selected from the Pignon Commune child vaccination computer files 114 infants 7 to 12 months of age and 107 mothers of children 13 to 18 months of age. CBP staff successfully identified and interviewed 73 (64%) of the mothers of the first group and 93 (85%) of the mothers of the second group of children. These women were visited at home to determine their pregnancy and family planning utilization status, and to identify the number who reported having attended the pre-natal and postpartum clinics.

Study 2 - Paid versus Unpaid Super-matrones

Design: Quasi-experimental. The performance over 9 months of ten Super-matrones receiving a stipend of 300 Gourdes per month (on average equivalent to US \$20) was compared to the performance, during the same nine month period, of ten Super-matrones from a matched commune who did not receive a stipend. Dependent variables collected each month were the same as in Study 1, except we could not make the comparison of first pre-natal visits due to incomplete data collection.

Procedure: Two communes, Dondon and St. Raphael, were matched on total population and availability of services, and randomly assigned to experimental and control conditions. The matrones of each commune were trained by CBP staff in June and July 1994 and received in-service training at regular monthly meetings. Also in 1994, 10 Super-matrones were selected from among the trained matrones for each commune and received an additional week of training from CBP staff. Starting in June 1995, the 10 Super-matrones of each commune received an additional day of training each month.

In June, 1995, prior to the opening of their Postpartum Clinic, each commune engaged a full time nurse hygienist who was trained at the Pignon postpartum clinic. The same Field Supervisor monitored the work of the Super-matrones in both Dondon and St. Raphael.

Both communes opened their postpartum clinics in July 1995 and offered services from 8 am until 4 pm each weekday. Each of the communes offered the same services, providing free medical examinations to both mother and infant as well as breastfeeding and family planning counselling. Clients from both clinics were charged the same fees for laboratory tests and medicines. The family planning clinic client fees were waived in both communes for women less than four months postpartum.

As in Pignon, data were compiled from the registers maintained at each of the postpartum clinics and from regular monthly service statistics reports. The December 1995 data from each of the

postpartum clinics were eliminated since inauguration activities in both communes during that month resulted in a temporary large increase in client participation.

Results

Study 1 - Decreasing Stipend for Super-matrones

Referrals: We found no statistically reliable difference in monthly total postpartum visits between the 10-month periods with higher and lower Super-matrone stipends when we compared the 10 months of each period using a paired T-test. The combined mean over the 20 months equaled 42.8 monthly postpartum visits (SD 28.2).

A major reason for paying stipends to the Super-matrones was to stimulate referrals to the perinatal services. When we used a paired t-test to compare the monthly referrals made by Super-matrones during each of the 10 month periods, we again found no statistically reliable difference between the number of referrals made during the 10 months with a monthly stipend of 600 Gourdes compared to the 10 months with a monthly stipend of 300 Gourdes. The combined monthly mean of referrals made by a Super-matrone over the 20 months equaled 20.2 (SD 18.6).

The mean number of referrals to the postpartum clinic by an individual Super-matrones was, therefore, two per month over the 20 months. We examined individual referrals during five months, January through May 1996, and found a range of 0.2 to 12.4 referrals per Super-matrone per month.

Upon examination, we also found no statistically reliable difference in the number of pre-natal visits between high and low stipend periods. The combined monthly mean of first pre-natal visits during 20 months equaled 63.4 (SD 16.6) and of total pre-natal visits equaled 104.8 (SD 18.7).

Also of interest, out of 262 women who attended the postpartum clinic in Pignon between January 1 and May 31, 1996 and whose records had information concerning their pre-natal visits, only 165 (63%) reported attending the pre-natal clinic at least once during their pregnancy. Of the 97 women who attended the postpartum clinic but not the pre-natal clinic, 54% were referred to the postpartum clinic by a Super-matrone.

When we compared rates of family planning acceptors among women attending the postpartum clinic, we found a greater percentage of acceptors during the second 10-month period, after stipends had been reduced. During the first period, 5.6% of clients accepted a method of family planning while during the second period 35.9% of clients accepted a method. The results of the paired t-test are presented in Table 1.

