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FINAL TECHNICAL REPORT
MAY 2005 – DECEMBER 2008

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REDSALUD
REPUBLICA DOMINICANA

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ACRONYMS

ARS	Risk Management Assurance *(Administradora de Riesgos en Salud)*
CAH	Hospital Administration Councils (*Consejos de Administración Hospitalaria)*
CAF	Common Assessment Framework
CERSS	Executive Commission for Health Sector Reform (*Comisión Ejecutiva de Reforma del Sector Salud)*
CES	Center for Health Studies (*Universidad Centro de Estudios de la Salud de Colombia)*
CNSS	National Social Security Council (*Consejo Nacional de Seguridad Social)*
CUPS	Unique Codes for Health Procedures *(Código Único de Procedimientos en Salud)*
DIDA	Directorate of Information and Defense of Social Security Beneficiaries/Social Security Office of the Ombudsman (*Dirección de Información y Defensa de los Afiliados a la Seguridad Social)*
DPS	Provincial Health Directorates of the Ministry of Public Health and Social Assistance *(Dirección Provincial de Salud de la SESPAS)*
DRS	Regional Health Directorate of the Ministry of Public Health and Social Assistance (*Dirección Regional de Salud de la SESPAS)*
ENDESA	Demographic and Health Survey *(Encuesta Demográfica y de Salud)*
EPI	Expanded Program on Immunizations *(Programa Ampliado de Inmunizaciones)*
HISTOCLIN	Information technology tool designed for the management of clinical records (*herramienta informática para el manejo de las historias clínicas)*
IGP	Global Index of Perception of Management Capacity (*Índice Global de Percepción de la gestión de los servicios*)
INTEC	Technological Institute of Santo Domingo (*Universidad Instituto Tecnológico de Santo Domingo)*
IPS	Health Services Provider (*Institución Proveedora de Servicios de Salud)*
ISU	User Satisfaction Index (*Índice de Satisfacción de Usuarios)*
OAU	Patient Care Office (*Oficina de Atención al Usuario)*
ONAP	National Office of Personnel Administration (*Oficina Nacional de Administración de Personal)*
PARSS	World Bank Program to support Health Sector Reform (*Programa de Apoyo a la Reforma del Sector Salud del Banco Mundial)*
PPS	Health Service Provider *(Proveedora de Servicios de Salud)*
RIV	Immunization Registry (*Registro Individual de Vacunación)*
SAAMI	Information System for the Management of Maternal and Infant Care *(Sistema Administrativo de Atención Materno-Infantil)*
SDSS	Social Security System of the Dominican Republic (*Sistema Dominicano de Seguridad Social)*
SENASA	National Health Insurance (*asegurador público Seguro Nacional de Salud)*

SESPAS	Ministry of Public Health and Social Assistance (*Secretaría de Estado de Salud Pública y Asistencia Social)*
SFS	Family Health Insurance of the Dominican Social Security System (*Seguro Familiar de Salud del Sistema Dominicano de Seguridad Social)*
SIGHO	Integrated System for Hospital Management *(Sistema Integrado de Gestión de Hospitales)*
SISALRIL	Superintendent of Health and Labor Risks (*Superintendencia de Salud y Riesgos Laborales)*
SISPROSA	Systems and Procedures, Inc. *(Empresa Sistemas y Procedimientos S.A.)*
SIMON	System of coding health processes and procedures used by SISALRIL. (*codificación de actividades y procedimientos en salud utilizada por la SISALRIL)*
TSS	Treasury of the Social Security Department (*Tesorería de la Seguridad Social)*
UGAM	Environmental Management Unit of the Town Councils (*Unidad de Gestión Ambiental de los Ayuntamientos)*
UMDI	Institutional Modernization and Development Unit within SESPAS (*Unidad de Modernización y Desarrollo Institucional de la SESPAS)*

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The goals achieved by the REDSALUD Project are the result of the joint effort of many institutions and individuals that were able to collaborate on the improvement of the Dominican health system thanks to the financial and technical support and technical leadership of the United States Agency for International Development (USAID).

For this reason, we wish to recognize the former Director of USAID/Dominican Republic, Mrs. Elena Brineman, and the current Director, Mr. Richard Goughnour, as well as the former Director of the USAID/Dominican Republic Office of Health and Population, Dr. David Losk, and the current Director, Mrs. Angela Lord, together with other integral members of the Health and Population Team, such as Marina Taveras, Kelva Perez, Maria Castillo, Jorge Velasco, Norma Paredes, and Catalina Gonzales, who always demonstrated their interest in supporting the activities of the Project.

In addition to the valuable support given to the REDSALUD Project by the USAID team, it is necessary to especially mention Mrs. Sarah Majerowicz, who throughout the life of the Project (2000-08) was its Cognizant Technical Officer. It is thanks to her leadership and always timely and wise contributions that we today are able to present the results achieved with satisfaction.

Secondly, we wish to express our deep appreciation for the dedication and effort given by the great human resources teams that work in the public hospitals of the Region V, in the Regional Directorate, in the Provincial Health Directorates, in the Ministry of Public Health and Social Assistance, in the Directorate of Information and Defense of the Social Security Affiliates (Office of the Social Security Ombudsman), in the National Health Insurance Program, and in the Superintendent's Office of Health and Labor Risks, all of which were determining factors in our accomplishments, thanks to their taking ownership of the Project.

Likewise, others deserve recognition for their effort in making this Project a development option for the Dominican health system: INTEC University, the firm Systems and Procedures, Inc. (SISPROSA), the Center for Demographic and Social Studies (CESDEM), the Colombian University CES, and the group of persons and consultants from Colombia, who were always ready with their support.

Finally, and no less important, we recognize the REDSALUD administrative and technical team, who, with their delivery and care, helped realize our dream of helping the Dominican people, especially the poorest and most vulnerable, who today enjoy a better health system.

EXECUTIVE SUMMARY

The results presented in this report are clear evidence of the actions put forward by the Health Reform and Decentralization Project (REDSALUD), which achieved the goal set by the United States Agency for International Development (USAID) to improve access and quality of health services received by the poorest and most vulnerable communities in the Dominican Republic. The various indicators used by the Project, as well as the findings of the Demographic and Health Surveys of 1996, 2002 and 2007, show conclusively that the country's Eastern Region, which has been receiving USAID support since 2000, has improved much more than the other regions of the country in the last decade. This success suggests the need to scale up the experience to other regions that could benefit from the successful initiatives developed in the Eastern Region.

The Project's activities supported the design, development and implementation of the Dominican health system that was modified, in effect, by Law 87-01 of 2001. This law was the culmination of an extended process of discussions about the most appropriate process for addressing the growing demands for social protection against diseases and their consequences.

The new health system is based on strong regional management and broad social participation designed to support gradual development of a sustainable model to protect against disease. This model operates under a mandatory universal social insurance program subsidized by the State, in which citizens receive services from decentralized public and private networks that are paid according to the type, quantity and quality of services provided.

With this purpose, the REDSALUD Project consisted of two phases. The first, from 2000 to 2005, where the focus was on the discussion, development and approval of the health sector reform law, and subsequent provision of technical and financial assistance for the new system, especially to the institutions in charge of implementing the new model in the Eastern Region.

In the second phase, from May 2005 to December 2008, the Project reinforced the advances made during the first phase, and focused on supporting and consolidating the operations of the new organizations in the Eastern Region. The Project provided these organizations with technical and financial support so that they would be able to implement necessary changes and begin to incorporate them into their daily routine, to provide the services that the new affiliates to the system demanded, making the right to receive quality health services and protection from the adverse economic consequences of costly health care a reality.

The REDSALUD Project's specific objectives were to simultaneously support the development and strengthening of the oversight role of the health system, especially at the regional and local levels; to support social and community participation within the health sector; to support the decentralization of service provision, especially in the public sector, and to support the social insurance model proposed by the reform. These four aspects were considered fundamental to the implementation of the new system, which would be complemented by the development of the human and institutional capacity required to sustain the proposed changes.

REDSALUD used a phased, participatory methodology in its intention to build the new system, based on the principle of "learning by doing." This started with a diagnosis of the situation, definition of priorities and alternative actions, and, the development and implementation of a solution with local stakeholders

as the principal protagonists. This involved, for example, successful human resource capacity building by a local university, support to a local firm in the production of health tools (computer programs) and the creation, through a tutoring program, of a significant group of local experts with a spectrum of clinical and managerial abilities.

All of these factors converged to help the Project succeed at converting theory into reality – developing tools, designing clinical and managerial strategies appropriate to local circumstances and limitations – through which we predict a sustainable experience that may be replicated elsewhere in the country.

1. GENERAL CONTENT AND PROJECT DESCRIPTION

REDSALUD II: CHANGE CONSOLIDATION IN THE NEW DOMINICAN HEALTH SYSTEM

With the approval of Law 87-01 of 2001, which created a Dominican Social Security System, the country's health system entered a phase of structural reforms intended to advance coverage, equity, efficiency and quality.

The principal catalyst for the country beginning this ambitious reform process was the diminished capacity of the legacy system to meet the growing demands of the population to protect society against disease.

The old model, predominant in the majority of countries in Latin America, is based on "assistance" (to the poorest) and "segmentation," rather than an integral and systematic vision of the services provision that is a social and economic right of the citizens.

The new health system is based on strong regional management and broad social participation designed to support gradual development of a sustainable model to protect against disease. This model operates under a mandatory universal social insurance program subsidized by the State, in which citizens receive services from decentralized public and private networks that are paid according to the type, quantity and quality of services provided.

This makes the Dominican reform a singular and complex process demanding an incremental flow of capital, human and institutional resources, moving, in many cases, from the fundamental to the complex, from the local to the central, at a pace dependent upon the capacity of communities and workers to assimilate and sustain the desired changes.

The Health Reform and Decentralization (REDSALUD) Project of the United States Agency for International Development (USAID) began a first phase of support activities in the Dominican Republic in July 2000. The first phase ended in May 2005, at which time a second phase began. It continued until September 2007, and then was extended to December 2008. The goal of this second phase was *to continue support for the development of the strategic change intended to contribute to the improvement of equitable access to good-quality basic health services, especially to the poorest and most vulnerable segments of the population.*

The Project's more specific objectives were to support the development of the health system's oversight role, especially at the regional and local levels; to support social and community participation within the health sector; to support the decentralization of health service provision, especially in the public sector; and to support the social insurance model proposed by the reform.

The actions presented by the Project were intended to give a systematic, more than a programmatic, focus to reform; to harmonize the work with the national dynamics of change; to integrate development of the new model; to concentrate efforts at a regional, local and operative system levels of the system;

to strengthen the national capacity and technology transfer as a strategy of dissemination and sustainability; and to integrate efforts with other areas and other USAID projects.

The Project used a participatory methodology of capacity building by phases, based on the principle of "learning by doing," beginning with a situational diagnosis and consequential definition of priorities and alternative actions, followed by development and implementation, where local stakeholders and other parties were the principal protagonists.

2. METHODOLOGY

2.1 OBJECTIVES, ACTIVITIES AND ACHIEVEMENTS

Objectives and General Strategy

During REDSALUD's second phase (May 2005 to December 2008), the Project capitalized on the advances and achievements of the first phase, and focused its technical and financial resources on supporting the consolidation of operations and newly created institutions in the Eastern Region of the Dominican Republic. The institutions were to be made capable of incorporating into their daily routine the changes that would allow them to begin offering services that the new affiliates of the system demanded; and as such, making real, the right to quality health services and to be protected against the economic consequences of the high cost of treating disease.

To achieve this, the Project used, as part of its strategy, the development and strengthening of four basic components of the new model that guaranteed, in addition to its implementation, the development of human and institutional capacity that would sustain the proposed changes.

The first of the four core components of the new model is focused on strengthening the oversight, leadership, and control of the new authorities in public health management, epidemiological vigilance, service quality, control of the system's actors, and the security and representation of the system's users.

The second component of the Project supported the development and strengthening of the social security system for health, and the public entity in charge of it.

The third component of the Project focused on developing management capabilities and systems.

