Since 1969 the International Planned Parenthood Federation has worked with the government of Botswana in setting up family planning services. An evaluation of the family planning aspects of the program were carried out. This is a summary of three research studies and some general comments. Included is: (1) an introduction to Botswana and the studies; (2) summary and comments regarding a study of family welfare educators; (3) summary and comments of a study of service statistics; and (4) summary and comments of a follow-up survey to trace family planning acceptors. (RH)
EVALUATION OF FAMILY PLANNING PROGRAMMES: An example from BOTSWANA
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An example from Botswana

by

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Introduction

Family welfare educator programme

Service statistics

Follow-up survey

Since 1969, the IPPF has had a unique collaboration with the Government of Botswana in the setting up of family planning services within the national maternal and child health programme. The Botswana Government is now an affiliate member of IPPF.

An evaluation of the family planning aspects of the programme was carried out by Mrs Sheila Cook, Research & Evaluation Officer for IPPF Africa Region, April 1972 - October 1973. It covered three research studies and some general comments on administration, training and costs. The findings were reported in full* and provided an example of the type of evaluation which can be carried out with limited resources. This summary by the author, covering the three main studies, was commissioned by IPPF Evaluation & Social Sciences department as a means of making the information more widely known to member associations and others carrying out similar programmes in a maternal and child health setting.

Introduction

Botswana is a land-locked country of 220,000 square miles (approximately the size of France) surrounded by South Africa on the south, Rhodesia on the east and South West Africa on the north and west. The country consists mainly of the Kalahari Desert; three-quarters of the de facto population of 574,000 (Botswana Census 1971) live along the line of rail in the east of the country. Where there is sufficient rainfall, subsistence agriculture is practised, but male labour migration to South Africa is common. There are currently ten hospitals providing approximately 1,500 beds and, in 1973, over 50 centres offering family planning services.

Family planning (child spacing) services in Botswana started in 1967 when several women asked the Government Surgeon for contraceptive supplies, which he obtained from IPPF. Following this, there were several visits to Botswana by IPPF staff, culminating in the visit of a training team which stayed five months and trained six volunteer health fieldworkers known as family welfare educators (FWEs). A pilot project to promote MCH/FP services was then established in one village under the guidance of an expatriate doctor. Subsequently, the doctor assisted other district councils to establish their own services and clinics, and IPPF provided financial support. This support increased annually from US $18,400 in 1969 to US $85,000 in 1973 and the funds covered training, information and education, administration, fieldwork and special projects and FWE salaries. In addition, commodity supplies of contraceptives as well as non-contraceptive items such as vehicles, audio-visual and medical equipment were supplied by IPPF. In October 1971, the Government of Botswana became an affiliate member of IPPF and, in January 1973, it took over responsibility for the administration of the MCH/FP programme, extending the pilot programme into a national one. It was the first government in Africa to have undertaken directly the administration of a national family planning programme, fully integrated with maternal and child health services.

In the absence of detailed initial objectives for the programme, evaluation efforts were concentrated on what were
considered to be the most important activities funded by PPF. In recognizing that evaluation was essential to the long-term success of the family planning programme, special attention was paid to the establishment of baseline data against which to measure future progress.

The programme in Botswana has given a lead to other developing countries in the establishment of government family planning services within the context of maternal and child health, using para-medical personnel such as family welfare educators. It is hoped that the evaluation will also be a guide to countries seeking ways of monitoring and improving their MCH/FP programmes.

The three specific research studies in the evaluation were:

- a description of the Family Welfare Educator cadre in Botswana, their workload and problems, and training
- an analysis of service statistics generated by the MCH/FP programme
- a follow-up survey to trace family planning acceptors

Family Welfare Educators

Since 1970, Botswana has experimented with the employment of para-medical personnel whose function is mainly educational. In theory, family welfare educators are chosen by the villagers themselves so that the women who come for training are known and respected by the people of their home villages, to which they return after their 11-week training course. The applicants must have had a primary school education and have a good grasp of English (the language used in teaching). It is preferred that they are mature women with one or more children, but marital status is not important.

By April 1972, 60 women had been trained as family welfare educators. However, at that time, it was not known for certain how many were still working and there was no current mailing list. Letters were therefore written to all trained FWEs, and a register compiled of all those still in employment. It was learnt that, of the 60 FWEs trained over
the three years 1970-72, 22 were no longer working at September 1972; a loss of 37 percent.