Table 1
High vs. Low Super-matrone Stipend

Comparison	High	Mean	Low	Mean Diff. (95% CI)	t-value	2-tailed sig.
Percentage of FP acceptors	5.6		35.9	30.3 (10.5,50.1)	3.46	.007

The results of the survey of mothers of a random selection of children ages 7 to 18 are presented in Table 2. The percentage of mothers attending the pre-natal clinic is higher among those who were pregnant after the opening of the post-partum clinic, but the percentage attending the post-partum clinic was roughly the same for mothers who delivered during both time periods. While the percentage of users of a modern method of family planning is roughly the same for both groups, a substantial number of women (21 out of 73) with children 13 to 18 months of age were pregnant at the time of the survey. Unfortunately, we neglected to ask the women whether they had resumed menses, however, we know it is likely that many of the mothers of children 7 to 12 months old still were experiencing postpartum ammenorhea since the recent DHS data in Haiti reports the median duration of postpartum amenorrhea for rural women to be 12.6 months (EMMUS Table 5.11).

Table 2
Survey of Mothers of Children Aged 7 to 18 Months

	Child 13-18 months (n = 73)	Child 7-12 months (n = 93)
Report of Mother		
Report one Pre-natal visit	32 (44%)	54 (58%)
Report two Pre-natal visits	27 (37%)	49 (53%)
Report three Pre-natal visits	14 (19%)	29 (31%)
Report four Pre-natal visits	7 (10%)	17 (18%)
Report Postpartum visit	25 (34%)	35 (38%)
User of Modern Method FP	20 (27%)	22 (24%)
Pregnant	21 (29%)	2 (2%)

Study 2 - Paid versus Unpaid Super-matrones

The paid Super-matrones did refer six times more clients to the postpartum clinic in St. Raphael than the unpaid Super-matrones referred to the postpartum clinic in Dondon. Table 2 presents the results of the paired T-test which paired 9 months from each Clinic, July 1995 through April 1996; data from December 1995 were eliminated.

The other staff from Dondon, the commune with unpaid Super-matrones, referred over 40% more clients to the postpartum clinic than did the other staff from St. Raphael. Other staff were the same in both communes and included family planning promoters, auxiliary nurses, and regular matrones. The commune with the paid Super-matrones, however, had 30% more total postpartum visits. These results are presented in Table 3.

Table 3**Paid vs. Unpaid Super-matrones**

Comparison	Paid	Mean Unpaid	Mean Diff.(SD) (95% CI)	2-tailed t-value	sig.
Postpartum referrals by Super-matrones	16.0	2.6	13.4 (14.2) (2.5,24.4)	2.84	.02
Postpartum referrals by other staff	14.9	21.2	-6.3 (7.4) (.6,12.0)	2.56	.03
Total number of postpartum referrals	30.9	23.8	7.1 (9.3) (-.1,14.3)	2.29	.05
Percentage of FP Acceptors	32.1	63.7	-31.6 (33.3) (-6.0,-57.3)	2.85	.02

We found no statistically reliable difference in the number of pre-natal total visits when we compared communes with paid and unpaid Super-matrones. The monthly mean number of total pre-natal visits for each of the two communes equaled 53.3 (SD 24.4). Unfortunately, we were unable to assess the impact of paid Super-matrones on first pre-natal visits since the breakdown between first and other pre-natal visits was missing for two months in one commune. However, available data for both communes demonstrate that, on average, first pre-natal visits accounted for 38% of the total. Therefore, only 20 new pregnant women attended each pre-natal clinic every month despite an estimate of 165 births per month in each commune.

Among participants at the postpartum clinic, the percentage of family planning acceptors was almost twice as high in the commune with unpaid Super-matrones. Table 2 presents the results of the comparison which found that only 32% of participants at the postpartum clinic accepted a method of family planning in the commune with paid Super-matrones, while nearly 64% accepted family planning in the commune with unpaid Super-matrones.

Discussion

Coverage results indicate that it is possible to reach rural populations of women who deliver at home with a hospital- or clinic-based postpartum service. Nearly two-thirds of pregnant women in Pignon made at least one pre-natal visit during the period of the study, while more than 40% of women with their newborns took advantage of the new postpartum clinic services. In St.

