

RADIO CAMPAIGNS AND FAMILY PLANNING IN COLOMBIA, 1971-1974¹

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Several methods can be used to conservatively assess the impact of supportive radio campaigns on family planning programs. This article evaluates three Colombian campaigns in terms of the cost of bringing a new family planning acceptor to the clinics.

Introduction

Evaluation of a radio campaign supporting family planning ought to be a simple exercise, at least in theory. On the one hand, there are well-defined actions—radio announcements with a specific message, broadcast at known frequencies and intervals for a finite length of time. On the other hand, there are specific, measurable changes in behavior—i.e., changes in the numbers of women attending family planning clinics for the first time. Also, to make things seem even easier, family planning organizations normally have excellent records showing the number of new accepters each month for extended periods. But in fact, evaluating such a campaign is far from simple.

In essence, the task of the evaluator is to estimate how many new people would have come to utilize the clinics if there had been no radio announcements, to find out how many did come to the clinics and became new accepters of family planning services, and to divide the cost of the campaign by the number of unexpected accepters. This gives the cost of the radio campaign per new acceptor. Program administrators can then

decide if the radio campaign is economically worthwhile.

Since 1969 Colombia has had a radio campaign every year except in 1973. Most of these campaigns have been sponsored by *Profamilia*, the Colombian affiliate of the International Planned Parenthood Federation. Management and technical production of the *Profamilia* announcements has been carried out by *Epoca*, a Bogotá publicity agency that has donated its services.

The content of the radio announcements has remained fairly constant over the years, though themes and styles have changed some to avoid boredom. Essentially, the themes chosen reflect the goal of enabling people to have the number of children they actually want—for reasons of responsible parenthood and the desire for a better family life, improved future outlook, and good health. The announcements, which usually give clinic hours and addresses, stress that any woman can come to the clinics. They do not mention specific family planning methods or how to use them. They generally last 15 to 30 seconds and are presented several times during the day and early evening.

Several cost studies exploring the relationship between radio announcements and public acceptance of family planning clinics have been published. In the United States Udry et al. (1) found the cost per new acceptor to range from US\$75 to US\$5,000, the average cost of a multimedia campaign in three cities (a campaign that included televi-

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sion and radio announcements as well as printed messages) being US\$429 per new acceptor. However, Simmons (2) found that Colombia's 1969 radio campaign cost far less—ranging from US\$4.80 per new acceptor in Bogotá to US\$22.60 per new acceptor in Barranquilla and averaging US\$7.01 overall. Analyzing the radio campaigns in Colombia from 1969 through 1972, Bailey (3) placed the cost per new acceptor between US\$7.94 and US\$11.71. Analyzing the 1971 Colombian campaign, Stycos and Avery (4) placed the likely cost per new acceptor between US\$9.63 and US\$17.69. Unfortunately, the Stycos-Avery analysis did not have access to completely valid information. Both the Bailey and Stycos-Avery articles present interesting methodological procedures—including various alternatives—for evaluating family planning radio campaigns. The present article uses empirical findings to examine several of the methodologies involved.

Methodological Considerations

The radio campaigns have had a dual purpose. One has been to attract new family planning accepters to *Profamilia* clinics. The second has been to legitimize the concept and practice of family planning. It is this second objective that initially complicates the evaluation because it is not quantifiable. That is, it is not possible to say that family planning was a certain percent more legitimate in 1976 after seven years of radio campaigns. We do know that in Bogotá (where the radio campaigns have been most intense) the proportion of women 20-49 years of age who approved of family planning went from 68 per cent in 1964 to 91 per cent in 1974, an increase of 34 per cent in a decade (Bailey et al. (5)). But we do not know how much, if any, of this change should be attributed to the radio campaigns.

It is also important to note that the legitimization of family planning can take various forms, and that women's approval is only one. Institutional and governmental approv-

al are also necessary to legitimize family planning. Since the radio campaigns started, many organizations have approved of family planning and some (most notably the Ministry of Health) have established family planning clinics. Also, the Government has adopted an official population policy with a strong family planning component. Nevertheless, the impact of the radio campaigns on institutional and governmental policy is difficult to judge.

