Community Information System for Primary Health Care in the Municipality of Arismendi, State of Sucre, Venezuela
Paria Project Foundation

Summary

The Community Health Program of the Paria Project Foundation [Fundación Proyecto Paria (FPP)] includes a capacity-building component in rural communities to enable them to take actions to improve the quality, quantity and impact of public health services. This is accomplished by obtaining information and using it effectively. This component, known as the Community Information System for Primary Health Care [Sistema de Información Comunitaria en Atención Primaria de Salud (SICAPS)], consists of simplified technology for the participatory collection and processing of demographic, epidemiological, and socio-economic data. Supported by FPP promoters, communities use these data to develop local health projects, support primary health care service provision in their communities, and negotiate with public agencies for the services and investments that they consider priorities. Since their creation in November 1998, Health Committees comprising volunteers in communities where the system has been installed, have successfully leveraged public resources and investments targeting high-risk areas in their communities. They likewise have contributed significantly to improving the quality and effectiveness of the services provided by “Simplified Medicine Aides” in their areas.

Background

SICAPS has been implemented in 15 rural communities2 within the FPP’s sphere of action. In these communities, illiteracy is as high as 16%, and 29% of households lack access to potable water and 68% lack access to sewage systems. In addition, they present high rates of preventable diseases such as diarrhea, acute respiratory infections, malaria, and dengue fever. The problems in these communities are reflected at the regional level. Currently, 26% of malaria cases in Venezuela occur in the State of Sucre, while 10% of deaths by dengue fever occur in the Municipality of Arismendi.

These communities have limited access to medical and hospital services provided in larger population centers because of the distance and the lack of adequate roads and

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2 Chaguarama de Sotillo, Chacaracual, Agua Dulce, Caraquita, Churupal, Medina, Caratal, Monacal, Paraíso, Guayaberos, Guarapiche, Nivaldo, Cocolí, Chaguarama de Loero and Puipuy.
transportation services. Ambulatory units run by Simplified Medicine Aides [Auxiliares de Medicina Simplificada] provide day to day health services. These aides lack the training and equipment necessary to carry out activities in the areas of prevention, health education and recovery.

Two well-documented problems in health services delivery are that “the majority of health outcomes are the result of behavior in the home,” and “because households present enormous differences in terms of their health needs, the best outcomes are obtained by building the client’s capacity to monitor and instruct the health care provider.”\(^3\) In the context of 15 communities in Paria—which lack appropriate preventive behaviors in the home and have limited access to health services—a participatory information and epidemiological monitoring system such as SICAPS addresses the problems described by Devarajan in two ways. It informs and raises awareness among residents concerning habits that constitute risk factors and serves as a point of reference for behavioral changes. Organized community members involved in information gathering, processing, and analysis serve as intermediaries between public service providers and the home. They are in a position to communicate the specific needs of their communities to service providers, and to monitor and oversee their response.

**Objective**

SICAPS aims to provide rural communities with the wherewithal to become involved in managing epidemiological information as a tool for local empowerment in the health sphere. Through SICAPS, communities acquire the capacity to shape public policies that are more equitable and socially and culturally accessible.

**Processes and methods**

**Who**

The program’s main actors are:

CIMDER Foundation (Center for Interdisciplinary Development Research [Centro de Investigaciones Multidisciplinarias para el Desarrollo]): This Colombian organization, with thirty years of experience in health-related research and technical cooperation, created SICAPS in 1997 with UNICEF funding. CIMDER already had field-tested SICAPS in two Colombian municipalities when it signed an agreement with the FPP.

Paria Project Foundation [Fundación Proyecto Paria (FPP)]: Founded in 1989, the FPP designs and supports projects to improve the quality of life in poor cacao growing communities in the Municipality of Arismendi. One of its policies is to help strengthen, rather than replace, the government’s role in public health service provision; hence its interest in SICAPS. In 1998, the FPP entered into a technical cooperation agreement with CIMDER for technical training in the application of SICAPS and for the acquisition of software and support manuals.

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FPP Health Promoters: Two FPP health promoters support the Aides and Health Committees through weekly meetings in the 15 communities where SICAPS has been implemented. Both have at least two years of postsecondary education and have received ongoing training, with FPP resources, in areas relevant to their work, including training in SICAPS implementation. They likewise have received training in methodologies to facilitate decision-making processes and participatory planning. The FPP’s leadership believes that the ratio of 8 communities per promoter is adequate. This ratio means that the Promoter can visit and conduct weekly meetings to support the Aides and the Committees.

Simplified Medicine Aides from the Ministry of Health and Social Assistance: These Aides serve 10 of the 15 communities. Although they received one year of training prior to beginning work, they are inadequately trained and ill equipped to carry out activities in the areas of prevention, health education, and recovery. For example, they frequently lack vaccinations and reagents for microscopes, they do not know how to determine the seriousness of acute respiratory infections nor how to treat them, and they present deficiencies in the detection and treatment of malaria and in examinations and check-ups for pregnant women. The Aides have been trained to use SICAPS and work jointly with FPP Health Promoters and the community Health Committees in its implementation.