Raphael and Dondon, only 12% of pregnant women attended the pre-natal clinics, but nearly 20% attended the new postpartum clinic in the commune with paid Super-matrones.

For Study 1, when we compared the high and low stipend periods, the only difference we found in service utilization was an increase during the low-stipend period in the percentage of postpartum clinic clients who initiated a modern method of family planning. This could very well have resulted from the maturing of the program.

The results of Study 1 demonstrate that for postpartum as well as pre-natal clinic visits, the reduction by half in the monthly stipend paid to Super-matrones did not have an observable impact on the number of clients seeking these services. Even the number of clients referred directly by Super-matrones remained stable during the low-stipend period. Apparently, the amount of the lower stipend was sufficient to motivate the continued participation of the Super-matrones. The results demonstrate at least that reducing the stipend did not decrease the number of clients, but we cannot rule out the possibility that the Super-matrones would have been motivated to refer more clients had their stipends remained at the same level. The second study compared the paid and unpaid conditions.

Study 2 did demonstrate an impact of paying a monthly stipend to Super-matrones. Although the paid Super-matrones did refer six times more clients to their postpartum clinic, their impact on the overall participation was offset by a larger number of referrals from other staff members in the commune with unpaid Super-matrones. We question the cost-effectiveness of spending \$200 per month for Super-matrone stipends for an additional seven clients each month. If the opportunity for a third phase had existed, we could have examined the impact of paying the 2 or 3 highest performing Super-matrones. Unfortunately, this was not possible, and all stipends were suspended at the end of Phase 2. In light of the eventual elimination of stipends, the staff of CBP report that they would have preferred never starting the stipends, rather than stopping them following a short period.

The increase in pre-natal visits during the initial period was apparently attributable primarily to the training of all matrones because we did not see any increase in the number of pre-natal visits in the commune with paid Super-matrones. This training, and the incorporation of traditional birth attendants into the community health program of CBP has been quite successful.

As we had expected, many women found the services provided at the postpartum clinic useful during their first three months postpartum. A large percentage of these women also took advantage of the opportunity to initiate family planning. They primarily chose clinic-based methods which are not available from their community based distributors. In a country, with high rates of both infant and maternal mortality like Haiti, access to family planning to either space or limit births will be an important means of reducing mortality.

Following the intervention, the three postpartum clinics remain open and monthly training meetings for matrones continue, despite the elimination of dedicated funding for the postpartum program. For a country like Haiti, where 90% of women in rural areas deliver at home, this is a viable approach to providing peri-natal services. The postpartum clinic takes its place in the constellation of reproductive health services in conjunction with the pre-natal clinic, training and

supervision of traditional birth attendants, hospital-based care for referred complications and the family planning clinic. Whether the Super-matrones had a high stipend, a low stipend or no stipend the postpartum clinic continued to attract clients.

not a pure experiment
 food
 IEC campaign & 'open day'
 waiver of user fees for postpartum clinic participants
 final month, Dondon super-matrones paid a stipend

postpartum
 one step in reproductive health care

1. comparison of paid versus unpaid super-matrones
 - a. super-matrone references to clinics greater from paid super-matrones
 - ** i. but even within paid super-matrones a great diversity in number of references (cf. Jan-May 1996 Pignon).
 - b. however, overall visits to postpartum clinics not very different between two new clinics; other paid staff at clinic with no stipend for super-matrones nearly made up the difference in no. of referrals between paid and unpaid super-matrones.
 - c. frustration to stop paying staff, decline in motivation, St. Raphael stopped even compiling a report, and Dondon, with loss of dedicated nurse, had a great decrease.

2. reduction in stipend for Pignon super-matrones
 - a. maturity of program, IEC campaign

- pre-natal
1. payment of super-matrones has no impact on number of pre-natal visits.
 2. importance of training of matrones
 - **3. gradual increase in % of mothers with at least one visit

late November supervision meeting re: performance at both communes

Discussion

The effect of the food on participation will be presented

Table 1
Percentage of Acceptors at Pignon Postpartum Clinic
Comparing Periods with High and Low Super-matrone Stipends

Mean Diff.	SD.	CI	t-value	2-tail Sig.
30.3	27.68	(50.1,10.5)	3.46	.007