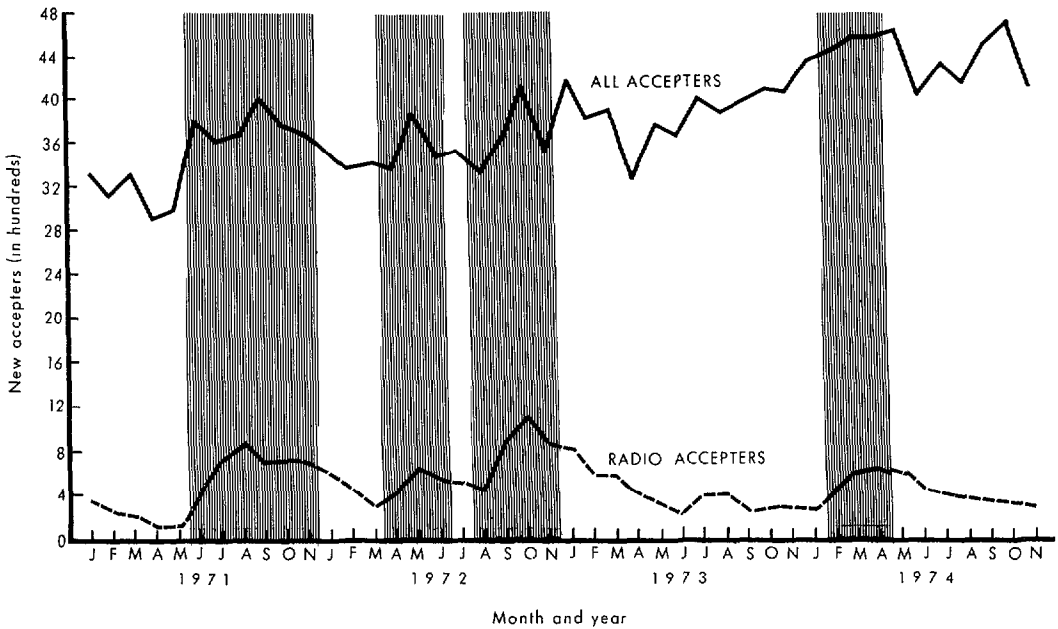
Overall, our guess is that the campaigns have helped to legitimize family planning. They have probably influenced public policy, popular attitudes, private fund-raising efforts, and even contraceptive continuation rates. But from the evaluator's point of view, the crucial job of apportioning the costs of the radio campaign and determining how those costs contributed to some specific increase in legitimacy is not empirically possible.

Because of our inability to assign either costs or benefits to the legitimization function of the radio campaigns, we decided to assign all costs to the objective of attracting new users to the family planning clinics. This means that the specific cost of attracting a new acceptor (US\$10.00, for example) would overestimate the cost of bringing a new user to the clinic. That is, attracting the new user would actually cost US\$10 minus the cost of the legitimization function. This is a distinctly imprecise way to evaluate, but it is the best available.

There are essentially two ways of determining how many people came to the clinics as a result of a radio campaign. One is to ask the women who came to the clinic how they found out about the services. This was done in the *Profamilia* clinics and the data are presented in Figure 1. This method—of simply taking things at face value and giving the radio campaign credit for attracting those who say they came in response to this campaign—could be called the "trusting empiricist" approach.

Another approach, we will call it the "skeptical empiricist" methodology, asserts that the best way to calculate the effect of the radio campaign is to look at the number of accept-

Figure 1. Numbers of new accepters (all accepters and radio accepters) coming to the 16 *Profamilia* clinics involved during 1971-1974.



ers in the period just before the campaign and to project this experience through the campaign period. The difference between the projected (expected) total and the observed number of accepters is to be credited to the radio campaign.

The "skeptical empiricist" approach does not consider what the accepters say at the time of acceptance. Basically, the argument for not considering what the accepters say is that their answers are given in a stressful situation, that their responses are not nearly detailed enough (no probing is done), and that because the decision to adopt family planning methods is not a simple two-step process (hearing the radio broadcast and coming to the clinic) these answers lack validity.

Using the "skeptical empiricist" approach, there are basically two ways to calculate the number of family planning accepters that would have been expected during the radio campaign if there had been no campaign. However, since both approaches relate to something that did not happen, neither can

be checked against reality. The simpler of the two approaches is to determine the average rate at which new accepters came to the clinic before the radio campaign and to say that during the campaign new accepters would have come to the clinic at the same rate. This approach (we will call it the "skeptical average" methodology) is static, in that it does not allow for any rise or fall during the campaign.

