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PD-AAA-124-31
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Initial Evaluation of the Basic Health Services
Program (Low-Cost Health Delivery System), Region
IV, Dominican Republic.

Health Sector Loan for the Dominican Republic
(AID 517-U-028)

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Bar Harbor, Maine
Agency for International Development
Washington, D.C.

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12/14/77

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of three elements: nutrition, administrative reform of Secretariat of Public Health, and the low-cost health care delivery system. As the USAID has informed AID/W in its monthly loan implementation reports, there have been repeated delays in implementing the nutrition and administrative reform elements of the loan, and consequently, these elements will not be suitable for evaluation for some time to come. Meanwhile, the USAID and the GODR felt that an evaluation of the Basic Health Services (SBS) program was imperative, particularly with regard to the degree of progress in achieving intermediate objectives in Health Region IV where the program has been operative for the longest period of time.

Health Region IV is composed of the provinces of Barahona, Bahoruco, Independencia, and Pedernales, all in the southwestern area of the country. There are one or more promoters currently working in 165 villages in the region. The promoters are inhabitants of the villages in which they serve. Most are women. They have received three weeks of training, and they provide a variety of simple health services with special emphasis on immunizations and the provision of contraceptives, pills and condoms, to those couples who request them.

Every promoter submits a monthly report to his or her auxiliary nurse supervisor in which the promoter provides the following information:

a) the number of live births; b) the number of deaths, which are reported individually by age and size; c) the number of children under 5 years of age who received a first and/or second dose of D.P.T.; d) the number of children 10 years of age who received a dose of measles vaccine; e) the number of women ages 15 to 49 years who received a first and/or second dose of tetanus toxoid; and f) the number of women currently practicing contraception with supplies distributed through the Basic Health Services (SBS) program. It was hoped this information system could be utilized to evaluate progress with regard to intermediate program objectives, which include:

a) immunizing 75 percent of the children under 5 years with two doses of DPT; b) immunizing 75 percent of the children under 10 years of age with one dose of measles vaccine; c) immunizing 80 percent of women ages 15-49 years with two doses of tetanus toxoid; and d) enrolling 4.8 percent of the women ages 15-49 years as current users of contraception.

It was not feasible to utilize this information system to evaluate the intermediate objectives described previously due to over-reporting. In some villages the promoters immunized children beyond the age of 5 years with DPT. Unfortunately, however, these older children have frequently been reported as being under 5 years and having received two doses of DPT. Similarly, adult males who have received two doses of tetanus toxoid have occasionally been reported among

the women vaccinated. The GODR is fully aware of these problems in reporting and is taking appropriate measures in an attempt to correct them.

Since the original approach designed for evaluation did not function adequately, it was elected to undertake an evaluation by a sample survey. In early March 1977, 20 communities were randomly selected from 165 villages in which the SDS is being implemented in Region IV. A team of 10 health professionals then examined the household records of every family in each of the 20 communities selected and recorded the appropriate data for evaluation. The household records include the name and age of each person living in the household as well as information on births, deaths, immunizations, and use of contraception. The population (all ages) of these 20 villages was found to be 11,526 or 13.3 percent of the 86,932 inhabitants of the 165 communities currently served by the SBS program in Region IV. The findings of this survey are presented in the following table:

<u>Age Group and Intervention</u>	<u>Sample Size</u>	<u>Coverage, Number</u>	<u>Goal, Percentage</u>	<u>Coverage, Percentage</u>	<u>95 percent Confidence Intervals</u>
Children 5, 2 doses of DPT	1,981	1,001	75	50.5	48.3 - 52.7
Children 10, one dose of measles vaccine	3,945	580	75	14.7	13.6 - 15.8
Women 15-49, 2 doses of Te- tanus Toxoid	2,310	495	80	21.4	19.7 - 23.1
Women 15-49, Active Users of Contraception	2,310	189	4.8	8.2	7.1 - 9.3

It should be noted that shortly before the measles vaccine reached the Dominican Republic, there was an epidemic of measles in Region IV. Thus, most susceptible children under 10 years acquired the disease before the vaccine was available.

It is difficult to assess the accuracy of the proportion of women currently using contraception in the villages included in the sample. On the one hand, some women reported as current users (which includes only those using pills or condoms supplied by the promoter) may have been prior acceptors in the national family planning program who have simply changed their source of supply. On the other hand, some women in these villages are known to be using IUDs, and they were not reported in order to avoid duplication in the national reporting system. In view of the finding of the National Fertility Survey of 1975 that 8.0 percent of all women between 15-49 regardless of marital status have undergone a sterilization procedure, it seems likely that some of the women in villages served by the SBS program have been sterilized. Considering all of these factors, the USAID feels the proportion of women reported as practicing contraception is underestimated.

The estimate of the proportion of women who received two doses of tetanus toxoid is also very likely underestimated to a slight degree. Some pregnant women received one dose of tetanus toxoid during the last trimester of pregnancy and later received the second dose following delivery in a hospital. Such women were not reported as

having two doses of tetanus toxoid since the promoters were instructed to report only those women they had personally immunized.