The final component focused on improving the response capacity and the quality of service offered by the decentralized public providers organized in regional networks according to their different levels of complexity.

REDSALUD used a phased, participatory methodology to build the new system, based on the principle of "learning by doing," beginning with a diagnosis of the situation, definition of priorities and alternative actions, followed by the development and implementation of a solution, primarily where local actors were key. This involved, for example, successfully building the capacity of a local university to train human resources, support for the development of a local firm in the production of computerized health tools, and creation, through a tutoring and institutional pairing program, of a significant group of local experts, with different clinical and managerial abilities. The following sections describe the development of the Project in terms of the four technical components.

2.1.1 SOCIAL AND COLLECTIVE HEALTH OVERSIGHT

Specific Objective of the Component

The central objective of this component was to support and strengthen the development of SESPAS' institutional capacity, especially at the provincial level, with regard to the management of quality of service, epidemiological surveillance, and management of endemic and epidemic diseases. The Quality Management of Health Service Provision component was advanced simultaneously in the 14 public hospitals of the Eastern Region, which included, besides what is described in this component, other complementary developments, such as the establishment of a Patient Care Culture, establishment of biosafety plans, as well as hospital committees to manage hospital waste in the 14 public hospitals in the Eastern region. Complementary developments will be discussed below. This component included three sub-projects that are briefly described here:

2.1.1.1 SYSTEM TO GUARANTEE QUALITY ASSURANCE

GOAL: System Quality Assurance operating in at least eight hospitals in Health Region V of the Dominican Republic

Principal Activities

- With the initiative and leadership of the national government through the National Office of Personnel Administration (ONAP), and with the technical and operating support of INTEC University, this activity defined and established the Quality Assurance in the Public Hospitals System of the Eastern Region. The work was initially focused on the identification of the principal deficiencies in the quality of services, which was based the subsequent Improvement and Investment Quality Plans which were later developed. This was done using the Common Assessment Framework (CAF) methodology, which the National Government adopted for the improvement and modernization of all the public entities, and was supported by the European Union. REDSALUD was a pioneer in the country in the adaptation and application of the CAF methodology in public hospitals institutions. Equally, as part of the system of quality assurance, this component created, adjusted and implemented Biosafety Plans, Quality of Hospital Care committees and Hospital Waste Management in the Eastern Region's 14 public hospitals.

Principal Achievements

- Final submission and publication of 14 Plans for Improvement and Investment in Quality in the same number of public hospitals in the Eastern Region.

- Application of the CAF methodology in the public hospitals of the Eastern region, later adopted by SESPAS as a model for the rest of the country.

- For two consecutive years, the Ramon Santana Hospital in the Eastern Region received the Bronze and Silver medals, respectively, in the National Public Sector Entities Quality Contest promoted by the central government.

- Biosafety Plans and Committees for Quality Management and Hospital Waste Management were designed and established in the 14 public hospitals.

- Training of personnel in the 14 public hospitals in the Management of Biosafety Plans, Quality Management Committees and Hospital Waste Management Committees.

2.1.1.2 RATING AND ACCREDITATION

GOAL: Improve the information system of the Quality and Accreditation Preparation Department in Central SESPAS and the 5 Provincial Health Directorates in Region V.

Principal Activities

With the technical support of our partners SISPROSA, INTEC University of the Dominican Republic and CES University of Colombia, as well as national and international consultants, the REDSALUD Project supported the design, approval and placement of the Quality and Accreditation Preparation System for Service Providers. This included financial and technical support in the discussion and approval of the relevant regulation (Accreditation Preparation Decree); in the design and adaptation of standards and preparation parameters for different services to the Dominican context; in the pilot application in the Eastern Region, and later at the national level, for the instruments designed to improve the preparation and rating process of public service providers countrywide; in the design, testing and development of a computer application to manage the preparation process; in the development of a national accreditation preparation database; in the education and training of the SESPAS Central personnel in its use; and in the installation and training of personnel in the five provincial health directorates in the Eastern Health Region.

Principal Achievements

- Delivery of Accreditation Preparation and Quality software to the Accreditation Preparation and Quality Department of SESPAS Central.
- Delivery of the national database of service providers to the Accreditation Preparation and Quality Department of the SESPAS Central.
- Training of Accreditation Preparation and Quality Department personnel of the SESPAS Central in the usage of computerized tools.
- Installation of Accreditation Preparation and Quality software in the five Provincial Health Directorates (DPSs) of the Eastern Region.
- Training of personnel in the five DPSs of the Eastern Region in the usage of tools.

2.1.1.3 EPIDEMIOLOGICAL SURVEILLANCE AND COLLECTIVE HEALTH

GOAL: Strengthen the system of collection and registration of epidemiological data in SESPAS Central and in the five DPSs of Health Region V.

Principal Activities

With the technical support of SISPROSA, INTEC University of the Dominican Republic and CES University of Colombia, and national and international consultants, the REDSALUD Project supported the SESPAS Central, the DPSs and the public hospitals in the Eastern Region, in the improvement of management and capacity of response to endemic and epidemic diseases that occur, or may occur, in

this zone of the country. This included, among other activities, the design and implementation of computer tools, the donation of computers and printers, and training of personnel in charge, to improve the quality, trustworthiness, and storage of epidemiological and health management information in hospital registries of activities 67-A, 72-A, as well as the immunizations registry, registry of live births, patient care, completed surgical procedures and patient exit records.. Some of these developments, especially those pertaining to the design and implementation of the Individual Consultations Registry, will be described in other components of the Project and are part of the Integrated Hospital Management System (SIGHO).

As part of these activities, and with the technical support from the INTEC University, the Project provided technical and financial support to the Provincial Health Directorates (DPSs) with regard to the management and control of disease outbreaks, in particular malaria in Altagracia Province, and later dengue in the entire region. This included support to activities such as epidemiological field visits, informational and educational activities in diverse establishments as well as printing and distribution of educational and promotional material about the control and prevention of these diseases.

Principal Achievements

- Design, modification and installation of an electronic form and database, as well as the availability of current collated information for the years 2005 - 2008 from Forms 67-A, 72-A and vaccinations in the 14 public hospitals in the five PHD in the Eastern Region.

- Design, modification and installation of a Registry of Live Births database in the 14 public hospitals.

- Training of personnel in the 14 public hospitals and in the five DPSs of the Eastern Region, on the operation of these tools.

- National Government's adoption of the computerized tool for the Registry of Live Births as a model to follow, as well as its subsequent installation in the 36 largest public hospitals in the nation.

2.2 SERVICE PROVISION IN THE DECENTRALIZED NETWORKS

Specific Objective of the Component

The goal of this component was to strengthen and support the management capacity and the supervision of service quality in the Eastern's Region hospitals with three specific objectives in mind: management of physical, financial and computerized resources; management of quality of services in the Patient Care component in support of the creation of a Patient Care Culture in all the public hospitals in the Eastern Region; and management of human resources seeking to create and disseminate the human capital required to sustain these change processes. This component had three subprojects described as follows:

2.2.1 INTEGRATED MANAGEMENT AND RESOURCE EFFICIENCY

GOAL: Strengthen the planning capability, management and monitoring of physical, human and financial resources in at least eight hospitals in Health Region V.

Principal Activities

The integrated management efficiency component focused on achieving efficient utilization of physical infrastructure, information and hospital financial resources. This included the establishment of activities such as the analysis and definition of a menu of services and costs; the analysis of physical spaces and their redistribution according to the menu of services with focus on patient care; the analysis of the productivity of services and the formulation of profit and loss statements according to projected quantities and costs; analysis of the management of hospital inputs and supplies; re-education of the departments and the design of support tools to achieve management efficiency; registry of the services provided to patients based on the invoices generated by the respective insurer. To support this resource management, an Integrated Hospital Management System (SIGHO) was designed, modified and implemented in the 14 public hospitals in the Eastern Region. The activity also included the installation of computer networks, servers, back-up systems for data and electricity, work stations, printers, renovation of physical area, and personnel training in the usage of computers and basic programs.

Principal Achievements

- Design, adjustment and application of the computerized Menu of Services, Costing and Budget tools for the 14 public hospitals in the Eastern Region.

- Training of personnel in the 14 public hospitals in the Eastern Region on the use of the Menu of Services, Costing and Budgeting tools.

- Implementation and analysis of patient flow diagrams for a range of services, as well as refurbishment of areas in the 14 public hospitals in the Eastern Region.

- Evaluation of the hospitals' inputs in the 14 public hospitals in the Eastern Region as well as the renovation of physical areas, and the design, modification and application of a computer program for its management.

- Training of personnel in the 14 public hospitals in the Eastern Region in the use of the Services Registry and the Invoicing program.

- Design and modification of the Services Register and invoicing program in the 14 public hospitals in the Eastern Region.

- Installation of computer networks, servers, data and power back-up systems, work stations, printers, physical renovation, and personnel training in the usage of computers and basic programs in the 14 public hospitals in the Eastern Region. When REDSALUD ended, there were 240 work stations, 80 printers, 14 servers and back-up systems installed and operating.

2.2.2 USER MANAGEMENT, ACCESSIBILITY AND QUALITY

GOAL: Strengthen registry capacity for information and quality improvement in at least eight hospitals in Health Region V.

Principal Activities

This subproject was carried out under a Patient Care Culture. It included aspects such as the analysis of patient flow in the different hospital departments and its reorganization in renovated space. We here highlight, for example, the strengthening of Patient Care Offices created during the first phase of REDSALUD, a symbol of change in the Eastern Region. Also taking place were the refurbishing of the clinical records areas and changes in the interaction with patients, including the creation of a data base of patients registered in the hospitals throughout the region; the refurbishing of emergency rooms to provide better and more respectful treatment of patients, especially children and pregnant women; the refurbishing of hospital pharmacies and stock rooms; the refurbishing of operating rooms and delivery rooms to comply with biosafety and privacy norms and respect for patients; the refurbishing of the areas of temporary storage and the transportation of hospital waste to comply with biosafety norms; and, together with USAID's CONECTA Project, the refurbishing of the areas where vaccinations and prenatal care are delivered. In coordination with this project, the entire region's obstetric personnel were trained in the Emergency Obstetrics Care Program. In coordination with USAID's BASICS Project, a program for the prevention and control of neonatal sepsis was established in two hospitals of the Eastern Region.

Several components of the SIGHO system were designed, modified and implemented in the 14 public hospitals of the Eastern Region: the maternal-neonatal care (MNCH) module for the registry of maternal and infant care within the program of vertical transmission of HIV-AIDS (*Sistema de Atención Materno-Infantil - SAMI*); the module for the registry of vaccinations provided as part of the Expanded Program on Immunizations (EPI); the module for the registry of patients given Oral Rehydration Therapy for acute diarrhea; and a module for Patient Appointments and Referrals, the latter supported by a communication network installed in the 14 public hospitals that used cellular technology to connect to the Patient Care Offices and Emergency Services in all the public institutions in the Eastern Region.

Principal Achievements

- Strengthening of Patient Care Offices in the 14 public hospitals in the Eastern Region through the donation of support systems and network connections with other areas of the hospital, installation of a cellular communication network and training of human resources.

- Design, modification and use of the Patient Appointments and Referrals tool in the 14 public hospitals in the Eastern Region.

- Personnel training in the 14 public hospitals in the Eastern Region in the use of the automated Patient Appointments and Referrals tool.

- Refurbishing of the clinical records areas in the 14 public hospitals in the Eastern Region and the installation of the HISTOCLIN tool used in records management.

- Personnel in the 14 public hospitals in the Eastern Region trained in the operation of the HISTOCLIN tool.

- Cleaning and updating of existing clinical files as part of the creation of a medical records database in the 14 public hospitals in the Eastern Region.

- Refurbishing of the emergency rooms in the 14 public hospitals in the Eastern Region and installation of the SIGHO network and tool for the management of emergency patients.

- Training of emergency room personnel in the 14 public hospitals in the Eastern Region in the operation of the SIGHO tool.

