

**INTERACTIVE KIOSKS AS PROMOTION STRATEGIES
FOR REPRODUCTIVE HEALTH SERVICES**

MEXICO CITY, MEXICO

INOPAL III/THE POPULATION COUNCIL

OPERATIONS RESEARCH FINAL REPORT

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FOR REPRODUCTIVE HEALTH SERVICES**

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ABSTRACT

Faced with reduced donor funding, private voluntary reproductive health organizations (PVOs) in Latin America must become adept at marketing their services if they are to survive

This project tested the use of interactive touch screen kiosks as a means to increase the number of clients using MEXFAM clinics and to provide information on reproductive health increase the number of services provided to individual clients

The program that was developed provided information on a variety of topics, including family planning, family planning (16 screens), sexually transmitted diseases (five screens), pediatric services (three screens), general consultation (3 screens) and service packets, clinic addresses and services provided (five screens) In addition, a button allows males to access the screen presenting services of interest for women In addition, the program also provided women with information on cervical cancer prevention (four screens), breast examination (two screens), prenatal/postnatal services (three screens) and pregnancy risk

The computer interactive kiosks were placed inside two clinics and outside two clinics During a three- month period, at least 1,799 used the kiosks However, only 114 new users were identified as referrals from them

The perception of clinic directors was that the kiosks were not a good strategy to generate new clients, but an excellent medium to provide reproductive health education, especially in the case of hard-to-reach audiences such as adolescents and males

Given the potential of this medium, it is recommended that further experiments are carried out to continue learning on improved ways to use it

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I. INTRODUCTION

Background In 1994 MEXFAM, the largest private family planning organization in Mexico, began a nationwide reproductive health services marketing program to promote 12 new Medical Service Centers (MSC) which replaced the older MEXFAM clinics. MEXFAM expects that, by increasing the number of lab exams and surgical interventions, these units will become self-sustainable and generate enough resources to subsidize other low-return community services.

The services that individual clinics offer their target groups varies by size of the facility and the characteristics of the locality. As a minimum, services offered at all MSC are early cancer detection, family planning and contraceptives, maternal-child care, prevention of sexually transmitted diseases, gynecology and pediatrics. MEXFAM has tested a wide range of marketing activities including

- 1 Billboard advertisements in public places and buses
- 2 Household visits to promote services
- 3 Leaflets distributed in schools, markets and other public places
- 4 Visits to doctors and provision of incentives for clients referred to clinics
- 5 Radio announcements about clinics, services and special sales
- 6 Advertisements in the Yellow Pages, newspapers, and magazines for women
- 7 Direct mail and telephone marketing

Problem Self-sustainability achievements of MSCs had been modest when this project proposal was drafted. Only two clinics made a profit and two others broke even in 1996. For all 12 MSC combined the annual net loss was \$52,000. Although this represented an important improvement over 1995, when net loss was \$130,000, additional had to be made to improve profitability. A major problem was that the installed capacity of clinics was underutilized. Cost-recovery could be improved if clinics handled more clients and provided more services. To attract more clients and provide more services, MEXFAM felt it should go beyond the traditional marketing strategies that had been employed.

Proposed Solutions MEXFAM proposed to experiment an innovative marketing strategy "Touch screen" kiosks located in clinics and public places. The technology consists of a computer placed in a protective kiosk with a screen that the user touches to respond to questions or to follow instructions from the computer program. The program algorithm asks questions, gives answers, and provides additional information. Algorithms are sophisticated enough to help the user identify the user's reproductive health needs, recommend services and provide details about where they may be obtained and at what cost. When placed in clinic waiting rooms, the program could encourage clients

to inquire about additional services they may require. When placed in a public place such as the shopping malls in which some of the MSC are located, the interactive program would be designed to attract new clients to the MEXFAM clinic.

The touch screen kiosk provides continuously available information at a lower cost than having a human counselor available for the same period of time. The information is also uniform and accurate. The interactive feature of the touch screen methodology may also be more attractive to potential clients and therefore attract more business than ordinary fliers or pamphlets. In addition, the anonymity it provides could be an advantage in providing information to hard-to-reach groups, such as adolescents and males. A potential disadvantage is the high initial investment, repair, upgrade and replacement costs associated with heavily used kiosks.

Research had not been conducted to determine the potential of the interactive as a strategy for attracting reproductive health clients and improving institutional sustainability. Before MEXFAM invests major resources in either technique, it needs information about their potential contribution to sustainability. The proposed operations research project will obtain this essential information.