The USAID expected that the SBS program would be more efficient in smaller villages since those promoters with fewer recipients to attend could devote more time to individual families. The sample data was analyzed with regard to a possible negative association between size of the target population (for example, children under five years) and the degree of coverage obtained (two doses of DPT), but no such association was found for DPT immunizations, tetanus toxoid immunizations, or family planning acceptance. The USAID also anticipated that coverage with DPT would be positively associated with coverage with tetanus toxoid, and the results of the sample data are consistent with the assumption as is shown in the attached figure.

The USAID and the GODR are currently taking steps to improve the coverage with immunizations with DPT and tetanus toxoid in Region IV.

These include:

a) Identification of all villages, including those which were not part of the sample, with less than 75 percent coverage of children under 5 years with two doses of DPT and of all villages with less than 80 percent coverage of women 15-49 years with two doses of tetanus toxoid.

b) The preparation of posters promoting immunizations (DPT and tetanus toxoid) for installation in villages with less than 75 percent coverage.

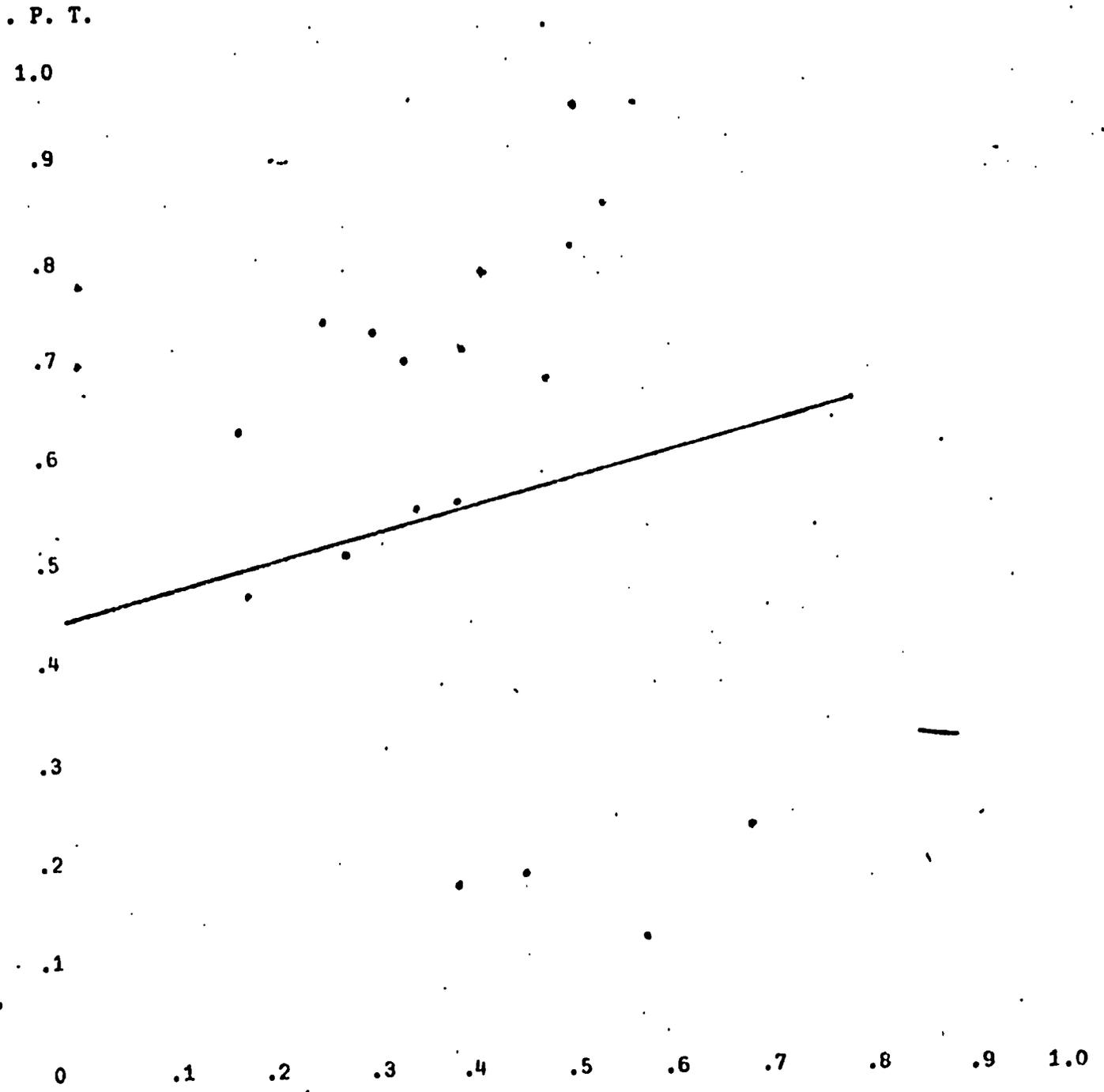
c) Radio spot announcements are being prepared for use in Region IV to encourage immunizations.

d) Following the health education campaign described above, DPT and tetanus toxoid immunization will be offered in all villages where coverage is less than 75 percent.