- Refurbishing of the pharmacy and supplies departments in the 14 public hospitals in the Eastern Region, and installation of a network and a management information tool for Procurement and Supply Management.

- Personnel training in the pharmacy and supplies departments in the 14 public hospitals of the Eastern Region in the operation of the Supplies Management tool.

- Refurbishing of the operating and delivery rooms in the 14 public hospitals in the Eastern Region, bringing them in compliance with biosafety and quality norms.

- In conjunction with the USAID CONECTA Project, refurbishing of the immunization and prenatal care departments in the 14 public hospitals of the Eastern Region and installation of the computerized tools for Individual Registry of Vaccines and system of maternal and infant care.

- In conjunction with the USAID CONECTA Project, personnel trained in the areas of vaccination and prenatal care in the 14 public hospitals of the Eastern Region and in the operation of the Individual Registry of Vaccines and Maternal and Infant Care System.

- In conjunction with the USAID CONECTA Project, personnel in the obstetric departments of the 14 public hospitals in the Eastern Region trained in the Emergency Obstetric Care Program.

- In coordination with USAID's BASICS Project, training of personnel in two public hospitals in the Eastern Region in the program for the prevention and control of neonatal sepsis.

- Installation of a cellular network in 14 public hospitals in the Eastern Region, connecting the Patient Care Offices with Emergency Services.

- Design, modification and installation of the SIGHO tool in the 14 public hospitals in the Eastern Region, and in six public hospitals in other regions of the country, a process that was supported by other cooperating entities, and used the human resources trained in the Eastern Region.

2.2.3 DEVELOPMENT OF RESEARCH AND OF HUMAN RESOURCE CAPACITY

GOAL: ***Strengthen the management capacity of public facility health personnel in Health Region V through the continued education of at least 45 postgraduate students; with the support of eight supervisory field jobs; and 10 international study tours.***

Principal Activities

This component promoted training of human resources at the supervisory and operational levels, which is needed for the changes taking place in the Eastern Region, and for their dissemination to other regions of the country. A number of activities were carried out with the support of INTEC University of the Dominican Republic and CES of Colombia which included postgraduate studies in Management of Health Services and Social Security for a group of 120 high- and mid-level managers in the public health institutions in the Eastern Region (DRS and DPS Hospitals). More than 2,000 persons at the operational level in these institutions received training on the use of tools described in this report. CES also organized study tours to Colombia that consisted of theoretical and practical courses on quality and management of the services that were being developed in the Eastern Region. It should be noted that selection to participate in a study tour was based on a competition of the regional institutions, where each participant demonstrated his or her interest and achievements in improving the services at his/her institution.

Finally, special mention must be made of the successful Tutors in Action Program, which was the principal tool for the dissemination of successful experiences inside and outside the Eastern Region. These tutors provided the country with technical expertise in the design, adaptation and implementation of resource management tools and quality improvement, such as those developed for the public health institutions in the Eastern Region.

Principal Achievements

- By the end of the Project, more than 120 directors of public health institutions in the Eastern Region graduated from a postgraduate program in Health Services Management and Social Security.

- By the end of the Project, more than 2,000 persons at the operational level in the public health institutions of the Eastern Region were trained in skills to use the Management and Quality of Care tools.

- The Tutors in Action program was designed and implemented where more than 50 persons were selected from different levels and areas of experience, and the majority continued toward postgraduate certification in Management in Health Services and Social Security, and supported the public institutions of the Eastern Region in the implementation of the Resource Management and Quality of Care tools.

- Selection and training of 12 information technology tutors, in charge of the maintenance and repair of basic networks, equipment and computer programs installed in the public institutions of the Eastern Region.

- Follow-up forms for the implementation and usage of the computerized tools for the hospitals through the Tutors.

- 18 persons from Health Region V continued training in the postgraduate Health Management and Social Security.

2.3 RISK MANAGEMENT AND ASSURANCE

Specific Objective of the Component

The general purpose of this component was to support the development and strengthening of the general management capacity of the public health institutions, especially the public hospitals of the Eastern Region, the National Health Insurance (SENASA) and the Superintendence of Health and Labor Risks (SISALRIL), with regard to the collection and storage of basic information, budget management related to insurance and service delivery, and finally, risk management.

2.3.1 RISK MANAGEMENT ASSURANCE

GOAL: Strengthen the capacity of the National Health Insurance, SENASA, to plan, implement, manage and monitor a general insurance program.

Principal Activities

The Risk Management Assurance component was implemented to give health institutions the strategies, methodologies and management tools needed to implement this function. With the support of the international consultant, Alvaro Lopez, the Project designed and adjusted the Basic Health Services Packages to be used by SENASA in health services contracted with the public hospitals; designed and modified, in collaboration with SESPAS, SENASA and SISALRIL, the Minimal Essential Data to be used for the medical care registry in the health facilities for the preparation of administrative and epidemiological statistical reports, as well as for invoicing for services; designed, discussed and modified, together with SENASA the SISALRIL and the public hospitals of the Eastern Region, the SIMON code which is required by a SISALRIL resolution and is obligatory for all insurers and health care providers in the country. Also, as part of this, a small statistical tool was designed for SENASA that permits them to analyze and make projections about the utilization of health services, and their actual and future costs.

Principal Achievements

- Designed, discussed and modified the Minimal Essential Data used for the registry of the medical care in the health institutions.

- Designed, modified and implemented the diagnostic code manual, procedures, medications and nondurable materials according to international standards.

- Incorporated the SIMON codes for diagnostics, procedures, medications and consumable materials that are used for the registry into the Integrated System of Hospital Management (SIGHO), which will be used for invoicing purposes as well as to generate pertinent risk management data.

- Harmonization of the SIMON codes with the Unique Code of Health Procedures (CUPS) codes.

- Design and modification of the payment, contracting and incentives mechanisms for public providers of health services.

- Design and delivery to SENASA of a statistical tool to analyze and project health services usage, and its actual and future costs.

2.4 SOCIAL PARTICIPATION AND CONTROL

Specific Objectives of the Component

The general purpose of this component was to support and strengthen participation and social control as defined by the Social Security Law. This was done through three components: support of different community groups through the Directorate of Information and Defense of the Social Security Affiliates (DIDA) in their role as examiners and informed consumers within the health system; support of the public hospitals in the Eastern Region to implement mechanisms and tools for transparency and accountability; and finally support of the development of the Hospital Administration Councils, in accordance with Law 87-01.

2.4.1 COMMUNITY GROUP STRENGHTENING

GOAL: Thirty community organizations within the region have implemented their role of managers, examiners and informed consumers within the health reform.

Principal Activities

The Project team supported the DIDA of the Eastern Region through the identification, shaping and teaming of community groups addressing their rights and obligations within the new Social Security system. This included visiting different communities, identifying key community organizations and leaders, designing work agendas with those community leaders, and including conversations about the new Social Security law, their rights under it, as well as, their roles as community overseers and as participants within the Hospital Administration Council; inviting the community leadership to the different regional hospitals to participate in informative talks about the new process of patient care in their institutions, demonstrating the advantages of, and ways to access, different services within the hospital; and finally supporting various Regional Committee Meetings with managers from the health entities of the Eastern Region and the respective social leaders, with the purpose of identifying problems and searching for solutions.

Principal Achievements

- Informed, educated and trained thirty two (32) community groups (approximately 1,464 individuals) from the Eastern Region about their rights and obligations in the new Social Security system; and orientation to use the same.

- Informed, educated and trained fifty one (51) individuals in the Patient Care Office (OAU) from the Eastern Region, in the process of community training regarding the affiliates' rights and responsibilities under the new Social Security system.

- Conducted seventeen (17) meetings to evaluate the advantages of and new opportunities brought by the health services provided by the Eastern Region hospitals under the new regime. 1,989 individuals attended these sessions.

- Organized and held four forums on the impact of health reform on different entities, and on affiliates of the subsidized regime. Approximately 500 individuals attended these events.

- Conducted four training sessions for 145 individuals on auditing and social oversight by different community groups.

- Gave ten (10) presentations to community groups of the Eastern Region about the Patient Care Management process in the public hospitals of the Region.

- Several hospitals held discussions about different services using the patients' waiting room.

- Conducted four Regional Community Meetings between the DPS of the Eastern Region and representatives of the patient communities.

- Provided support to DIDA to design and publish various informative and educational materials to support its work.

- With the support of our partner CES University, the Project organized and held an international study tour to Colombia in order to learn from the experience of the User Protection System designed in that country.

2.4.2 TRANSPARENCY AND ACCOUNTABILITY

GOAL: Eight hospitals in Health Region V have developed and implemented transparency and accountability tools and mechanisms.

Principal Activities

Within the process of supporting the public hospitals of the Eastern Region to design and implement tools and mechanisms to build transparency and accountability, the team carried out various activities including the creation and posting in visible areas of each of the 14 public hospitals of the Eastern Region, a Menu of Services which detailed services offered, as well as, the attending professionals, and the hours of operation (eight of those public hospitals also visibly posted productivity figures of the professionals and their services); creation and publication of the costs of services provided in each hospital; creation and signature of a Transparency and Accountability Agreement in each of the 14 Eastern Region hospitals which committed to developing and implementing initiatives designed to bring the communities closer to the health institutions; installation of suggestion boxes and establishment of respective committees for their operation and integrated analysis by hospital personnel and members of the community; and finally, the establishment in the 14 hospitals of users satisfaction surveys as well as the respective analysis and creation of mechanisms for solutions.

Principal Achievements

- The 14 public hospitals of the Eastern Region now have a menu of services and operating hours posted in a public area.

- Eight public hospitals of the Eastern Region now produce a service productivity list and place it in a public area.

- The 14 public hospitals of the Eastern Region have produced and published user satisfaction surveys.

- The 14 public hospitals of the Eastern Region have produced and published the costs of services.

- The 14 public hospitals of the Eastern Region now have suggestion boxes and committees for their analysis and operation.

- The Patient Care Offices have been strengthened by way of their collection and resolution of complaints, and users' suggestions that are attended to on a daily basis.

- Creation and signature, before the Administration Councils in each of the 14 public hospitals of the Eastern Region, of the Transparency and Accountability Agreement.

- Together with USAID's Justice and Governance Project, conducted a comparative study of hospital supply prices in the public hospitals of the Eastern Region.

2.4.3 HOSPITAL ADMINISTRATION COUNCILS

GOAL: At least eight hospitals of Health Region V have started the process of forming and operating a Hospital Administration Council

Principal Activities

Within the process of supporting the public hospitals of the Eastern Region to design and implement directives decreed by Law 87-01 with regard to Hospital Administration Councils, the Project conducted various activities, among them the creation of a conceptual document about the instruments of management and social (community) control, their principal functions and operating manner as well as training activities for the directorate of the 14 public hospitals in the Eastern Region. Training focused on the purpose of Hospital Administration Councils and their functions. The process of identifying and selecting Councils was presented; various information and training activities on their obligations and functions. Finally, these Councils were sworn in by the respective health authorities in the 14 hospitals of the Eastern Region.

Principal Achievements

- Creation and preparation of a conceptual document defining what a Hospital Administration Council is and how it is operated.

- Training of the directorate of the 14 public hospitals of the Eastern Region about what a Hospital Administration Council is and how to operate it.

- Identification and selection of the functionaries of the Hospital Administration Councils in the 14 public hospitals of the Eastern Region.

- Training of the functionaries of Hospital Administration Council in the 14 public hospitals of the Eastern Region about what these organizations are, and how they operate, and how to carry out the function of social (community) control.

3. INDICATORS AND RESULTS ANALYSIS

3.1 DESCRIPTION OF INDICATORS

To evaluate the impact of Project activities, a set of indicators was designed and periodically measured which reflects the results of the actions undertaken to support the implementation of the health reform process, the measurement of management capacity and the improvement of quality of services offered by the public institutions of the Eastern Region. Within this group of indicators there are two subgroups, the first (access, milestones, productivity, perception, management, milestones and autonomy) measures the short-term results in relation to the improvement of the management capacity and the quality of services. The second group shows the advancement of the Social Security system in terms of social protection against the economic consequences of disease. The selected indicators are:

Access to Health Services: measures the variation between periods of the quantity of services offered, taking into account the number of medical visits (*consultas*) and the last dose of the pentavalent vaccine.