II. OBJECTIVES

1. To test the effectiveness of touch screen technology as a means of increasing the demand for medical services by patients attending the clinics.
2. To test the effectiveness of the touch screen technology as a means to attract new users to MEXFAM clinics.
3. To test the effectiveness of touch screen as a means to provide information on reproductive health to different audiences.

III. OPERATIONS RESEARCH

Interactive Kiosks Four kiosks were used. To limit the costs of the operations research, the kiosks and computers were rented rather than purchased for the marketing test that was conducted between November 1997 and March 1998. Two kiosks were placed in the clinics of Neza and Veracruz, and two more outside the clinics in Tampico and Alamedas, in the public space of a shopping mall where these clinics are located.

Computer Program One interactive computer program screens was developed by SIV, a software company in Mexico. The computer program uses four introductory screens, three screens to obtain data on the users of the system (sex, age, sexual activity, use of contraception, number of

children, age of younger child, time since last medical check-up, etc. After these seven screens, the software program presents a screen with different buttons that help obtain information on different reproductive health topics and services. A different screen is presented for males and for females. In the case of males, the screen presents buttons for family planning (16 screens), sexually transmitted diseases (five screens), pediatric services (three screens), general consultation (3 screens) and Service packets, clinic addresses and services provided (five screens). In addition, a button allows males to access the screen presenting services of interest for women. In the case of women, besides the same buttons, other buttons help obtain information of cervical cancer prevention (four screens), breast examination (two screens), prenatal/postnatal services (three screens), pregnancy (three screens), general consultation (one screen) and the button allowing to access the screen for males. In most cases, the same screens are used for males and females, except for a few cases, as when presenting the symptoms of STDs. Appendix 1 presents a copy of the compact disk with the interactive program developed by MEXFAM. To access the program, use the Windows Explorer and Click on MEXFAM. The program will help follow-up after this.

In all cases, MEXFAM sought to present only essential information that may be of actual use to the users: explanations, symptoms, form of use, services, prices, addresses, etc. The program presents the information mostly in written form, although usually there is an introduction done by an announcer. In as much as possible, images were used, but only a few animations were included in the program. In addition to any positive effects, this project helped MEXFAM learn how to produce messages in this new and exciting medium.

IV EVALUATION

1) Pretest of interactive programs

The touch screen program was pre-tested to determine if it was easy to use, attractive, understandable, informative and convincing. The pre-test was conducted with staff working at MEXFAM central offices and with ten randomly selected clients attending MEXFAM's La Villa clinic. An interview guide was used to assess the different variables.

2) Computer generated information on number of hits and characteristics of users

The interactive programs automatically recorded the number of times the kiosk is accessed and the number of access of each module (family planning, STDs, etc). Information on hits and characteristics of users measured the effectiveness of the kiosk strategy as a tool to provide information.

3) *Number and source of referral of new clinic users before and after the intervention*

This information is collected daily at MEXFAM clinics, and is analyzed by administrators on a regular basis. The standard data collection form was modified to include the kiosks as a source of referral.

4) *Perceptions of clinic directors and staff*

The opinion of the directors of the participating clinics was collected by means of an open-ended questionnaire with eight questions exploring the perceived usefulness of the strategy, its appropriateness as an educational tool, and other related variables. After discussing the questionnaire with the staff of their clinics, the directors sent the responses after the end of the experiment, in April, 1998.

5) *Supervision visits*

A fellow at the Population Council's office in Mexico City conducted one supervision visit in January, 1998. In each clinic, she interviewed the staff and observed the use of the module and the recording of data.

6) *Cost Evaluation*

MEXFAM expected that new income generated by the kiosks would exceed the costs of operating the kiosks. To determine the contribution of the strategy, it had been planned to estimate marginal cost per new client and new service and compare it to additional income generated by those clients and visits. Kiosk costs included the production of the interactive program, equipment rental and maintenance expenses.

V RESULTS

1) *Pretest of interactive programs*

The pre-test with MEXFAM's staff showed that the initial versions of the software program had several slight problems such as the timing allowed before changing screens, the sequence in which the screens were presented, the amount of information presented in each screen. In fact, these initial pretests helped the project staff to experiment in the use of the media. The first versions of the messages were more similar to a traditional audiovisual than to an interactive program.