While the USAID and Dominican health officials are disappointed with some of the results to date, particularly the coverage with tetanus toxoid, the USAID is quite pleased that the Dominicans played an active role in each step of the evaluation and are taking measures to improve coverage with immunizations. The USAID and Dominican health officials are confident that the SES program has achieved a marked increase in the number of family planning acceptors in Region IV and expect further increases with the passage of time. A second evaluation is planned in September 1977, following efforts to improve performance.

It is possible that certain activities of the promoters (such as early, oral rehydration of young children with diarrhea and the promotion of breast feeding and the introduction of solid foods in infants' diets at the age of six months) may be having a favorable impact on infant and preschool child mortality. Since the program will not be in effect in all villages in the region until August 1977, rates cannot be estimated with any degree of confidence at this time.

Scattergram and least squares line
for coverage of target groups
with DPT and tetanus toxoid



Evaluation of the Health Sector Loan
- Program for the Dominican Republic
(AID 517-U-028)

Amendment No. 1

Donald W. MacCorquodale, M.D., M.S.P.H.
December 14, 1977

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In October 1977, the Basic Health Services program was extended to three additional communities in Region IV, and the administrators of the program took this opportunity to gather data from these villages regarding coverage with immunizations and family planning for the purpose of comparison with villages served by the program. In addition to taking a complete census of the community, the promoters also asked the female head of each household whether each child in the family had received two doses of D.P.T. or one dose of measles vaccine. Women of reproductive age were asked if they had received two doses of tetanus toxoid and if they were using a family planning method. If a woman replied affirmatively to the latter question, she was also asked which method she was using.

The total population of the three communities was 1,822, and there were only minor variations in the age-sex distribution of these communities as compared to that of the communities, previously studied. It was found that 5.5 percent of the 307 children under five years of age had received two doses of D.P.T. No children had been immunized against measles. Only 2.9 percent of the 348 women of reproductive age had received two doses of tetanus toxoid.

Three and four tenths (3.4) percent of the women of reproductive age were using oral contraceptive pills. No couples reported,

using condoms. ^{Three} These women had undergone a tubal ligation and one woman was using an IUD. Hence, a total of 4.6 percent of the women of these villages reported that they were currently using a family planning method. These results as well as those of the survey conducted in August 1977 are shown in the accompanying table.

It is obviously hazardous to generalize the findings in the control villages to all villages of comparable size not served by the Basic Health Services program since the sample was not randomly selected. Knowledgeable public health physicians in this country are strongly persuaded that coverage with immunizations in such villages is quite low. It is reasonable to assume that the prevalence of contraceptive use is also quite low in eminently rural areas since free contraceptive supplies are only available from clinics in cities and large towns.

By March 31, 1979, AID had disbursed \$1,982,035 against Loan No. -028 and \$580,000 against supporting grants. No disbursements had been made against Loan No. -030. The Dominican Government had disbursed \$3,520 against total agreed-to counterpart contributions of \$6,919,274 (see Attachment A).

The project-financed low-cost health delivery system utilizes local women, referred to as promoters, who are trained under the program to bring preventive health services and a limited number of curative services into the recipients' home in the area or community in which the promoter lives. Nearly 3,200 of the programmed 4,500 health promoters have been trained in basic health and nutrition and are actively serving their communities. Health promoters provide instruction in personal hygiene, sanitation, nutrition, and family planning. They dispense a limited variety of project-financed medicines and vaccines and refer patients to clinics as necessary. All such services are recorded in the family's medical record.

The health delivery system is fully operational in three of the country's original five regions. Implementation is well underway in the other two. This program has been enthusiastically received in the rural communities where it has been implemented.

The nutrition component called for the establishment of an Office of Nutrition Coordination, a national nutrition education program, unspecified research, and the development of a high-protein food supplement for infants, nursing mothers, and pregnant women. A Nutrition Coordination Office has been established. Education undertaken so far has included mass media programs, seminars, and the establishment of five nutrition recuperation centers where health promoters are trained and effective nutrition is demonstrated. Five more centers are planned, three of which are in process. The Secretariat plans to contract for evaluating the effectiveness of the mass media program.

Expenditures for research have been insignificant, and it seems unlikely that the funds allocated to this purpose will be fully utilized. As we understand it, the food supplement program has been scrubbed.

The main reason for the poor showing in the research element of the nutrition component is the failure of the Dominican Government to respond to requests for counterpart contributions. It does not appear that much more can be done barring an unforeseen new initiative on the part of the Dominican Government. The Mission plans to reprogram the unused nutrition research and food supplement loan funds (the exact amount of which is not yet known for use elsewhere in the health sector).

The administrative reform component has not suffered from want of counterpart funds. What has slowed progress in this component is the change of administration following the presidential election of May 1978 and predictable bureaucratic resistance to sound organizational and management changes.