Coverage under the Subsidized Regime: measures the number of low-income people (poor) persons enrolled in the Subsidized Health Regime in the Eastern Region compared to the total estimated number for that region.

Productivity of Human Resources: measures the quantity of activities performed by human resources in a determined period of time. The activities evaluated were ordinary medical visits/consultations, medical consultations for emergencies, and vaccines administered. The human resource was the appropriate individual in charge of performing the task in each service, taking into consideration the number of hours officially assigned to each individual carrying out the evaluated services. This indicator is measured for each service, and then, as an aggregate of the three.

Milestones and Perception about the Evolution of the Reform: measures the perception that different health sector leaders have about the level of accomplishment of key reform activities implemented (measured on a percentage basis). These selected key accomplishments are listed below:

- Start of the subsidized Social Security in Health regime in the five provinces of the Eastern Region
- Menu of services defined by Municipality
- Number of affiliates defined and identified
- Complete database of the affiliates
- Issuance of identification cards to enrolled affiliates
- Signed contract for the services provided in each Health Services Provider (PSS)

- Network of services defined by each Risk Management Assurance unit (ARS) (SENASA)
- Process of invoicing established and operating in each PSS and in the ARS (SENASA)
- Technical, operative and administrative procedures applied to the contractual auditing of services between SENASA and PSS
- Administrative and financial management mechanisms functioning in the SENASA and the PSS

This indicator was measured in 2006 in a focus group with key parties to the system

Quality of Services and Perception of its Evolution: measures the users' level of satisfaction with the health services offered by Region V hospitals, through a representative and survey of random users that had been recently cared for at the relevant facilities.

Level of Management and Perception about its Evolution: evaluates the perceived development by the principal directorate of Health Region V facilities about the general capacity to make decisions with regard to matters of management of human resources, planning, leadership, quality control, marketing, management of information systems, communication mechanisms, organization and social participation. This indicator was measured in 2002, 2003, 2005 and 2007.

Level of Autonomy and Perception about its Evolution: evaluates the perceived development by the principal directors of the Health Region V facilities, in their capacity to make decisions without external interference, in aspects such as the management of human resources, planning, quality control, marketing, and management of computerized systems. This indicator was measure in 2002, 2003, 2005, and 2007.

Contextual Indicators and Evolution according to the DHS (ENDESA): analyzes the evolution of three general indicators that reflect the impact of the new Social Security system on the population. The first is the probability of being insured, the second is the probability of accessing services, and the third is the out-of-pocket cost to households for health services, relative to their total household income. These three indicators were analyzed by income quintiles in each of the nine regions of the country. For this, the Demographic and Health Surveys of the Dominican Republic (ENDESA) surveys of 1996, 2002, and 2007, were used.

3.2 RESULTS ANALYSIS

An analysis of the results obtained indicated that there is no doubt of the progress made to date. This shows, in some manner, the relevance and efficacy of REDSALUD support in the Eastern Region, as well as the positive impact of the new model of reform which is in its early stages.

Based on the ENDESA survey of 2007, the vaccination coverage is the highest in the country in addition to being the highest shown compared with the ENDESA survey of 2002. This reaffirms the operative motto of the Project: "as management improves, so improve the services and results."

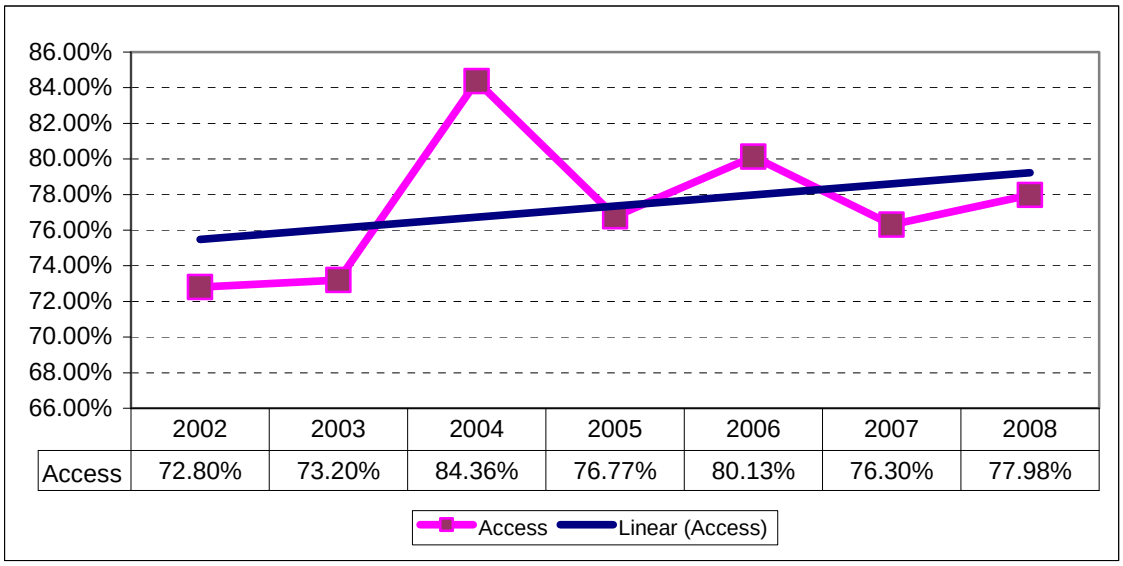
Similarly, the comparative analysis of the ENDESA 1996, 2002, and 2007 shows that the Eastern Region has improved more than the other regions of the country in regards to coverage and quality of access to health services, the probability of being insured by the health system, and regarding the households' out-of-pocket expenditures.

An analysis of the observed results in each of the selected indicators follows.

Access to Health Services

The Access to Health Services indicator was constructed to evaluate the extent to which the poorest individuals could obtain more health services offered by the public hospitals. The indicator directly reflects the improvement of these institutions' response capacity to the demand for more health services that is expected as a result of the elimination of payment of services for the patients enrolled in the subsidized regime, a factor that constitutes one of the principal barriers to access by the poorest individuals.

ACCESS TO HEALTH SERVICES IN PUBLIC HOSPITALS - EASTERN REGION 2002-2008



	2002	2003	2004	2005	2006	2007	2008
Access	72.80%	73.20%	84.36%	76.77%	80.13%	76.30%	77.98%

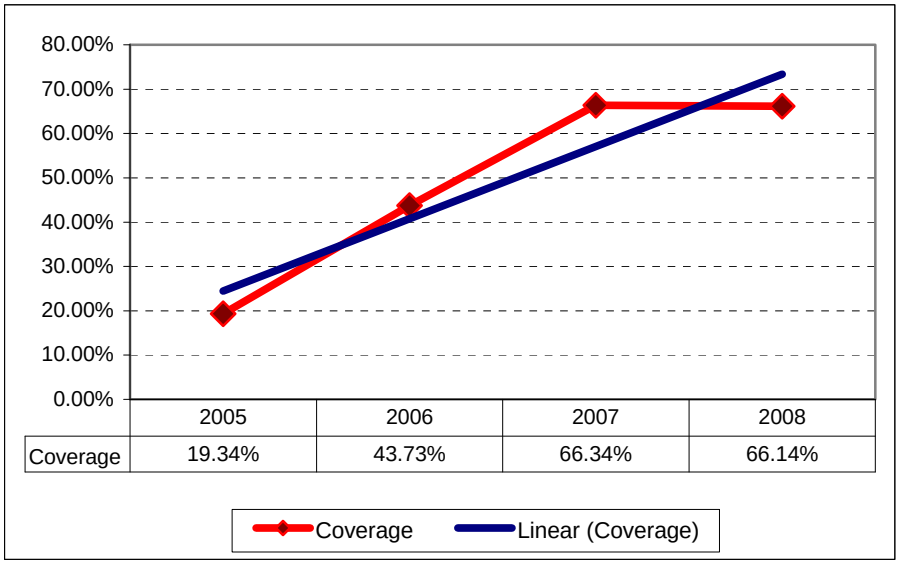
Source: GODR Questionnaire 67ª and vaccines

While the data shows a growing tendency in expanding access to health services, a series of factors could exist that would distort the interpretation of its results. Although public health facilities provide a greater amount of services, and therefore, there is, in theory, greater access for the poorest individuals, this is not necessarily true for the following reasons. First, and perhaps most relevant, is the quality of the data. Due to the precarious data collection and storage systems the quality of the data is not reliable. This situation is not specific to the hospitals the Project worked in, but rather, it is common in all public institutions, and will likely improve as modern information systems and software tools are adopted allowing for the standardization of the processes of collection and storage of data. Second, as the ENDESA (DHS) surveys show, a significant proportion of public hospital users are not the poorest individuals; it may be that members of other schemes, or individuals with individual ability to pay out of pocket, are using public hospitals in greater proportions due to the evident improvement in their quality and availability, as is shown by user satisfaction surveys. For this reason, in the future, access should be evaluated based on the insurance condition of the user seeking services.

Coverage in the Subsidized Regime

This indicator began to be used once the subsidized regime was established, and to some degree, reflects the benefit of insurance that is effectively reaching the poorest individuals, who, not having to pay for services, should use them more. The information sources that are used by this indicator are highly trustworthy as the data comes directly from SENASA.

COVERAGE OF AFFILIATION TO THE SUBSIDIZED REGIME - EASTERN REGION 2005-2008



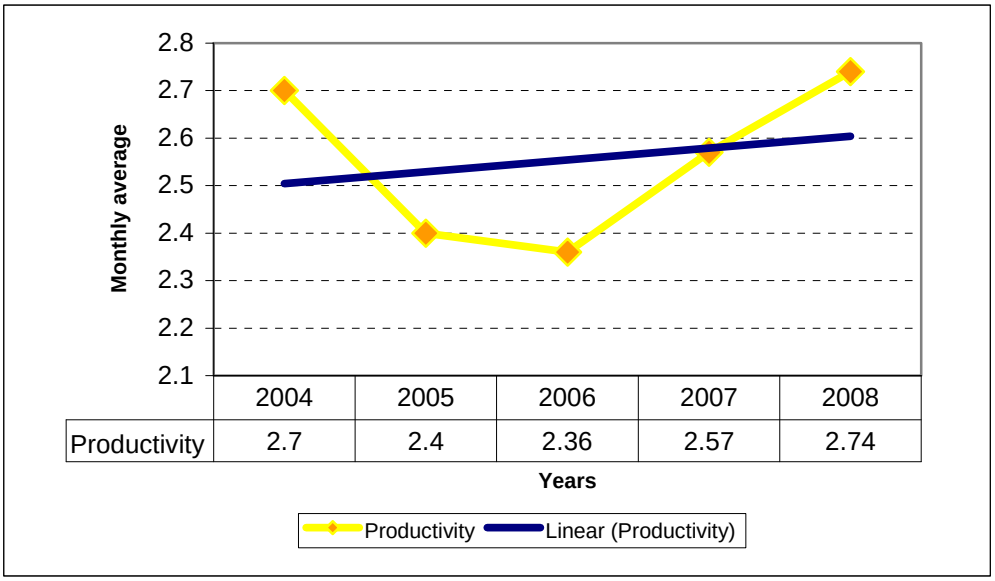
Source: SENASA Subsidized Regime

With regard to Coverage of the Subsidized Regime, the data shows a marked increase in enrollment (and therefore coverage) under the subsidized regime in the first years (from 2005 through 2007) which then stabilizes in 2008.

Productivity of Human Resources

The Productivity of Human Resources indicator points to an improvement in the use of human resources, in this case, the professionals that are available in the evaluated public health institutions. Nonetheless, this data also can be affected by the problems of reliability, and to some extent, integrity in the collection and storage systems, which as mentioned, tend to improve with the use of automated tools and automation and standardization of the processes to collect and store data, a process that was supported effectively by REDSALUD, with a variety of tools but especially the Integrated Hospital Management System (SIGHO)

HUMAN RESOURCES PRODUCTIVITY PUBLIC HOSPITALS – EASTERN REGION 2004-2008



Source: Costing Table 2004 and Questionnaire 67ª (Year 2005 and 2008)

The graphic above shows productivity trends. Improvement becomes more noticeable beginning in 2006. This is the result of improved management of health services, which makes better use of available resources.