An analysis of the register of family welfare educators in employment at September 1972, together with those trained in 1973, gave the following information about the cadre:

**Family Welfare Educators**

<table>
<thead>
<tr>
<th>Average age</th>
<th>28 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage unmarried</td>
<td>73%</td>
</tr>
<tr>
<td>Percentage with primary education only i.e. with no secondary education or other training</td>
<td>28%</td>
</tr>
<tr>
<td>Percentage with some secondary education</td>
<td>42%</td>
</tr>
<tr>
<td>Percentage with some other training</td>
<td>47%</td>
</tr>
</tbody>
</table>

(Some of those FWEs with some secondary education were also those who had received other forms of post-primary training).

**Fieldwork activities.**

For those family welfare educators who were still working, a weekly reporting system was introduced, the purposes of which were:

- to establish contact between the FWEs and the Office for MCH/FP
- to learn of the problems encountered in the field by the FWEs
- to assess the work done by the FWEs

Forms were sent out monthly and returned in a prepaid envelope weekly. The response to the report form was very good. Over the first 30 weeks of the survey, 95.7 percent of the forms were either completed by the FWEs or a reason given for their non-completion. In 10 of these weeks, the return was 100 per cent. With the monthly issue of forms, a personal note was sent to each FWE, answering questions, pointing out any
mistakes, and giving a few words of encouragement. The majority of the problems raised by the FWEs were administrative ones; of these, the two recurring ones related to supplies and transport.

The high response rate to the weekly report form was a clear indication that the family welfare educators, especially those working alone, were glad of the opportunity of regular communication with headquarters. Newsletters and other circulars were introduced as a consequence of the current mailing list and the reporting system.

Besides establishing contact and assessing the problems encountered in the field, it was also intended that the weekly report form should provide a means of evaluating the work of the family welfare educators, and act as a basis upon which to build future training programmes. A retrospective analysis was therefore carried out on a stratified sample of 10 of the 43 weeks for which the weekly report form was returned.

The results showed that, on average, each FWE spent 1.8 days outside the clinic and did 10.9 home visits per week. Of these, each FWE made, on average, only 2.7 and 2.9 home visits per week to find malnourished children and tuberculosis contacts respectively. These low figures indicated that the family welfare educators were not making as effective a contribution to the eradication of malnutrition and tuberculosis as they could have been. However, the most striking result was that FWEs only did an average of 1.6 home visits per week to follow-up family planning clients. These results supported evidence from the vice statistics and follow-up survey (see below) that the follow-up of family planning clients was grossly inadequate and might have undermined the family planning programme. During the 3.2 days spent in the clinic per week, each FWE, on average, treated 9.1 people for minor diseases and referred 3.9 people to the staff nurse for treatment. She also spent some time giving talks or advising mothers on minor diseases. Hence, it appeared from the analysis that the workload of a family welfare educator was very light.
Training

Since 1970, an annual training course of 11 weeks had been organized for 20 trainees about to be employed as family welfare educators by Councils and Missions throughout Botswana. Three of the weeks during the course were spent at a clinic and the remaining eight weeks in the classroom, where the subjects taught included nutrition, health education, medical topics (including family planning), public health, gardening and community development.

The three weeks spent away at a clinic and in the field enabled trainees to practise their theoretical training under field conditions. Under guidance and supervision, they were taught the correct ways of doing the different jobs. Each trainee was given a special assignment, such as skin infestations (especially scabies), tuberculosis, breastfeeding, good nutrition and malnutrition, family planning or immunization. She was expected during her fieldwork to pay special attention to her particular topic and to be able to lead a discussion group, under the guidance of the health educator, on her return to the training centre.

There was a discrepancy between the proportions of teaching and working time spent on a few topics, e.g., nutrition, family planning and gardening. This may have been due to the ease with which the subject was understood by the trainee, the satisfaction she received from carrying out that type of work, or the need to retain a balance between practical and theoretical tuition during the training course. Nevertheless, there was a high degree of association between the content of the teaching syllabus and the resulting work of the family welfare educator.

In order to assess the effectiveness of the training, a test was designed to be given to the trainees before, during (immediately on their return from fieldwork) and after their training course. The results of the initial test gave baseline data on which to build the content and emphasis of the course; the intermediate results highlighted the subjects about which there was still some confusion and which therefore
required further teaching; the final results showed whether the course content had been well assimilated by the trainees. All questions were phrased so that the answer was 'Yes', 'No' or 'I do not know'. The overall percentage of correct answers increased from 65 per cent to 85 per cent during the first 1973 course, indicating a 35 per cent increase in trainees' knowledge of the course content.