An alternative to the average approach could be called the "skeptical trend" methodology. Here the rate at which new accepters are expected is likewise based on some specific period before the radio campaign, but the expected rate would rise, fall, or remain constant in accord with the trend line, a linear regression line.

Precampaign Base Periods

For both "skeptical empiricist" approaches, the time period selected for determining the expected rate or rates of new accepters is of crucial importance. Lydia T. Clark (Udry et

al., 1, pp. 99-102) used the preceding 12 months to evaluate a mass media campaign in the United States. Stycos and Avery (4, p. 286), used 8 and 17 months of precampaign experience. Simmons (2) used a period of 6 months. Bailey (3) used periods of 12 and 22 months to estimate the expected number of family planning accepters in Colombia.

In general, a long precampaign period is less subject to random error than a short one because of the larger number of observations. But the longer the precampaign period, the less relevant it is to the campaign.

In the Colombian case the situation was complicated by previous radio campaigns. There were only 6 months without any radio campaigns before the 1971 campaign began and, as Figure 1 shows, there was only a three-month interval between the 1971 and 1972 campaigns. On the other hand, 12 months elapsed between the end of the 1972 campaign and the beginning of the next (1974) campaign. Confronted by these circumstances, it was necessary to decide whether or not the selected base periods would have to be

completely free of previous radio campaigns. We decided that for our purposes they would.

The Campaign Period

Clark (Udry et al., 1 p. 102) put a one-month lag into the campaign period he considered. This was done because of a recommendation by the J. Walter Thompson advertising agency and because it was found that the peak awareness of people interviewed in shopping centers did not occur until one month after the campaign began. Stycos and Avery (4 p. 283) also moved the beginning time back one month for analytical purposes.

Table 1 provides empirical evidence of how long it has taken Colombian radio campaigns to have an effect on clinic accepters, at least in terms of when people say they found out about the services. All three campaigns examined (those of 1971, 1972, and 1974) clearly had some effect during the first month. At least 11 per cent of the accepters cited radio as their source of information about family planning services in the first month of each cam-

Table 1. Percentages of new accepters coming to 16 family planning clinics who cited radio as their source of information about family planning services.

	Campaign of 1971 (%)	Campaign of 1972 (%)	Campaign of 1974 (%)
3rd month before the campaign	6.2	17.0	7.2
2nd month before	4.8	13.3	7.2
1st month before	4.6	9.5	6.2
RADIO CAMPAIGN BEGINS HERE			
1st month of the campaign	11.1	13.3	11.0
2nd month	20.1	16.8	13.3
3rd month	23.9	15.7	13.7
4th month	17.9	15.2	
5th month	19.4	14.5	
6th month	19.2	25.2	
RADIO CAMPAIGN TERMINATES HERE			
1st month after the campaign	17.0	19.8	13.7
2nd month after	13.3	16.2	11.1
3rd month after	9.5	15.2	9.2
4th month after		12.5	8.2
5th month after		8.9	7.4

paign. Moreover, in 1971 and 1974 the proportion of accepters citing radio in the first campaign month was substantially higher than it was in the month preceding the campaign. The increase in 1972 was only 40 per cent (from 9.5 per cent to 13.3 per cent of all accepters), but this was probably because of the brief 3 months elapsed since the end of the preceding 1971 campaign. We therefore decided, on the basis of these results, that it would be appropriate to include the first month of the campaign in the campaign period for purposes of evaluation.

Table 1 also indicates how long the Colombian radio campaigns of 1971, 1972, and 1974 continued to have an effect after the last broadcast was made. In 1971 the percentage of accepters saying they had learned about the services from the radio was higher in the 3 months following the campaign than it had been in the 3 months preceding the campaign. The same was true in 1972 and 1974; but in 1972 the percentage citing radio after the campaign continued to exceed the precampaign percentage for 4 months, and in 1974 it continued to exceed the precampaign percentage for 5 months.

Other researchers have included only one postcampaign month in evaluating the campaign's effect (Clark, 6, p. 102, and Stycos and Avery, 4, p. 283). But truncating the period of the campaign's effect this way tends to understate the apparent impact of the radio broadcasts. Indeed, the empirical evidence indicates that the three Colombian campaigns in question continued to have an effect for more than 2 months after they had stopped; nevertheless, we decided to include only 2 months of the postcampaign period in our evaluation, a procedure that would appear to be conservative.