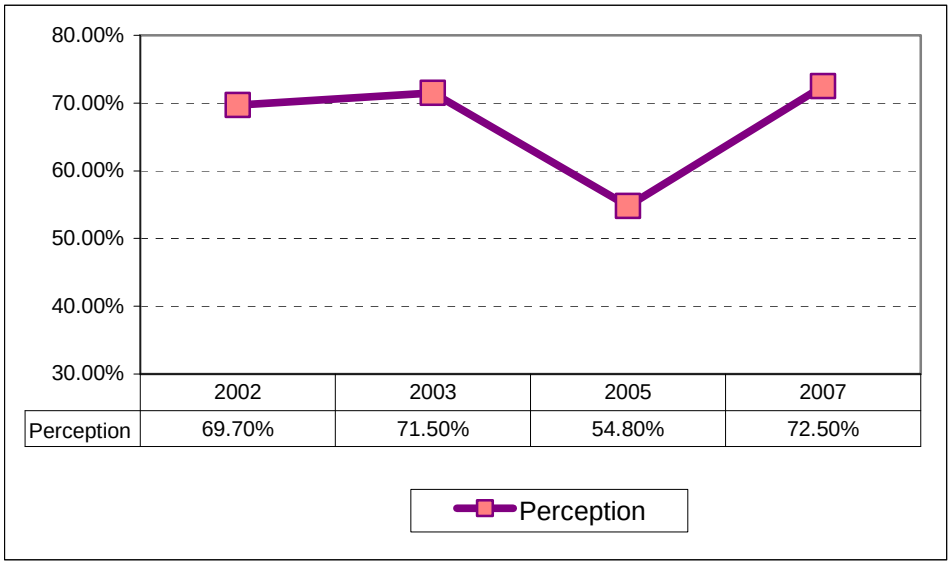
Milestones and Perception of the Evolution of Reform

The initial survey that measured the perceived evolution of select aspects of the reform, which are considered milestones in the development of the new system, reflected a moderately low optimism (59%) among the directors and the principal actors of the system, such as government representatives, supervisory entities, public and private insurers, as well as public and private providers. These results were not surprising given the level of uncertainty surrounding the system at that time, which was in its initial stages. There was significant doubt and skepticism about the subsidized regime, which at the time did not have a start date and was affected by tensions between principal actors and stakeholders, and lack of strong governmental leadership. Nonetheless, all of these initial obstacles were overcome. For this reason, this survey indicator was not measured.

Quality of Services and Perception about its Evolution

The users of public health institutions in the Eastern Region appear to have an improved perception of health care quality. The measurements conducted in 2002, 2003, 2005 and 2007 show the change in perception which began with a slightly positive trend from 2002 to 2003, then dropped between 2003 and 2005, but in 2005 reversed to improve to its highest levels in 2007. The perception was observed based on objective aspects of the provision of services, such as length of waiting periods, comfort of waiting rooms and public spaces, and explanations or instructions received from staff, which permit patients to have a more certain notion of what took place during their hospital visits. The data allowed the Project to observe the evolution of specific entities (hospitals) over time, but also to compare data among the different hospitals. It is worth noting that coincidentally, the institutions that received higher ratings by users are the same ones that received better ratings in indicators of access, productivity, management and autonomy, which reaffirms the theory that resource and quality management go hand in hand.

USER PERCEPTION OF SERVICES IN PUBLIC HOSPITALS – EASTERN REGION 2002–2007



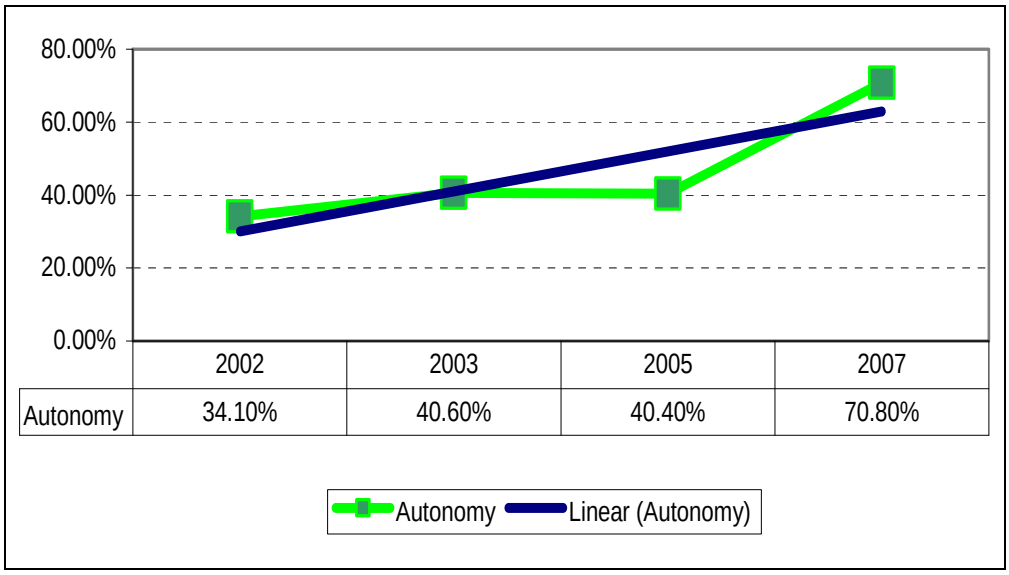
	2002	2003	2005	2007
Perception	69.70%	71.50%	54.80%	72.50%

Source: User's Survey

Level of Management and Autonomy, and Perception about Their Evolution.

Although the perceptions about the level of management and the level of autonomy in the Eastern Region health facilities are completely different indicators, they are analyzed in tandem because the data on which they are based have the same origin (interviews of the principal directors of the institutions) and the data was collected at the same time. The results clearly show a significant improvement in both the perceived level of management and the perceived level of autonomy, which sheds a positive light on the efforts of the REDSALUD Project. One good measure of improvement is the growing number of staff with postgraduate training in Management of Health Services (more than 120 at the end of the Project) which undoubtedly contributed to greater quality in institutional management. Again, as previously mentioned, the institutions with the best results are those that have similar achievements in the other indicators evaluated, reaffirming the close relationship between good management, good quality and good results.

PERCEPTION ABOUT AUTONOMY LEVEL IN PUBLIC HOSPITALS – EASTERN REGION 2002-2007



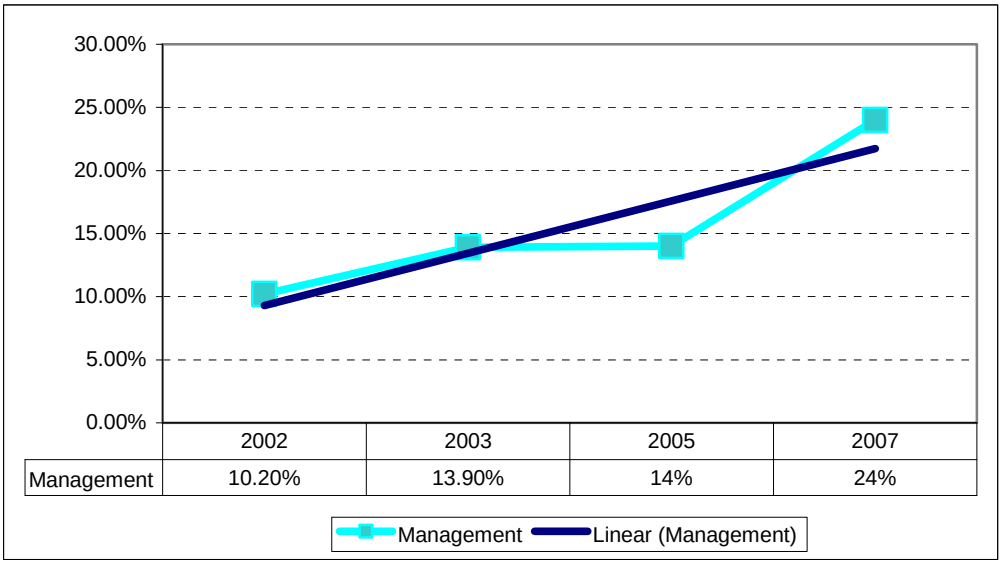
	2002	2003	2005	2007
Autonomy	34.10%	40.60%	40.40%	70.80%

Source: Survey of Hospital Management Personnel

As can be noted in the graph above, the level of autonomy in the hospitals has increased; since the personnel have been trained, they may feel more confident and have better tools for decision making.

PERCEPTION ABOUT MANAGEMENT LEVEL IN PUBLIC HOSPITALS – EASTERN REGION 2002-2007

Source: Survey of Hospital Management Personnel



Like the Autonomy Indicator the Management Indicator shows a marked improvement during the period of the REDSALUD Project. When inquiries are made at the director level of the hospitals, improvements are observed.

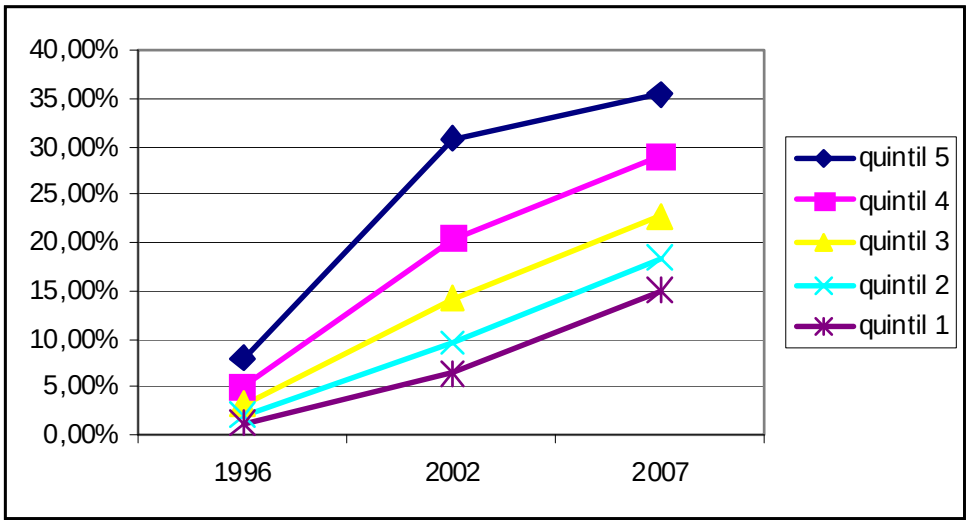
Context Indicators: Universidad del Rosario Report

This report presents the results of the comparative analysis of the Dominican Demographic and Health Survey (ENDESA) for the years 1996, 2002 and 2007. Evaluated therein is the progress in coverage and insurance equity, access to services, and out-of-pocket expenses as a proportion of household income, all of which could have been resulted from the health reforms that started in 2001. Furthermore, this study, was intended to analyze the same variables in the Eastern Region of the country, which received support from USAID from 2000-2008 through the REDSALUD Project.

The three variables analyzed – i) probability of being insured in the health system, ii) probability of accessing the health services when feeling ill, and iii) out-of-pocket health expense as a proportion of household income – were analyzed for each of the income quintiles, comparing the Eastern Region with the country average (including the Eastern Region) and comparing the Eastern Region with the rest of the country (without including the region).

The results for the three ENDESA surveys (1996, 2002 and 2007) show important improvements for the entire country with regard to insurance coverage and to access to health services, as well as with regard to equity in these two variables.

AFFILIATION TO THE PUBLIC HEALTH SYTEM, 1996-2007



Out-of-pocket expenses (the third variable) have diminished for all households over the last decade.