These problems were corrected and the program pre-tested with clinic users. Further timing and sequence problems were detected. It was also observed that users tended to ignore the computer, so an auditive call for using the program was added. It was also observed that using different texts for the voice over and the written text created a lot of confusion in the users, so it was decided that the announcer should only read the first lines of the texts.

2) Computer generated information on number of hits and characteristics of users

The interactive programs automatically recorded the responses to the brief questionnaire included at the beginning of the interactive session, as well as the number of times each module (family planning, STDs, etc) was accessed. This information measured the effectiveness of the kiosk as a tool to provide information. Table 1 shows that during the three-month period ending in February 1998, a total of 1,799 persons recorded their sex and answered the brief questionnaire. Even though mostly women visit MEXFAM's clinics, over one half of the respondents of the questionnaire were male. Likewise, although adolescents are only about 10% of the regular clientele of clinics, more than one third of the respondents were between 15 and 19 years of age. Also slightly more than one third were between 20 and 34 years of age, and the remainder were more than 34 years of age. Answers to other questions showed that between one half and two thirds of the respondents in the different clinics were sexually active, about one third had a child less than five years of age, about 20% of the women were pregnant, and about one third used a method. Also, less than one third of the respondents said they had had a medical consultation in the previous year.

Table 2 shows the number of hits recorded in each section. It is readily apparent that the number of hits is greater than the number of persons who responded the questionnaire. This can be the result of users returning to the same sections several times, but also of the structure of the interactive program. Once a section is accessed, the program stays in that section for at least three minutes. If left unattended, the program goes to the screen in which the buttons to access the information of the different services are presented. If left unattended for five minutes (i.e., no user touches the screen), then the program switches automatically to the first screen with the voice-over calling for the attention of passers by. From this screen, one needs to go sequentially through the questionnaire until the "services" screen is accessed and from where the different modules can be accessed. Thus, the number of people who accessed the system is very probably much larger than the number who responded the questionnaire.

Table 2 also shows that among males, the two most modules more frequently consulted were the general consultation (annual check-up) and STD ones. Females accessed most frequently STD and general consultation modules, as well as the pregnancy risk module, in which the women responded a questionnaire to assess their reproductive risk factors. The least frequently consulted modules were the one giving the addresses of clinics, the one on prenatal and post natal care, and the one on pediatric services. The most consulted module clinic was accessed between three and five times more often than the least consulted module in each clinic.

3) Number and source of referral of new clinic users before and after the intervention

This information is collected daily at MEXFAM clinics, and is analyzed by administrators on a regular basis. The standard data collection form was modified to include the kiosks as a source of referral. Table 3 shows that only 114 (or 2.2%) clients were recorded as having been referred by the interactive kiosks. In fact, this is an over estimation of the true figure, since during a supervision visit it was observed that in the clinic of Alamedas they did not record this information properly. In this clinic, which is in a large shopping plaza, the module was placed outside the clinic, in the hall, next to the entrance door. Whenever the receptionist saw or heard that a person had consulted the kiosk before entering the clinic, she recorded the kiosk as the source of referral. If we eliminate the users from the Alamedas clinic, then the kiosks seem to have referred only 12 new users. Traditional sources of referrals such as friends and relatives, other physicians and clinics, and the clinic sign accounted for more than three fourths of the referrals.

4) Perceptions of clinic directors and staff of the effectiveness of the strategy

The clinic directors felt that the results of the experiment had been disappointing in terms of the number of services generated, but all felt that the strategy was excellent for providing information, especially in the case of hard-to-reach groups as adolescents and men especially when placed outside the clinic. When placed inside the clinics, they were mostly used by women, simply because most of the clients are women.

All the directors felt the information presented in the kiosks was complete, useful and easy to understand. The media itself was considered as technologically advanced. All the directors felt that MEXFAM enhanced its image as a technologically advanced medical center by using this media. The directors that used the kiosks outside the clinic, in the halls of the shopping centers where the clinics are located, had no security problems. However, although all directors felt that the kiosks should be rotated in a variety of places, none provided a detailed account of how they would insure for the safety of the equipment if used in such a fashion. The suggestion they all gave was to have someone standing next to the kiosk, a strategy that would probably not be cost-effective.

When asked whether MEXFAM should invest in one kiosk for each clinic or if that money should be used for other purposes, all the clinic directors felt that in their clinics there could be more important investments, more focused into generating new clients. Nevertheless, all mentioned that perhaps other clinics should use this strategy to provide information to adolescents.