Health Committees: All 15 communities have these voluntary organizations made up mainly of women, most with little formal schooling. The Committees and the Aides meet weekly with their Health Promoter to monitor and evaluate progress in SICAPS implementation and to receive necessary training and assistance. The Committees have between 4 and 15 members, depending on the community. Some Committee members are Voluntary Health Promoters who have been trained to work with the Aides in education and follow-up in the community.

Communities implementing SICAPS (beneficiaries): These 15 communities comprise a total of 1,262 homes and 5,076 inhabitants. The largest community has 165 homes and the smallest, 19.

What

SICAPS is a simplified technology for the collection, processing and participatory feedback of demographic, epidemiological, and socioeconomic information. Its diverse tools and procedures are used, with support and advice from FPP Health Promoters, in decision-making processes and activities to improve health service delivery in the communities. The diagram below illustrates SICAPS’ composition, tools, and processes.
As shown in the diagram, the cycle begins with the **Family Card**, which is used to record epidemiological, demographic and socio-economic information from each household, and should be applied every six months. *This information is gathered by Health Committee Volunteers*, who have received 12 hours of training in this area from their Health Promoter. The Promoter provides support at weekly meetings held throughout the data collection period.

Once the data has been collected, FPP technical staff input it in the **SICAPS Software** installed in the FPP’s central office, and produce reports. Once this is done, the cards are returned to the communities where they are filed in a location accessible to the community ambulatory clinic. Subsequently, the Health Promoter analyzes the information and creates a colorful, graphic presentation of the findings. Subsequently these findings are analyzed and discussed at community meetings.

The Health Promoter creates a sketch of the community on a large board. He or she meets with the Committee and the Aide to create a **risk map**. This is accomplished by inserting a colored pin for each house on the board, based on the information in each card. Each color represents a health risk, based on a pre-established color code. The risk map is placed in a prominent location in the community clinic.

Based on an analysis of the risk map, the Committee and the Aide develop a **Plan of Action** and **Community Project**. The Health Promoter facilitates this process using a participatory educational approach. The **Plan of Action** details the main risk factors in the community, goals for reducing them, and a work plan to accomplish these goals. It includes actions such as, for example, an awareness campaign on trash and waste removal. The **Community Project** is a funding proposal focused on a particular health problem in the community, for example, the construction of water supply or sewage systems.

Subsequently, the Health Committee and the Aide carry out activities (interventions) to ensure the success of the **Plan of Action** and the **Community Project**. One such activity is to approach higher level government entities: the Committee writes a letter to the District Health Official requesting that a medical doctor from the District go to the community to perform necessary exams. The Committee then makes follow-up visits to this government office. It likewise introduces its Community Project to the relevant government agencies. The Promoter helps the Committee write grant proposals and identify the relevant government offices. The Committees also support and monitor the Aide in awareness campaigns and vaccination campaigns.

The cycle is completed with the creation of a **Risk Banner**, a colorful illustration of the evolution of risk factors over a six-month period. Created following the second **Risk Map**, the banner allows the actors involved to see the results of their interventions, evaluate their performance and organization, and develop Plans and Projects for the next period.

**How**

Program implementation began with a November 1998 visit by CIMDER consultants. During that visit, the consultants trained FPP technical staff in the use of manuals and software and presented 16-hour workshops on “Participatory Education” and “Community Information Systems” for Health Promoters, Aides, and selected volunteers from the
Health Committees in 7 communities. Other community leaders, including staff from the mayor’s office, also participated in the workshops.

Following the training, the Promoters met with the Committees to explain the benefits of the system and train them in filling out the Card. The Committee volunteers applied this instrument during the ensuing months. In late 1999, CIMDER made a second visit and met with the local actors to ascertain any gaps and limitations in the Cards. After adapting the instrument to the needs of Paria, the consultants returned in mid 2000 to offer a workshop based on the new instrument. Work with the new instrument began that year and 7 additional communities were incorporated into the program.

The FPP made several modifications to the original SICAPS design during implementation. It produced the community sketches without the benefit of services from the municipal land registry office because of the latter’s characteristic slowness. It also decided not to create giant participatory sketches in the communities due to the lack of adequate materials and equipment for this purpose and the attendant need to haul huge boards back and forth between the communities and the FPP offices.

There have been obstacles to full implementation of SICAPS. The first Risk Banner still has not been created due to software failures that made it impossible to produce a second Risk Map.

**How Much**

Technical cooperation from CIMDER had a total cost of $7,600, which covered air and overland travel of consultants, materials (manuals and software), and consulting fees.