OUT-OF-POCKET HEALTH EXPENSES AS A PROPORTION OF INCOME, BY REGION, 1996-2007

Region	1996	2002	2007
0	11.26%	6.88%	6.54%
I	15.11%	9.01%	7.15%
II	19.56%	11.54%	8.69%
III	16.25%	11.01%	8.18%
IV	10.18%	7.80%	6.30%
V	11.43%	7.43%	6.56%
VI	10.35%	7.88%	5.86%
VII	15.72%	10.35%	8.25%
VIII		10.60%	8.92%

These findings suggest a positive effect of insurance on access to health services and with regard to out-of-pocket expenditures. Although the gains have been similar in all income quintiles, the concentration indices for access to health services (GINI) show movements from a pro-rich to a pro-poor pattern, i.e., the indices of concentration have diminished to the point of becoming negative, suggesting that the reform has largely benefited the poor.

The insurance, in itself, has also proven a positive evolution; even though all the income quintiles have gained in coverage, the concentration indices show a diminishing tendency, which also proves that the pro-rich pattern has been shifting.

These results suggest that the reform of Law 87 of 2001, has had a positive impact in terms of coverage and quality of access to health services, insurance, and out-of-pocket expenses.

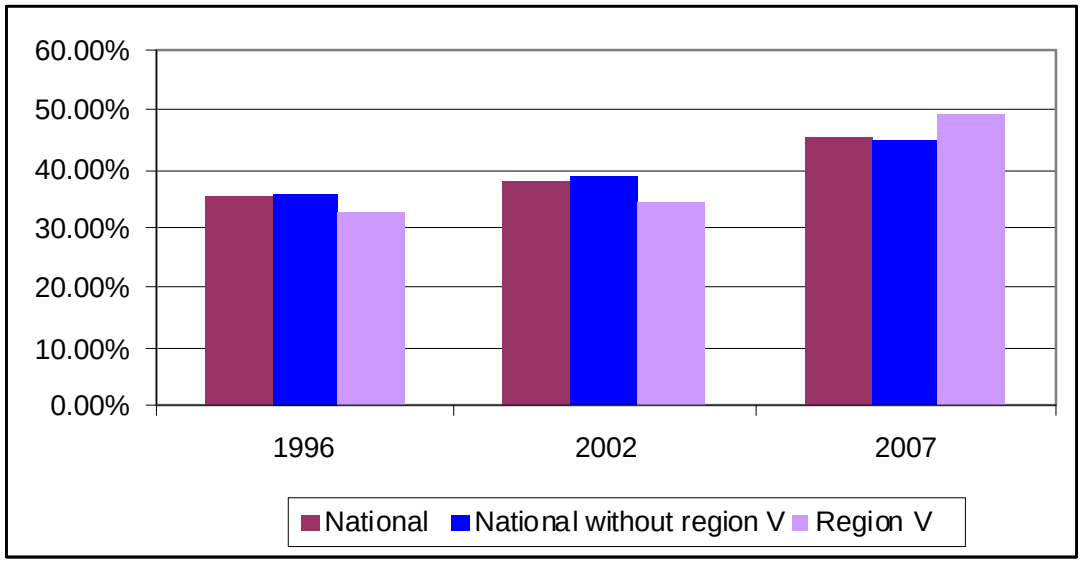
When comparatively analyzing the Eastern Region, there are similar results observed as those in the rest of the country. Nonetheless, the evidence shows some of the achievements differ from quintile to quintile. In terms of access to health services, the proportion of individuals who sought medical care increased in all the income quintiles; in Region V, the increase was much higher for Quintiles 1 and 2 than for Quintiles 4 and 5.

PERCENTAGE OF PEOPLE WHO SOUGHT HEALTH SERVICES BY INCOME QUINTILES, 1996-2007

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	All Population
1996						
National	32.67%	29.76%	36.25%	36.80%	39.69%	35.51%
National without Region V	32.76%	29.35%	37.30%	36.67%	40.69%	35.83%
Region V	31.97%	33.33%	28.95%	37.74%	32.08%	32.72%
2002						
National	36.45%	37.50%	38.50%	40.85%	38.43%	37.99%
National without Region V	37.40%	38.13%	39.36%	41.78%	39.43%	38.70%
Region V	32.07%	34.57%	34.71%	36.57%	34.04%	34.33%
2007						
National	46.22%	47.86%	46.37%	46.59%	44.51%	45.52%
National without Region V	45.13%	46.89%	46.38%	47.23%	43.50%	44.96%
Region V	52.27%	53.27%	46.28%	42.94%	50.77%	49.25%

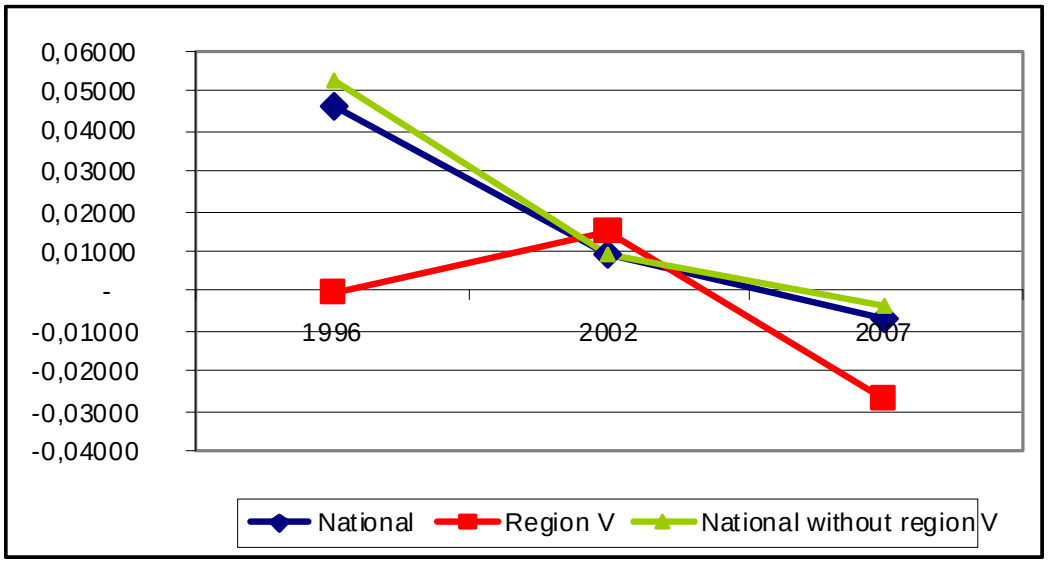
It may be deduced from these results that there is a general improvement in access to health services. Still, access is better in Region V than in the rest of the country. Region V access to health services was below the national average in 1996 and 2002, (32.72% versus 35.51% and 34.33% versus 37.99% respectively), but by 2007 Region V surpassed the national average (49.25% versus 45.52%).

PERCENTAGE OF POPULATION WHO CONSULTED A HEALTH INSTITUTION, 1996-2007



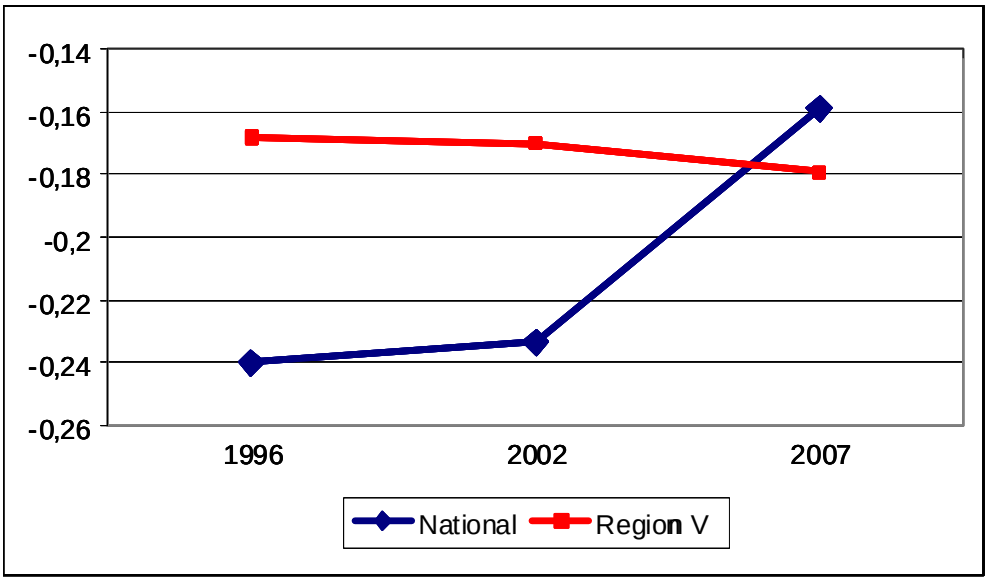
Although improvement in access to services tended to resemble the rest of the country, the concentration continues to be better in the Eastern Region, where the tendency reversed starting in 2002.

ACCESS TO HEALTH SERVICES CONCENTRATION INDICES 1996-2007



There are other noteworthy findings observed in the Eastern Region. In terms of out-of-pocket expenses, the Kakwani analysis shows that in addition to the proportion of income spent on health having diminished, its distribution has become less regressive (therefore benefiting the poor) at a national level, as can be seen in the following figure. However, Region V continues to display regressive patterns (therefore benefiting the rich) which could suggest that the identification of the poorest individuals and the provision of subsidies have not been the most effective in this Region.

KAKWANI INDEX



4. LESSONS LEARNED

The tasks performed during the life of the REDSALUD Project included a focused and profound co-location in the day-to-day work that was implemented in the public facilities of the Eastern Region, which has provided multiple lessons, the most important being to:

1. **Approach management and clinical development in an integrated manner.** Perhaps the most important lesson learned is recognizing the importance and convenience of an integrated approach when supporting the development and improvement of a system, program or health service. The integration of the approach consists of simultaneously advancing, in the same program or health service, actions to improve management capacity with regard to resources and the capacity to address the population's demands/needs, together with actions focused on improving all clinical aspects of the care process. This generates a better result than when taken separately and in different time frames. Furthermore, integration reduces duplication of efforts and prevents the weakening of uniformity and standardization with regard to management and control.

2. **Include the executive and operative levels of the system in the institutional development and capacity building.** The second lesson learned is that it is key to recognize the importance of simultaneously working at both the executive (directorate) and operational levels of the health system. When a project supports and promotes the development and improvement of resource management tools and quality of services, it is necessary that the decision making/executive levels (Directorate level), which controls the health system and is in charge of dictating the norms and setting the parameters, do the work in conjunction with those who must apply it or comply with it. This is the case of the Directorates of the Ministry of Health working in close coordination with the Provincial Health Directorates (DPSs) and service providers. This collaborative approach facilitates the understanding of the proposed measures, incentivizes team creativity and stimulates teamwork, making desired performance easier.

3. **Stimulate participation in the identification of problems and in the planning of solutions.** Although it may seem unnecessary to say, the first step in solving a problem is its identification and planning must be initiated by those who are affected by the problem. It is common to see how many actions offered come structured with supposed remedies and not discussed in detail with those who face the problem daily. This, together with the other lessons learned below, has been one of the strategies brought by the REDSALUD Project that most positively impacted the Project's work and that is evidenced in the sense of ownership that is expressed by the hospital representatives when visiting their institutions.

4. **Identify and empower the natural leaders and agents of change.** Once the approach of facilitating and stimulating participation is adopted, it is fundamental to continue the process of identifying the natural leader or leaders, who exist in the institutions, and who are not necessarily the formal and commonly elected managers for reasons unrelated to their knowledge and leadership capacity. These leaders should be offered the needed motivation and support so that they are empowered to successfully perform their tasks and implement change. To accomplish this will contribute significantly to sustain future initiatives of change.

5. **Accompany and monitor until there is institutional adoption of the processes of change.** Of no less importance than the last two steps stated is the need to perform long-term monitoring of

leaders, work teams and strategies or tools implemented until they are fully incorporated into the work daily routine. If this is accomplished, it is certain that the strategies or tools will succeed after project support ends. Training personnel is no guarantee of change or of its sustainability, unless it is accompanied with monitoring and continuous support.