Evaluation Results

The "Trusting Empiricist" Approach

The basic assumptions of the "trusting empiricist" approach are that the accepters

were giving valid responses to the question "How did you find out about the services?"⁴ and that if an accepter said she found out by radio, then she would not have come if it had not been for the radio campaign. Nevertheless, Table 1 shows that a small percentage of women cited radio as their source of information long after the *Profamilia* radio campaign had ended. Therefore, we have considered the percentage of women citing radio as their source of information during the month preceding the radio campaign to be an error factor arising from either inaccurate recall by the accepter or from a general measurement error.

In 1973-1974 *Radio Sutatenza*, a national adult education radio network associated with the Catholic Church, was broadcasting responsible parenthood announcements on a rather intense basis. There were 12 thirty-second spots per day, short (fifteen-minute) dramas five days a week, and a thirty-minute soap opera nearly every week—all dealing with responsible parenthood. These messages did not mention any clinics or service-providing agency; but they probably accounted for some women saying they heard about the services from the radio, thereby introducing a measurement error or "noise" into the data as it relates to the *Profamilia* campaigns (Nieto et al., 7).

The Table 2 data under the columns labelled "trusting empiricist approach" are based on the campaign cost divided by the total number of women coming to each clinic who said they had learned about the services from the radio during the campaign months and the 2 months following the campaign. Where there was more than one clinic in a given city (Bogotá and Barranquilla each had two clinics), the clinic results were combined.

The number of accepters who said in the last precampaign month that they had heard about the services by radio was multiplied by the number of campaign months, plus two,

⁴The question in Spanish was "¿Cómo se enteró de los servicios?"

Table 2. The average apparent cost* of attracting one new acceptor to *Profamilia* clinics in 14 cities and towns through radio campaigns, 1971-1974—by the years of each campaign and the evaluation methods used. All figures are in U.S. dollars at the time of the campaign.

	1971 campaign			1972 campaign			1974 campaign			
	"Trusting empiricist" approach	"Skeptical empiricist" approach		"Trusting empiricist" approach	"Skeptical empiricist" approach		"Trusting empiricist" approach	"Skeptical empiricist" approach		
		"Average" method	"Trend" method		"Average" method	"Trend" method		"Average" method	"Trend" method	
									12-month trend line	5-month trend line
Bogotá	US\$13.68	US\$12.78	US\$4.60	US\$6.65	US\$13.39	US\$2.33	US\$8.65	US\$4.60	US\$2.86	US\$9.19
Barranquilla	28.16	Loss	Loss	30.31	Loss	1.64	Loss	Loss	Loss	6.03
Medellin	34.27	10.94	5,688.00	2.76	1.12	2.41	5.58	2.36	Loss	Loss
Pereira	17.24	10.75	10.85	22.66	Loss	2.08	Loss	Loss	Loss	Loss
Ibagué	25.15	10.52	11.79	Loss	Loss	Loss	6.00	11.19	Loss	2.98
Pasto	7.97	7.97	19.70	51.56	10.79	Loss	380.00	Loss	Loss	Loss
Bucaramanga	9.98	9.46	7.72	2.55	Loss	1.00	76.00	Loss	Loss	Loss
Neiva	9.65	Loss	Loss	4.18	Loss	1.56	Loss	Loss	Loss	14.45
Cúcuta	11.78	9.87	Loss	10.50	3.80	Loss	11.92	30.40	Loss	Loss
Manizales	8.18	12.15	Loss	5.09	Loss	Loss	7.84	Loss	Loss	Loss
Cali	39.84	Loss	35.66	14.71	Loss	Loss	63.80	8.22	Loss	Loss
Armenia	8.97	Loss	5.04	5.82	19.05	Loss	38.00	Loss	Loss	Loss
Montería	12.13	32.04	7.79	3.52	0.45	0.65	7.96	2.11	5.45	Loss
Sogamoso	15.15	4.51	2.75	1.37	1.90	0.81	31.44	Loss	Loss	Loss
Total (16 clinics)	15.81	17.72	9.54	6.41	9.70	3.33	12.60	7.85	24.05	Loss

*These apparent average costs do not include the fair market value of the management and production services donated by *Epoca*. To establish dollar values, the Colombian peso costs in each city were divided by the average U.S. dollar-peso exchange rate during the radio campaign.

and subtracted from the total number of accepters citing radio during the campaign and for 2 months thereafter. This was done to take the "noise" out of the data and, as much as possible, to count only accepters who came in response to the campaign. All months of December were excluded because the number of accepters usually declined by 16 per cent in that month as compared to November. Stycos and Avery (4, p. 310) followed a similar procedure with respect to Decembers. The effect of not using the December acceptor data but including the December costs (as we have done) is to increase the cost per acceptor—and hence to underestimate the impact of the campaign.