The rural training centre, seven miles from the capital town of Gaborone, provided a useful base from which to undertake training. Its proximity to other government departments facilitated the use of guest speakers, while at the same time not inducing among the trainees a desire for urban living. The fieldwork facilities were useful adjuncts to training and, in the circumstances, provided the best possible opportunities for clinic practice. However, problems of housing were encountered and additional problems were created by the need to absorb 10 trainees into the clinic routine at each of two clinics for three weeks. The large number at each clinic resulted in each individual being exposed to too little practical experience.

Summary

As a result of the above work and observations, recommendations were made which aimed specifically to help the administrators of the family welfare educator programme in Botswana. In summary, they related to: the initial qualifications and training of the candidates; the terms of their subsequent employment; the establishment of a national register of trained FWES; the administration of the national programme, with monthly targets for FWES, monthly reporting and frequent field supervision and, finally, a research proposal to assess the benefits to the community of the work of a FWE within that community. Many of the detailed recommendations would be relevant to programmes using paramedical fieldworkers in other developing countries.

Service Statistics

Prior to the beginning of 1973, the only family planning
statistics which had been collected (but not fully analysed) were monthly returns sent to the Government Statistician. However, not every clinic had sent in returns regularly and, even when they had, the returns were often completed incorrectly. An examination was therefore made of the records of 504 clients randomly sampled from four clinics (two 'urban' - Gaborone and Francistown, and two 'rural' - Maun and Serowe). From these records, a statistical base for future evaluation was created.

It was found that there was an overall increase in the number of new acceptors for the four clinics of 46.3 per cent per annum, indicating a rapid expansion in the programme. By the end of 1972, three of the clinics had more than 10 per cent of the eligible population of their catchment areas registered as acceptors of family planning services. ('Eligible women' is defined in the report as 'all women aged 15-44 years'). However, by extrapolation from the family planning returns and the findings from the four clinics, it was calculated that on a national scale only approximately 5.6 per cent of the total eligible population had been reached.

The figures for new acceptors did not imply that these percentages of women were then practising contraception. The calculations merely indicated what percentages of women had attended a clinic at least once for family planning services. With the high drop-out rate (see below), the percentage of women then practising contraception was considerably lower. Moreover, there was likely to have been an element of double registration both within and between clinics and, although the extent of this was not measured, its effect would have been to inflate the number of new acceptors.

The mean age of clients at the time of first attendance was found to be 27.3 years over the five-year period. There was evidence that the mean age had been decreasing steadily from 29.8 years in 1968 to 25.8 years in 1972. It is worth noting that the programme was reaching mostly younger women (70.7 per cent of clients were aged less than 29 years), since delays in early pregnancies have a greater impact on
the birth rate than prolonged contraception at ages of 35 years and over. Clients had had a mean number of 3.27 pregnancies and had a mean number of 2.90 living children at the time they first visited the clinic. The mean number of pregnancies per clients had decreased steadily over time.

Over the five years studied in this sample, 72% of clients received oral contraceptives, 16% IUDs and 27 injections on their first visit to the clinic. The ratio of oral contraceptive to IUD acceptors changed from 0.75:1 in 1968 to 28:1 in 1972. The concentration of the programme on oral contraceptives was not confined to new acceptors, however, since over 73% of revisit clients also received oral contraceptives, this percentage having risen from 48% in 1968 to 87% in 1972. Simultaneously, the proportions of revisits at which IUDs were checked, re-inserted or (for clients changing methods) inserted decreased from 38% in 1968 to 7% in 1972. Whilst there was no significant difference in the ages of women receiving IUDs and oral contraceptives, clients receiving injections were generally found to be older, with an average age of 37 years. This was in line with the programme policy of giving injections only to older women (usually those over 30 years of age) and to younger clients only in exceptional circumstances.

Two other interesting facts emerged from the analysis: the records for all four clinics showed that 78% of clients lived within 1½ mile radius of the clinic; and the records of Gaborone clinic alone showed that family planning information was disseminated most widely by other clients and friends and that the percentage of clients who had heard about the clinic in this way had increased from 15% in 1968 to 64% in 1971.