6. **Support the creation of experiences in order to start their conversion into flags of change.** In tandem with the above learned lessons, it is fundamental to create real experiences with real individuals, that can be shown and analyzed, and that are used to solve daily, routine problems, keeping in mind the deficiencies and limitations of each institution or service. These experiences can be viewed as flags of change that motivate and promote similar processes, having a "demonstration effect" that may be used as the basis for the training and development of new personnel in other services or institutions. This is not about creating a traditional pilot experience, which can become an experiment in ideal conditions, or at least in conditions that are not what institutions may face on a daily basis. Rather the emphasis is on day-to-day experiences that are resolved successfully,

7. **Incentivize the leadership's enthusiasm and work teams.** Generate processes of emulation within the different entities and services that may be monitored in a permanent manner such as evaluation and qualification in different stages of development, with the purpose of identifying the best experiences that may be recognized and awarded in public, and that, without any doubt aids in improving the confidence and self-esteem in the capacity to solve problems.

8. **Use similar countries' experiences as points of reference for learning.** Referring to reforms similar to the Dominican reform (in approach) as well as reforms carried out under comparable socioeconomic conditions, as is the case of Colombia, was of great value in the learning process and allowed for acknowledgement of human resources performance. To visit and obtain firsthand knowledge of a reform experience in a similar country was one of the benefits that permitted Dominicans to learn how things are done elsewhere, the difficulties others had to overcome, and which challenges persist and remain principal challenges. This is an invaluable point of reference that permitted adoption of methodologies that had a great impact in the development process in the Eastern Region.

5. RECOMMENDATIONS

The recommendations generated through the process of change supported by the REDSALUD Project are directed to USAID as well as to the country's health authorities. They are based, in good measure on the lessons learned and have been relayed during the course of the Project. They are meant to stimulate the use of practices and strategies adequate to the conditions of the country; they are oriented towards promoting development, and sustainable change without project, donor or external support.

1. Concentrate efforts in determined geographic zones that meet predetermined prerequisites; that are home to diverse types of health entities and levels that are or could be part of a network of services; and that, in addition, demonstrate a disposition and desire to advance, on their own initiative, and promote positive change.

2. Provide continuous and coherent support so that the changes introduced by new tools and strategies are absorbed into the daily work routine, in the institutions or services, and that at the same time constitute continuous engines of improvement. That said, support must always coincide with the medium and long-term development vision and strategy that the country has.

3. Stimulate the automation of processes and establishment of information systems, especially for the management of basic information required to offer good services. At present, given the complexity of services, it is practically impossible to have efficient resource management without technology. The availability of and easy access to low cost IT solutions, that can be operated by non-highly trained personnel makes this recommendation an attainable one.

4. Always combine training of human resources with monitoring and supportive supervision of change processes. Training human resources does not guarantee the implementation of strategies and change tools, much less their sustainability. The success of the processes of change depends on the simultaneous use of both.

5. Standardize as much as feasible the processes of design and implementation of strategies and change tools, with the goal of facilitating their development, enabling comparisons and promoting the analysis required to adjust to changing conditions.

6. Avoid the separation of health programs from the main points that support their development. There should not be a separation of actions implemented to improve traditional health programs (MNCH, HIV/AIDS, TB, etc.) from the main cross-cutting components of development, such as the automated IT systems, resource management, patient care and human resources management.

7. Focus support on institutional development and capacity building, not on individual programs or health services, to avoid the structural weakening of management and control, the duplication and wasteful use of resources, and the dismantling of the process of integrated care.

8. Promote "South-South" exchanges as part of a learning process that contains relevant points of reference. These points of reference would exist under relevant development conditions that facilitate the exposure to and adoption of procedures and strategies that respond the country's development needs, enabling ease of implementation and sustainability.

ANNEX 1. INDEX OF PERCEPTION ABOUT MANAGEMENT AND AUTONOMY IN THE HEALTH INSTITUTIONS OF THE EASTERN REGION

SURVEY RESULTS FOR MEASURING THE DIRECTORS' PERCEPTION OF THE DIRECTORATE ABOUT THE MANAGEMENT CAPACITY AND LEVEL OF AUTONOMY OF THE HEALTH INSTITUTIONS IN REGION V

The **survey about the perception of the management capacity and autonomy** applied to the principal directors of the health institutions of Region V of the Dominican Republic was performed from May to July of 2007 and is the fourth in a series of measurements carried out in 2002, 2003 and 2005, that allowed the analysis of changes within these processes over a period of five years.

The analysis was performed by measuring the behavior of various targets or key performances in the areas of institutional management and autonomy that later allowed creation of an indicator that summarizes the behavior in 59 variables used to measure the behavior of the researched aspects of reform. The data was obtained during interviews conducted with three (3) high-level directors according to the organizational chart of the 14 hospitals, the five provincial health directorates, and the Regional Directorate, for a total of 20 health institutions of the MOH in Region V, which was the object of the study.

After constructing the **Global Index of Management Capacity and Autonomy Perception (IGP)** and analyzing the key variables, in the different measurements allow the conclusion that between 2002 and 2007, the health institutions of Region V have made a positive change in the way that they were historically managed.

Some of the most notable results that support the above statement are the following:

- In 2007 all the institutions defined their mission and vision statements in writing, duplicating those made in 2002, a task that made sense of engaging the individual and the collective (the mission) and the strategic North of what is perceived to be (the vision). This institutional mission and vision is posted in a visible area in 16 of the 20 institutions visited.

- The percentage of directors that said their institutions had an instrument that guided their actions increased from 70.2% in 2002 to 82.3% in 2007, and in this last year 19 of 20 centers analyzed had formulated an Operation Plan.

- The results of the Users' Satisfaction Survey became part of what to do institutionally in those five years. While in 2002 only two institutions used this tool as a mechanism for quality control of the services provided, today (2007) 18 of 20 do.

- The interest in improving management of human resources is also evident. The institutions that ask employees how satisfied they are, grew fivefold between 2002 and 2007, increasing from two institutions in the base year to 11 in the present.

- The institutions have not just limited themselves to asking their employees for levels of satisfaction. They have made investments in improving the workspaces and adequately equipped them. 95.2% of the surveyed directors said that they had made improvements in their physical spaces and their equipment. They have also started to monitor the performance of their human resources and to sanction or award the results obtained from evaluations. 40.3% of the institutions' directors apply different instruments to evaluate the accomplishment of agreed upon work objectives; a similar percentage reported the existence of Disciplinary Counsels, showing that half of the latter had implemented various processes.

- A great pending challenge is in the process of contracting the human resources of the public sector, since according to 98.0% of the surveyed population: "political recommendations or other levels" continue to be the selection criteria most used.

- Although there are great challenges, improvement in the purchase and sale of services is also notable. During 2002 only 6.9% of the directors said that their institutions had a department for procurement of goods and services, and in the last survey completed, this percentage increased to 29.0%. This shows that 77% has a written menu of services.

- In summary, the IGP indicates that the process of management capacity improvement is noticeable. Between 2002 and 2007, the value of this index for the Region increased from 22.1% in 2002, to 63.7% in 2007, which once adjusted by the verification grade, maintains its tendency, increasing from 11.7% to 28.2% during the period.

- The value of the IGP was higher than the average in the provinces of La Romana, where the regional average was (23.8% in 2002 to 67.5% in 2007) and San Pedro de Macoris (21.5% to 66.2% during the same period).

- At the level of the local institutions in charge of the system, the Directorate of the San Pedro de Macoris and the Regional Health Directorates were the ones that had the best performance in 2007, overtaking the DPS of La Romana, which was in first place according to the IGP value.

- Among the service providers, the Municipal Hospital of Miches, the Provincial Hospital of Dr. Francisco A. Gonzalvo, the Hospital Nuestra Señora de la Altagracia de Higuey, and the Dr. Alejo Martinez de Ramon Santana Hospital occupied the top four spots. These health centers surpassed their level of performance reached in 2005 by the Hospital Dr. Leopoldo Martinez of Hato Mayor, which was in first place that year.

- Finally, the reinforcement of reform elements would help improve the institutions in particular the promotion of system automation (financial as well as clinical), the establishment of rate systems, the use of methodologies for competitive analysis, the use of incentive mechanisms for providers, and the transition financing processes from supply to demand based with regard to the provision of services.

ANNEX 2. INDEX OF PERCEPTION OF QUALITY OF SERVICE IN THE HEALTH INSTITUTIONS OF THE EASTERN REGION

SURVEY RESULTS FOR THE MEASUREMENT OF PERCEPTION OF THE QUALITY OF HEALTH SERVICES AMONG THE USER SERVICES OF EXTERNAL CONSULTATION, VACCINATION AND EMERGENCIES IN THE 14 HOSPITAL OF HEALTH REGION V.

The **survey of the perception of quality of health services** was performed in May 2007 in a probability sample of 680 users of external consultation services, emergencies and vaccinations in the 14 hospitals of the Ministry of Health, Health Region V, known as the Eastern Region of the Dominican Republic. Three similar surveys with the same objective were performed among the users from 90 health establishments sampled in the years 2002, 2003 and 2005.

The analysis in this report summarizes the behavior of the 14 hospitals in four key aspects included in the survey, to determine: waiting period, treatment received by the health center's personnel that provided the service, conditions of the waiting room, and opinion about the hours of operation. In addition, it included the general appraisal that the users made, in a spontaneous manner, of the received services. A conclusive indicator of the investigated variables was constructed, which was named "User Satisfaction Index" (ISU).

The results show an increment in the User Satisfaction Index (ISU) from 69.7% in 2002 to 72.5% in 2007 in the general average of the 14 hospitals, a significantly high increase, considering the limitations faced by these institutions.

As far as some specific aspects of the survey that were evaluated, the percentage of users that said they would return to the health center where they received care is more than 90%, and those who would recommend the hospital, surpassed 85% during the entire period.

The change was not always in the same direction, nor of equal magnitude, in all the health centers. The Dr. Francisco A. Gonzalvo Hospital of La Romana and Dr. Alejo Martinez Hospital of San Pedro de Macoris achieved the highest ratings during the five years. The results of the applied statistical test demonstrates that the increase in the ISU from 70.3% to 80.7% in Alejo Martínez and from 69.2% to 81.5% in Gonzalvo, were highly significant.

At the same time, not all the health centers included in this study had the same behavior with regard to the different variables studied:

Although lengthy waiting periods are a widespread challenge across the board, 40% of the patients of the hospitals in La Romana province (Leopoldo Martínez de Hato Mayor, Lagunas de Nisibon, Evangelina

Rodríguez de San Rafael del Yuma y Alejo Martínez de Ramón Santana), responded that they received some care in the first half hour after arriving at the health center. More than half of the users of the Municipal Hospitals of El Valle, Miches and the Dr. Antonio Musa Regional Hospital had to wait an hour or more prior to receiving care.

Differences also appeared in the interpersonal communications between patient and provider. At the regional level, seven out of ten of the health services users said that prior to receiving the service, the hospital personnel greeted them and they were encouraged to ask questions about their doubts and concerns. In the Dr. Alejo Martínez Hospital, Dr. Evangelina Rodríguez Hospital and the Municipal Hospital of Guaymate, more than 90% of the users said that they were greeted by the personnel who cared for them. The health centers rated worst in this aspect were the Dr. Antonio Musa Regional Hospital of San Pedro de Macoris and Srta. Elupina Cordero of Sabana del Mar Hospital.

The physical condition of the waiting rooms where patients waited until attended, in general, were positively valued: almost the entire population surveyed (97.3%) expressed that the waiting area was protected from the sun and rain; more than 80% agreed that the waiting area was clean, organized and comfortable; three out of four individuals responded that they agreed that the waiting area were sufficient in space, illumination and climate control. Nonetheless, the users indicated that it is necessary to give them something to see, look at, or to entertain themselves with, according to the audience, due to the fact that only one third found something to fill this purpose. The health establishment that has managed to satisfy the audience in this aspect is the Municipal Hospital de Miches since more than 90% of the users responded that they found something to look at, read or to entertain them.