The cost of maintaining the program has not been calculated exactly since it is closely linked to the other components of the FPP Health Program, such as training workshops on the causes of morbidity in the communities and other training workshops for school teachers. The FPP Health Program costs approximately 60 million Bolivares annually ($37,500). This covers the salaries of the 2 Health Promoters, their driver, vehicle maintenance and depreciation, gasoline, materials, transcription of SICAPS date, office space and services, maintenance and depreciation of computer equipment, software maintenance, educational and office supplies.

**Outcomes**

- **Changes in individual and family behavior.** The communities became aware of the need to change behaviors after seeing and discussing their health risk factors. But the mere fact of seeing the information does not produce an automatic effect. SICAPS’ success lies in the support that the Aides receive from Committee volunteers in consciousness-raising activities in the community.

- **High-level service providers have responded to the Committees’ request (development of public policy).** Health district doctors have responded to the Committees’ requests to perform medical exams and to send medications, albeit with some delays. Six of the 15 communities that presented Community Projects to government agencies in 2001, obtained the requested funding. There has been less success in the area of dental health due to lack of capacity in government agencies to address this area.
• **Aides are better informed, trained, and supported.** SICAPS offers them the opportunity to learn and to refresh their skills, and provides them with the information they need to set priorities in their work plan. Once they understand the needs of their communities, the Health Committees are better situated to influence the scheduling of Aides and to support their work. With community support and monitoring, the Aides have begun to carry out training and prevention activities that, while stipulated in the regulations, were not being put into practice.

**Limitations and opportunities**

The initiative faces three types of limitations: 1) the community is still dependent on the FPP in order to apply SICAPS; 2) technical difficulties with the software; 3) the distrust of high-level health officials. There are several explanations for persistent community dependence: low educational levels coupled with the complexity of the card; lack of computer equipment and dependence on the FPP for data processing; the tendency to become paralyzed when the Promoters are absent, due to lack of a sense of ownership over the process. The FPP has faced serious software problems, which have led to reporting errors and this has delayed program implementation. The FPP plans to develop its own software to solve the problem. Finally, high-level health entities have criticized the Family Cards as not “official.” However, the Aides and communities have not let themselves be intimidated by this in view of the instrument’s utility and the lack of alternatives coming from the official hierarchy.

There are many opportunities ahead for SICAPS. The National Statistics Institute (INE) has displayed a serious interest in the system because it lacks mechanisms to gather statistical information in communities with less than 1,000 inhabitants. INE is considering the possibility of developing a program to validate the system, with support from the United Nations Population Fund, and using it in all population centers with fewer than 1,000 inhabitants.

Reliable software is essential in order to strengthen SICAPS and ensure its sustained impact, as is the presence of Promoters committed to supporting the communities in implementing the system.

**Additional Resources**

For more information, please contact CIMDER in Cali, Colombia (Telephone 554-2377; 554-2491; 558-1948; Fax. 554-2488; e-mail: cimder@telesat.com.co) or the Fundación Proyecto Paría en Caracas, Venezuela (Telefax: 264-1054; 263-4660; e-mail: fproyectoparia@cantv.net).
ANNEX

DETAILED DESCRIPTION OF SICAPS INSTRUMENTS

Family Card. This instrument is used to record the following information for each household surveyed: 1) location; 2) characteristics of household members (e.g. names, ages, relationship, schooling, work status); 3) housing characteristics with emphasis on relevant aspects from an epidemiological standpoint (e.g. presence of animals, sources of potable water, trash disposal, etc); 4) condition of children under age 15 living in the home: growth, development, oral health, immunizations; 5) family planning habits in the household; 6) the situation of women of childbearing age, men between the ages of 40 and 60 years, pregnant and recently delivered women, adults over 60 with respect to immunizations and medical exams; 7) morbidity in the household; 8) family issues that constitute social problems (discipline of children, tobacco, alcohol, tranquilizer, and drug use); 9) mortality. A picture of the first page of the card is shown below.

User-friendly Software. This software is “user-friendly” because it can be used by non-technical personnel after a brief training. It automatically generates the indicators used to create the risk maps. The communities themselves could use it, if they had the necessary computer equipment.

Risk Map. This is a sketch mounted on a large board where colored pins are affixed for each household based on the information in the Family Card. Each color identifies the health risks for each household based on a pre-established color code. An example of a risk map appears below.

Plan of Action. This is a document outlining a community’s main risk factors, the goals for reducing these factors, and a work plan to accomplish the goals. For example, some elements of a work plan are: 1) community training on water treatment; 2) awareness campaign on trash and waste disposal; 3) parasite treatment campaign; 4) cytology operations.

Community Project. A document that includes a funding proposal targeting a particular health problem in the community. Projects developed in recent years include potable water systems, paving the main road, solid waste collection systems, and sewage disposal.

Risk Banner. A colorful illustration of the evolution of risk factors in the community over a certain time period. It is created after the second round of data collection. The banners enable Health Committee to see the effects of their interventions during the period, evaluate their own performance and organization, and develop Plans of Action and Community Projects for the following period.