The motivation which brought the client to the clinic in the first instance was indeterminable from the survey. A high proportion of the eligible women in Botswana made the effort to visit a clinic at least once to enquire about — and usually to accept — family planning services. However, 37% of acceptors never returned to the clinic and a further 17% returned only once. In other words, over half the new
acceptors at the clinic made at most one subsequent visit to the clinic. From life-table computations on the basis of data abstracted from the record cards, it was found that nearly one third of clients discontinued contraception within three months and nearly two thirds within a year. The contraceptive received on the first visit thus had no immediate effect on the spacing or limiting of families.

If IUDs had been more utilized as a method of contraception, it is likely that the mean length of time on contraception would have increased and the high discontinuation rate reduced. Those accepting oral contraceptives would then have done so in the knowledge of the need to return frequently for further supplies. The high rate of discontinuation severely diminished the achievement of the programme in reaching more than 30% of the eligible population in three of the towns and villages sampled.

It was therefore recommended that greater emphasis be placed on the IUD as a method of contraception. Where oral contraceptives were used, the policy of dispensing three cycles to continuing acceptors was advocated to reduce the number of revisits required to maintain contraception. It was also suggested that the follow-up programme of clients be intensified, and the crucial importance of good record-keeping to permit this was pointed out. The recommendations about recordkeeping related to completeness of the information about each client, and the system of filing individual client records.

The programme in Botswana is not only a family planning programme but also incorporates maternal and child health services. The complete recommendations in the report were therefore made within the integrated framework of the overall objectives and did not concentrate solely on the family planning aspects of the programme.

**Follow-up Survey**

A 100% sample of new acceptors in the selected months was drawn from the records of Gaborone and Serowe clinics and the
data were abstracted from the individual client cards at each clinic. Survey questions used elsewhere were utilized (thereby obviating the need to pre-test them) translated into the national language of Setswana. Several Botswana women were trained as interviewers and a pilot survey was carried out. The follow-up survey itself was conducted in early 1973.

The stratified sample consisted of 359 clients drawn from the two clinics. However, only 197 of these clients were interviewed; the remaining 162 were lost to follow-up. Whilst some loss was inevitable, it was disappointing that the rate was so high. Five attempts were made to interview a client before she was regarded as lost to follow-up. Clients were lost mostly because they were unknown at the address given or had moved. Of these clients, several were still currently practising contraception according to clinic records. Inaccurate and incomplete record-keeping probably contributed to the failure to find clients.

To find out whether the women actually interviewed were representative of the sample drawn, the two groups (found and lost to follow-up) were compared with respect to several characteristics using data which had been taken from the clinic record cards. Although a few differences were found between the clients and those lost to follow-up, an analysis of the responses was carried out.

The results of the survey showed that of a total sample of 359 clients:

129 had not been pregnant; were exposed to risk and currently practising (120 on the same method)
28 had not been pregnant; were exposed to risk and currently not practising
24 had been pregnant
11 were currently pregnant
3 were planning pregnancies
24 were lost to follow-up but were still practising, according to clinic records
138 were lost to follow-up and were not still practising according to clinic records.

Of the 197 respondents, 77 (39%) had stopped using their first method of contraception and only nine had adopted another method. From life-table computations on the basis of the responses, it was found that 20% of women interviewed discontinued contraception within six months and 34% within a year. These continuation rates were lower than those derived from service statistics. This was due partly to the high rate of loss to follow-up and partly to some discrepancy between the clinic records and client's statements at interview.

The acceptors' perception of the programme and satisfaction with the services were assessed by studying the reasons given by 77 clients for discontinuing their first method of contraception and by studying responses to questions relating to clinic services. The fact that most clients received oral contraceptives meant that a high percentage (25%) of those who had stopped using their first method of contraception had done so because they were out of supplies or the supplies were too expensive. Although a few clients considered that the clinic times (normal office hours) were inconvenient and although only 11% of clients received a home visit from a member of the clinic staff in connection with family planning, responses to the questions about clinic services were generally favourable. However, the responses might not have been so encouraging had there not been such a high rate of loss to follow-up.

In making recommendations, particular attention was again paid to the importance of good record-keeping. A diary of 'next revisit' dates and a national register to maintain contact with clients who moved within the country were both suggested. The importance of follow-up (particularly in the early months of contraception) was reiterated. If greater emphasis were placed on the IUD as a method of contraception, record-keeping and follow-up would be reduced. It was also recommended that follow-up surveys be repeated at regular intervals in order to monitor the acceptability of the
programme to new acceptors and to ensure client feedback to improve the programme.

Erratum

12 line 8 should read ... "These continuation values were higher than those."