The hours of operation seem not to bother the users, since they view the emergency areas of the hospitals as an alternative to solve their health issues during the 24 hours of the day. Nonetheless, 63.4% favored services being offered on weekends and 52.9% said that the time when the services were offered inconvenienced them.

Users' general appraisal of the 14 hospitals was positive. 88% of the individuals interviewed stated being satisfied with the services received. 92% stated that they would return to the same health center in search of services and almost 90% would recommend a relative or friend to the health center visited. The best evaluated hospitals, according to this appraisal, were the Municipal Hospital de Ramón Santana, Miches, El Valle and San Rafael de Yuma, which were rated favorably by the majority of users. The Dr. Francisco A. Gonzalvo Provincial Hospital, the Municipal Hospital de Guaymate, the Dr. Leopoldo Martínez de Hato Mayor and Pedro María Santana de los Llanos had more than 90% of their users feeling completely or mostly satisfied with the services received.

ANNEX 3. PERCEPTION SURVEY ABOUT THE EVOLUTION OF THE MILESTONES OF THE HEALTH REFORM 2006

PARAMETERS AND AVERAGES

1	Advances in social security reform in health		0.57
2	Service package updated, standardized and defined		0.62
3	Database of affiliates to the subsidized		0.73
4	Existence of affiliation process to the subsidized regime		0.38
5	Process to provide ID cards to affiliates		0.71
6	Signed contract between hospitals and SENASA		0.71
7	Network of services – reference and counter reference system		0.60
8	Existence of manuals on medical. clinical, technical and operative procedures		0.62
9	Existence of manuals on administrative procedures		0.60
	Total number of affiliates to the system at the date of the evaluation 95,000 (Potential number of affiliates to the system at the date of the evaluation 250,000)		0.38
		General average	**0.59**

ANNEX 4. PRODUCTIVITY OF HUMAN RESOURCES IN THE HEALTH INSTITUTIONS OF THE EASTERN REGION

The productivity index is an indicator that shows the number of activities by human resource hour employed in three different hospital services: consultations (general and specialized), emergencies and vaccination.

The productivity in external consultations is the sum of general medical and specialized visits that was calculated with the number of hours/doctor provided and worked in this service. The second service considered was emergencies, where all attended emergency visits were added and compared against the number of hours that the doctors worked in this department. The third service was vaccination, where data were taken of the total number of vaccinations administered and then divided by the number of hours that the nurse or nurses in this department were available (in various hospitals there is more than one vaccination nurse working at the same time).

The general productivity calculation already existed for 2004 (3.28), though it was decided to recalculate it because the hospitals' registers were deemed to be unreliable. The new values were made using data given by the hospitals after applying a new accounting tool.

With the objective of making the analysis and measurement of the indicator more practical, monthly averages were taken by each province. To get this indicator, various data sources were used in order to compare results and obtain verifiable and trustworthy information. In 2004, the first accounting table was made using the management tool "Menu of Services - Budget and Costs", from which human resources data were extracted to calculate the number of hours/doctors in general and specialized consultations and emergencies. The hours for vaccination consultations were calculated using the number of hours/nurses that were assigned to each vaccination post.

The number of consultations and emergency data was taken from the table of costs that was created by the hospitals using a tool developed by the Project; and the number of vaccinations taken from the physical register that each vaccination center has. The biological data that were taken into account for the vaccination indicator were BCG, Hepatitis, Polio, Pentavalent, DPT and measles.

An average monthly total taking into account the three services (consultation, emergency and vaccination) by year and province was obtained.

The productivity indicators were calculated as follows:

Monthly Productivity Indicator

$$\frac{\text{Number of consultations}}{\text{Number of hours/doctor employed in the consultations}}$$

$$\frac{\text{Number of Emergencies}}{\text{Number of hours/doctor or individual employed in emergency}}$$

$$\frac{\text{Number of total vaccines applied}}{\text{Number of hours/nurse employed in vaccinations}}$$

Productivity Indicator of Monthly Average Sum

$$\frac{\text{Sum of the total number of consultations, emergencies and vaccinations}}{\text{Hours/doctors/nurses employed in consultations, emergency and vaccinations}}$$

Below, the result of service productivity by province comparing the years 2004, 2005 and 2006, is presented:

PRODUCTIVITY CONSULTS 2004-2008 REGION V, DR

Province	2004	2005	2006	2007	2008
El Seibo	5.17	5.77	2.40	3.02	2.67
Hato Mayor	1.97	2.62	2.05	2.78	2.30
La Altagracia	1.71	2.55	1.83	1.94	2.35
La Romana	3.87	1.56	1.52	1.68	1.59
San Pedro de Macorís	2.09	1.89	2.93	3.44	3.59
Total Región V	2.64	2.20	2.18	2.58	2.56

Source: Costing Table 2004 and Questionnaire 67 (Years 2005 and 2008

For 2004 the hospitals took 100% of the data of hours/doctors and consultations in the table of costs in a tool developed by REDSALUD. The data was taken from hospital registers that were not standardized or regulated suggesting that the data is not reliable.

In 2005 hospitals officially began to use Form 67A, a register designed for counting consultations. However, this was not done daily, nor monthly in all of the hospitals which may weaken its accuracy. This is why it was necessary to find the earlier registers which were transferred to Form 67A. This may in part explain the difference in the years 2004 and 2005 in all the provinces except in El Seibo. which regularly maintained indicators for those two years.

Starting in 2006, hospitals began to realize the importance of the data registry procedures. This has resulted in more reliable and accurate data, as can be noticed starting in 2006.

On average, productivity does not vary much from year to year even though there are differences within the same provinces due to cases such as the provinces of El Seibo and La Romana that significantly increased their indicators incrementing the general average index for 2004. The same is true for 2005 in the provinces of El Seibo, Hato Mayor, and La Altagracia, albeit more moderately, in the last two. 2006 shows regular behavior between the provinces principally due to the change in outlook with regard to data registry procedures noted above.

In the first trimester of 2008, the number of consultations was lower than in 2007. This is partially explained by the constant labor strikes (the number of doctors' strikes increased) and because the country entered in an election period and hospital workers had been focused on political campaigning.

The number of consultations for the second trimester of 2008 was relatively unchanged. In the provinces of Hato Mayor and Seibo they decreased slightly from the first trimester which may be explained by the political activities that took place in the region prior to the presidential elections. In San Pedro de Macoris and La Romana consultations increased. This was expected in San Pedro due to the fact that in May its emergency rooms initiated the practice of triage, whereby patients are evaluated upon arrival and a determination is made whether the care they require is truly an emergency or may be assigned in the User Care Module as a normal medical appointment. With this model of patient care and classification, the number of consultations increased and the number of emergencies decreased.

PRODUCTIVITY OF EMERGENCIES 2004-2008 REGION V, DR

Province	2004	2005	2006	2007	2008
El Seibo	2.56	2.21	1.35	1.40	1.37
Hato Mayor	2.14	1.87	2.84	2.59	2.95
La Altagracia	1.84	1.77	1.33	1.39	1.49
La Romana	2.04	1.58	2.21	2.29	2.17
San Pedro de Macorís	2.96	2.66	3.15	3.23	3.34
Total Región V	2.33	2.02	2.18	2.21	2.28

Source: Costing Table 2004 and Questionnaire 67 (Years 2005 and 2006

For emergency care, data were collected in a manner similar to consultations; in 2004 all the data were obtained from the expenses table, and in 2005 and 2006, the hours/doctors were taken from the hospitals' costing tables and the number of emergencies from the registry Form 67A.

Overall productivity varied from year to year and was not constant in any of the provinces. This is believed to be because of variations in data entry in the hospital registers depending on who entered it – doctors in charge of departments and support personnel are responsible for registering and consolidating the productivity data in the clinical registry based on the little documentation generated during the consultations.

It seems that the numbers in the emergency registry are underreported based on direct observation in the hospitals. The emergency room is the area of most congestion in the hospitals and where most care is provided and procedures delivered.

PRODUCTIVITY OF VACCINES 2004-2008 REGION V, DR

Province	2004	2005	2006	2007	2008
El Seibo	1.91	3.27	2.46	2.05	4.50
Hato Mayor	2.17	3.52	3.29	2.75	4.06
La Altagracia	4.75	5.89	5.00	5.68	9.96
La Romana	8.28	10.65	5.91	7.62	8.68
San Pedro de Macorís	7.89	6.19	5.03	4.95	6.73
Total Región V	5.35	6.02	4.61	4.77	6.96

Source: Hospital Vaccination Books and vaccinating hours contracted by EPI Central

Regarding vaccinations. it is important to make clear that vaccines administered include BCG, Hepatitis. Polio, Pentavalent, DPT and measles; a single child may receive more than one vaccine during a single consultation period.

The number of vaccine doses administered increased in 2005 due to the SESPAS Central vaccination campaign throughout the country. Also, it is important to note that in 2005 hospitals authorized an increase in the hours of vaccination (opening this service in evening hours) and improving the quality of service.

In La Romana a considerable increase in the number of vaccines administered was observed due to a vaccination campaign started by the Dr. Francisco A. Gonzalvo Hospital and the Municipal Hospital of Guaymate in 2005. La Romana was the province with the lowest vaccination indicator in the region.

The campaign consisted of locating child patients in the hospital as well as children and pregnant women in each zone, visiting and vaccinating them in their own homes, and completing, or beginning a scheme; in the process, many mothers who had not had their children vaccinated or registered, joined the campaign, increasing the number of vaccines administered. Toward the end of 2005, La Romana was completely up-to-date in vaccinations and in registry of vaccines applied.

A vaccination campaign was also conducted in San Pedro de Macoris in 2005. Community leaders provided incentives for mothers to take their children to be vaccinated, thus increasing the number of administered doses.

Numbers of vaccines administered in the first trimester of 2008 were greater than that of the same period of 2007 primarily due to improved vaccine supply by the provinces and better management in hospital vaccination centers. Beginning in 2008, the System of Live Births was implemented in the hospitals, which also increased productivity as vaccination centers are informed of the births and administer at least the first doses of vaccines prior to the newborns leaving the hospitals. For the second trimester of 2008 vaccination productivity increased.

COMPARATIVE OF THE AVERAGE MONTHLY PRODUCTIVITY 2004-2008 REGION V, DR

Province	2004	2005	2006	2007	2008
El Seibo	3.40	3.67	1.92	2.20	2.21
Hato Mayor	2.07	2.32	2.43	2.71	2.68
La Altagracia	2.09	2.44	1.79	1.88	2.36
La Romana	3.16	1.98	2.09	2.23	2.18
San Pedro de Macorís	2.73	2.48	3.20	3.47	3.75
Total Región V	2.70	2.40	2.36	2.57	2.74

Source: Costing table 2004, Form 67A and Vaccination Center at each hospital

Even though overall productivity is more or less constant in the annual average, it is important to repeat that direct observation in the hospitals shows general productivity to be greater. This is due in part to the source of the number of general consultations, specialists and emergencies being taken initially from the costing table completed in 2004 and from there forward from the registry of Form 67A based on the medical notes in the files. The hospitals initially did not have the experience to register all data which could have affected the registries. Also, it may be that the number of hours contracted is more than the number of hours worked fictitiously inflating the indicator even considering the effort of the hospitals to register the actual hours worked in the costing tool.

As previously mentioned, the doctors are not accustomed to registration, nor to making notes about the services provided in the clinical histories, which makes it very difficult to calculate the exact number of services. This could have affected the productivity index.

Regardless, beginning in 2007, Form 67A was systemized in the hospitals to facilitate its usage and registration with what is hoped to be more reliable data for the calculation of productivity indicators.

The total productivity of 2008, compared with that of 2007, increased from 2.57 to 2.74. This is due to the structural changes in the organization of hospital services. Additionally, the increase in productivity could be explained because at the end of the trimester, after the elections, the hospitals returned to their normal activities. Also, it is important to note that productivity increased also with implementation of the triage mechanism in El Musa, one of the largest hospitals and with the greatest number of patient visits in the area.