Viewed from this "trusting empiricist" perspective, the average cost per new acceptor attracted by the radio campaign was US\$15.81 in 1971, US\$6.41 in 1972, and US\$12.60 in 1974. As may be seen, in each of the three years considered this average cost varied considerably from one clinic to another.

In 1971 there were 4,072 accepters who appeared to have come in response to the radio campaign. Many of these (38 per cent) came from the capital, Bogotá, a city of 2.5 million inhabitants. In 1972, 34 per cent of the 3,782 radio accepters came from Bogotá, while 20 per cent came from Medellín, a large city of over 1 million inhabitants. In 1974, 58 per cent of the radio accepters came from Bogotá and 29 per cent came from Medellín. Therefore, as these data indicate, two of the three large cities included in the campaign accounted for a large fraction of all radio accepters. The third large city, Cali, was way above the national average in terms of average cost per new acceptor.

The "Skeptical Empiricist" Approach

The "skeptical empiricist" approach rejects the women's responses about how they discovered the services as being largely unreliable, invalid, or both. It asserts that the effect of the radio campaign can only be determined

by estimating what would have happened had the campaign not taken place.

The "skeptical average" method. The added assumption of the "skeptical average" method is that the best predictor of future behavior is the average experience of the past. Hence the series of uninterrupted noncampaign months preceding the campaign are used to determine the precampaign average. In our work the campaign period was considered to include the months of broadcasts plus the subsequent two months, and all Decembers were excluded.

Using this method, the overall cost per acceptor attributed to the radio campaign (see Table 2) appeared to decline from US\$17.72 in 1971 to US\$9.70 in 1972 and to US\$7.85 in 1974. There was considerable variation in the average cost per acceptor from one clinic to another. There were five clinics in 1971 (including both Barranquilla clinics) and eight in 1972 and 1974 (including both Barranquilla clinics) where fewer new accepters came during the radio campaign and the following two months than had been expected on the basis of previous experience. It is hard to believe that the radio campaign caused these declines; but the campaign apparently did not attract any new accepters to these clinics.

In 1971, 45 per cent of the 3,633 new accepters attributed to the radio campaign came to the two Bogotá clinics, and 15 per cent came to the clinic in Medellín. In 1972 the radio campaign was spectacularly successful in Montería, a small town near the Caribbean coast, and also in Medellín. That year the clinics in these two cities and in Bogotá together accounted for 2,045 (82 per cent) of the 2,497 unexpected accepters. This trend was even more pronounced in 1974, when the sum of the unexpected accepters in Bogotá and Medellín (2,852) was more than the net increase (2,570) in all 14 cities involved. Therefore, one conclusion reached using the "skeptical average" method is that most of the benefits were obtained in three cities—Montería, Medellín, and Bogotá.

The "skeptical trend" method. Besides

making the general assumptions of the "skeptical empiricist" approach, this method assumes that the number of new accepters in a given month is correlated with the number of accepters in the immediately ensuing months—and that if there were no campaign one would logically expect the number of new accepters to grow, stay constant, or diminish in accord with trends observed in the precampaign period.

Employing this method, the uninterrupted string of noncampaign months preceding each campaign was used to determine trends, and these trends were projected through the campaign period and the 2 following months. The base periods used for this purpose were the 5 months preceding the campaign in 1971, the 3 months preceding the campaign in 1972, and both the 12 months and the last 5 months preceding the campaign in 1974. (In the latter case two trend lines were projected, one based on the twelve-month period and the other on the five-month period.) All Decembers were excluded and the campaign period was considered to include the months of broadcasts plus the subsequent 2 months.