5) *Supervision visits*

The fellow who conducted the supervision visit found that the two clinics had placed the module outside and two inside the clinics. Data recording problems were observed in three of the four clinics, including filling of forms on an ad hoc basis, incomplete data entering, and use of inappropriate data collection forms. In as much as possible, training was provided during the visit to solve these problems.

One problem that was detected in the clinics was the high volume of the voice of the kiosks, which made it embarrassing for them to inquire about information on sex and reproductive health. Although all the users interviewed felt that the information presented was very clear and complete, and the program easy to use, sometimes it was not easy to return to a given screen. Finally, the clinic staff felt the kiosks call attention to a younger audience due to its interactive 'computer game-like' component.

6) *Cost Evaluation*

MEXFAM expected that new income generated by the kiosks would exceed the costs of operating the kiosks. However, as it was observed, very few new users mentioned the kiosks as a source of referral, and so, the issue of the contribution to sustainability becomes a mute one. Given that the kiosks seemed to work better as an educational tool, perhaps it would be better to estimate the cost per person informed. Total costs, including software development, were \$15,877, without software development costs, the costs were basically for the rent of computers and kiosks, and shipment to clinics (\$7,023). The cost per person who responded the questionnaire included at the beginning (1,799) would be of \$ 8.82 if one charges the costs for developing the software, or \$ 3.90 if these costs are not included. However, the number of persons who responded the questionnaire is almost certainly an underestimation of the number of persons who actually accessed the kiosk. In addition, if used as an educational tool, perhaps the kiosk could be placed in areas with heavier traffic of the target audiences, further decreasing the costs.

VI CONCLUSIONS

The results of this experiment showed that interactive "touch screen" kiosks were an excellent media to provide reproductive health information to hard-to-reach groups, especially adolescents and males. However, no evidence was found that this media could also work as a source of referral of new clients or as an instrument to help clinic users identify their need for other services and increase the services consumed per client.

Even if the kiosks were to be used only as an educational instrument, the question of how to care for the equipment remains to be solved. In this experiment, the clinics located in shopping centers placed the kiosks directly outside the clinics and had no problems. However, perhaps it would be more efficient to periodically move the kiosks to different places to give access to the information to a larger number of persons of the target publics. In that case, it would be important to find mechanisms to protect the equipment and that would not imply the direct supervision of a MEXFAM staff member to protect the equipment.

Even though the results of this experiment were not encouraging in terms of the number of referrals of new clients, it should be admitted that this might be the result of different variables, such as the type of program, the contents of the program, the location of the kiosks, etc. The media would seem interesting and important enough to continue tests in a variety of circumstances. During this project, MEXFAM only began to learn the use of these interactive kiosks and became aware of a few other interactive programs that could be used to further their educational aims. Unfortunately, MEXFAM is currently under strong pressure to become completely sustainable. Under these circumstances, it would be difficult to pursue further research on strategies to use the kiosks as educational tools.

TABLE 1

DISTRIBUTION OF PEOPLE WHO ACCESSED THE KIOSKS ACCORDING TO CHARACTERISTICS, BY SEX

| AGE | CLINICS | | | | | | | |
|----------------------------|---------|--------|------|--------|----------|--------|----------|--------|
| | TAMPICO | | NEZA | | VERACRUZ | | ALAMEDAS | |
| | MALE | FEMALE | MALE | FEMALE | MALE | FEMALE | MALE | FEMALE |
| 15-19 | 30% | 33% | 36% | 40% | 35% | 31% | 36% | 38% |
| 20-34 | 37% | 39% | 35% | 32% | 48% | 44% | 35% | 37% |
| 35-44 | 21% | 17% | 18% | 14% | 12% | 12% | 18% | 12% |
| > 44 | 12% | 10% | 11% | 13% | 5% | 12% | 12% | 13% |
| % SEXUALLY ACTIVE | 71% | 61% | 62% | 53% | 68% | 51% | 53% | 46% |
| % HAS CHILD < 5 YEARS | 32% | 25% | 35% | 27% | 37% | 23% | 36% | 26% |
| % IS PREGNANT | ---- | 27% | ---- | 21% | ---- | 17% | ---- | 20% |
| % USES A METHOD | 35% | 52% | 33% | 20% | 37% | 25% | 32% | 20% |
| % HAS HAD A EXAM LAST YEAR | 33% | 29% | 28% | 28% | 28% | 37% | 26% | 29% |
| NUMBER OF CASES | 165 | 130 | 352 | 281 | 93 | 65 | 382 | 331 |