Table 2 shows the results obtained in each of the 14 cities. The apparent average cost per new acceptor was US\$9.54 in 1971, US\$3.33 in 1972, and (using the twelve-month trend line) US\$24.05 in 1974. Using the five-month trend line, it appeared that no accepters who would not have come in otherwise were attracted by the radio campaign. In all three cases where positive results appeared, Bogotá again accounted for a substantial proportion of the unexpected accepters. Over two-thirds of the unexpected accepters came to the clinics in Bogotá in 1971 and half of the unexpected accepters came to Bogotá clinics in 1972. In 1974 Bogotá was one of the only two cities that appeared to have unexpected accepters.

Discussion and Conclusions

We have raised two issues simultaneously. One concerns the best methodology to use in

evaluating family planning radio campaigns, and the other concerns the actual impact (and hence the worth) of such campaigns.

With regard to the best methodology of the three employed, no clear choice emerged—but the data did indicate that the radio campaigns did have an immediate effect (in the first month) and that they continued to have an impact for several months (probably 3 months and perhaps as many as 4 months) after the last broadcast had been made. Overall, the "skeptical trend" analysis yielded results showing the lowest cost per acceptor in 1971 and 1972 but the highest cost per acceptor in 1974. The "skeptical average" method gave results showing the lowest cost per acceptor in 1974 but the highest cost in 1971 and 1972. And the "trusting empiricist" approach yielded results showing costs intermediate between the costs indicated by the other methods in each of the three campaigns. This suggests that the "trusting empiricist" approach might perhaps be the preferred methodology to use, at least until more data are obtained.

With regard to the worth of the radio campaigns, the apparent cost per new acceptor in the 1971 campaign was somewhere between US\$9.54 and US\$17.72. This range may in fact be a little high because we systematically underestimated the effect of the campaign—by such actions as including only two of the months following the campaign and excluding December benefits while including December costs. Also, all costs were charged to new accepters and none to the legitimization function. This increases the cost per acceptor by some undefinable amount. The apparent range of 1974 costs (US\$7.85 to US\$24.05) was wider but otherwise similar to the range in 1971. The 1972 campaign appeared to have been more effective than the other two in terms of attracting new accepters to the clinics, the apparent range of costs that year (US\$3.33 to US\$9.70) being lower than it had been in either 1971 or 1974.

Strictly from the point of view of cost, the radio campaigns were most successful in

Bogotá, Medellín, Montería, and Sogamoso (a very small town); and they may have been somewhat successful in Armenia and Manizales (two medium-sized towns). In the other eight towns the program was not at all successful in attracting new accepters to the family planning program. These results sug-

gest that enough people may have known about the clinics in the small and medium-sized towns, and that the informal communication networks there may have been sufficiently operative to obviate the potential need for impersonal mass media campaigns.

SUMMARY

It is logical to suppose that promotional radio campaigns can and do make positive contributions to family planning programs. Such broadcasts can help legitimize the concept and practice of family planning and can also help to bring new family planning accepters to family planning clinics. However, it is difficult to measure this general legitimization process, and so the only impact that appears easily measurable is increased attendance at family planning clinics. The purpose of the present work is to describe the methods used to evaluate the impact of three radio campaigns on attendance at family planning clinics in 14 Colombian cities in 1971-1974 and to indicate the results of that evaluation.

Several different methods can be used to evaluate a radio campaign's impact on the numbers of new accepters visiting family planning clinics. One method is to ask each new acceptor how she learned about the family planning services and, if the radio is cited, to consider that she was attracted to the clinic by the radio campaign. Another method is to find the average rate of new accepters coming in during some period before the radio campaign and to credit increases in that rate

during the campaign to the promotional effort. A third method is to determine trends in the rate at which new accepters were coming in before the campaign, to project those trends through the campaign period, and to credit the campaign with all increases above the levels indicated by those projections.

All three of these methods were used in our evaluation of the 1971-1974 radio campaign in Colombia. The results of this evaluation were as follows: The apparent campaign cost of attracting each new acceptor was between US\$9.54 and US\$17.72 in the 1971 campaign, between US\$3.33 and US\$9.70 in the 1972 campaign, and between US\$7.85 and US\$24.05 in the 1974 campaign.

No evidence emerged to indicate that any one of the three evaluation methods used was superior to the others, but the first method (using the new accepters' actual answers to how they found out about the services) yielded results that were consistently intermediate between those obtained with the other methods. This suggests that this first method may perhaps be the best method to use, at least until further methodological evidence is available.

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