TABLE 2

NUMBER OF HITS IN DIFFERENT SECTIONS BY SEX INDICATED IN QUESTIONNAIRE

| SECTION | CLINICS | | | | | | | |
|---------------------------|---------|--------|-------|--------|----------|--------|----------|--------|
| | TAMPICO | | NEZA | | VERACRUZ | | ALAMEDAS | |
| | MALE | FEMALE | MALE | FEMALE | MALE | FEMALE | MALE | FEMALE |
| FAMILY PLANNING | 172 | 274 | 704 | 780 | 344 | 326 | 717 | 801 |
| PEDIATRICS | 130 | 216 | 599 | 632 | 287 | 223 | 685 | 592 |
| STD's | 324 | 282 | 1,116 | 926 | 707 | 409 | 1,068 | 945 |
| GENERAL CONSULTATION | 580 | 433 | 1,447 | 852 | 629 | 344 | 1,477 | 932 |
| PACKAGES & SERVICES | 273 | 169 | 993 | 550 | 620 | 299 | 1,020 | 493 |
| CLINIC ADDRESSES | 87 | ---- | 314 | ---- | 241 | ---- | 374 | ---- |
| PRENATAL / POSTNATAL CARE | ---- | 17 | ---- | 378 | ---- | 217 | ---- | 432 |
| PREGNANCY RISK | ---- | 458 | ---- | 1314 | ---- | 607 | ---- | 1,409 |
| LACTATION | ---- | 216 | ---- | 740 | ---- | 282 | ---- | 798 |
| CERVICAL CANCER | ---- | 199 | ---- | 669 | ---- | 283 | ---- | 699 |
| BREAST EXAM | ---- | 212 | ---- | 771 | ---- | 459 | ---- | 793 |
| N° OF CASES | 165 | 130 | 352 | 281 | 93 | 65 | 382 | 331 |

TABLE 3

SOURCE OF REFERRAL OF NEW CLIENTS DURING THE PROJECT PERIOD BY CLINIC

| SOURCE OF REFERRAL | CLINICS | | | | | | | | TOTAL | |
|---|--------------|-------------|------------|--------------|------------|--------------|------------|-------------|--------------|-------------|
| | NEZA | | VERACRUZ | | ALAMEDAS | | TAMPICO | | | |
| | No | % | No | % | No | % | No | % | No | % |
| INTERACTIVE KIOSK | 0 | 0 0% | 5 | 0 6% | 102 | 28 1% | 7 | 1 0% | 114 | 2 2% |
| LIGHT SIGN | 393 | 12 2% | 36 | 4 0% | 53 | 14 6% | 7 | 1 0% | 489 | 9 5% |
| BROCHURES, LEAFLETS AND OTHER PRINT | 37 | 1 1% | 2 | 0 0% | ---- | ---- | 20 | 3 0% | 59 | 1 1% |
| TALKS BY STAFF | 50 | 1 6% | 40 | 4 4% | ---- | ---- | ---- | ---- | 90 | 1 7% |
| REFERRED BY PHYSICIANS AND PROMOTERS | 58 | 1 8% | 41 | 4 5% | 12 | 3 3% | 71 | 10 7% | 182 | 3 5% |
| OTHER PHYSICIANS, CLINICS AND INSTITUTIONS | 196 | 6 1% | 166 | 18 3% | ---- | ---- | 2 | 0 3% | 364 | 7 1% |
| RADIO AND TV | 56 | 1 7% | ---- | ---- | 4 | 1 1% | 13 | 2 0% | 73 | 1 4% |
| MANTAS | 257 | 8 0% | ---- | ---- | 55 | 15 1% | ---- | ---- | 312 | 6 1% |
| FRIENDS AND RELATIVES | 2,110 | 65 5% | 551 | 60 9% | 104 | 28 6% | 368 | 55 3% | 3,133 | 60 8% |
| OTHER | 65 | 2 0% | 64 | 7 1% | ---- | ---- | 10 | 1 5% | 139 | 2 7% |
| TOTAL | 3,222 | 100% | 905 | 99 9% | 363 | 99 9% | 666 | 100% | 5,156 | 100% |