

Health Promotion Project in Durán

Final Report

**Ministry of Health
Corean International Cooperation Agency, KOICA –
Panamerican Health Organization, PAHO
2015-2016**

ACRONYMS

MOH:	Ministry of Public Health, Ecuador
PAHO:	Panamerican Health Organization
WHO:	World Health Organization
INEC:	National Institute of Statistics and Census, Ecuador
09D24:	Distrito Durán
EMAPAD:	Water and Sewage Municipality Enterprise Durán
MINEDUC:	Ministry of Education, Ecuador
MIES:	Ministry of Social and Economic Inclusion, Ecuador
CCLS: L	ocal Citizen Committee for Health

1. PROJECT SUMMARY (table)

HEALTH PROMOTION PROJECT IN DURAN 2015 - 2016

OBJECTIVE

Strengthen capabilities of primary health care staff and organized community in Circuit "El Recreo" - Duran District- to manage the process of Health Promotion including health education program to population.

Two Expected Outcomes:

- EO1: increased capacity of first care level
- EO2: community education and communication program.

Three priorities on health issues at the beginning of the project

- Diabetes (NCD)
- Tuberculosis
- Dengue

Five action lines (strategies) to address the issues

- Promotion of healthy diet and physical activities among families with children and adolescents enrolled in schools
- Change of life styles to prevent NCDs and complications thereof
- Improvement of NCDs care by the health services
- Social mobilization for dengue, chikungunya and zika prevention
- Tuberculosis control with community participation and inter-sectoral approach

2. EXECUTIVE SUMMARY

2.1 Background (context of the Project)

The Ministry of Public Health of Ecuador is the national governing entity, through the provision of individual care, disease prevention, health promotion, research and development of science and technology, coordinating the contribution of health actors, guarantees the human right of the population to health

According to its mission, Ministry of Public Health, promotes partnerships that contribute to better fulfill its objectives in specific times and places. This is how the MSP, together with the International Cooperation Agency of Korea, KOICA, they decided to carry forward the "Strengthening the infrastructure of primary care", which involves the construction of a health center in Duran 09D24 District project , Health Zone 8. The project included a component of health education with the target population of the health center to be built. The project implementation should be carried out by an expert in public health institution

In this situation, KOICA asked the Representation of the Pan American Health Organization,

PAHO/WHO in Ecuador, the development of a proposed Education Program Duran. To achieve this, several joint working sessions were held with managers and technicians MSP, central, Zone 8, based in Guayaquil, the 09D24 Duran District and community leaders. In addition, the Health Center "El Recreo" is visited, for information on the health situation of the population and ongoing programs and to discuss the project.

The MSP, KOICA and PAHO agreed on the importance and need to implement the Program of Education with the community so that investment in infrastructure is sustainable. It was necessary to combine with the capacity building of health staff in primary care health centers in El Recreo, 1 and El Recreo 2.

Thus, it is agreed to manage a process of health promotion in this area, implementation of the national policy of MSP, expressed in the Model of Integrated Health Care (MAIS), aligned to the functions, portfolio of services and products as defined in the "Substitute Organic Statute of Organizational Process Management" of the Ministry of Public Health (October 2013), for Health Promotion at the primary care level.

It was identified that the purpose of the component of Health Promotion Project, would help improve the living conditions of the population of El Recreo, with health personnel, and conscious organizations and individuals active against social determinants and risks for collective health.

The Health Promotion Component, implementing PAHO / WHO from 2015, aims to strengthen the capacity of primary care staff and community organized at the Circuit "El Recreo" at Duran District, to manage process of health promotion and education program aimed at the population. Two phases, the first for 2015 and the second for 2016-2017 were anticipated, each with specific results but above all, articulated in a single notion of strengthening the promotion from and with the health services.

2.2 Key Achievement(s) during the target period

Expected Result 1

Increased capacity of first care level resources to identify social determinants and strengthen citizen participation by jointly designing intervention plans and proposals for collective wellbeing in coordination with the GADs and other sectors.

Scheduled activity	Actions carried out in 2015 <i>(Please: Annex on project activities, tools, reports or materials, are included in Annex CD in topics order)</i>
1.1 Permanent coordination with MSP and the community to implement, follow-up and assess the Project	Permanent intersectoral and interdisciplinary coordination: Zone8 MOH, District MOH, GAD, Education, non-governmental actors with PAHO support.
1.2 Analysis of social determinants and social networks and design of methodologies and tools for	Analysis of social determinants and social networks. Propuesta de convenio interinstitucional Durán. ACIC and methodology transfer to health professionals.

the process	Training on diabetes education addressed to sanitary professionals.
1.3 Design and implementation of the training plan to strengthen the capacities of the first level staff to manage health promotion	Observational visit to the 3 rd Zone (Puyo) related to the implementation of Chronic Care Model components.
1.4 Strengthen community actions and participation in the definition of issues and the design of solutions	Intersectoral awareness raising and implementation of a strategy on healthy diet and physical activity promotion among the education community and families. NCDs for Professionals Training Plan CZ 8.

Expected result 2

Education and communication program addressed to individuals, families and the community implemented in order to promote change of habits and life styles in terms of the issues that have the most effects on diseases, in coordination with the relevant circuit instances.

Scheduled activity	Actions carried out in 2015
2.1 CAP survey on habits and life styles of the population	KAP survey on dengue prevention in El Recreo. Database of KAP
2.2 Strengthening of health program user committees to promote healthy habits and life styles	Study of Pupal index in Durán STEP planning to measure behavioral and biologic NCD risk factors. Implementation of diabetes education program for committees of patients with diabetes and NCD RF.
2.3 Design, production and dissemination of training materials to promote change of habits and life styles and assess the process and its impact	Implementation of the peer support program for tuberculosis patients in order to prevent abandonment. Creation of the family health library.
2.4. Design of methodology and tools on promotion of healthy habits and life styles at the first care level	Production of a photo-documentary and mobile exposition on healthy lunch boxes.
2.5. Training to the district personnel and local organizations on methodologies and tools for the promotion of healthy habits and life styles	Design and planning of a strategy to promote healthy food and physical activity among the education community. Development of diabetes education program addressed to persons with diabetes and NCD Risk Factors. Peer follow up to TB patients. Communication campaign.

3. PROJECT OVERVIEW

3.1 Operational Overview (implementation structure)

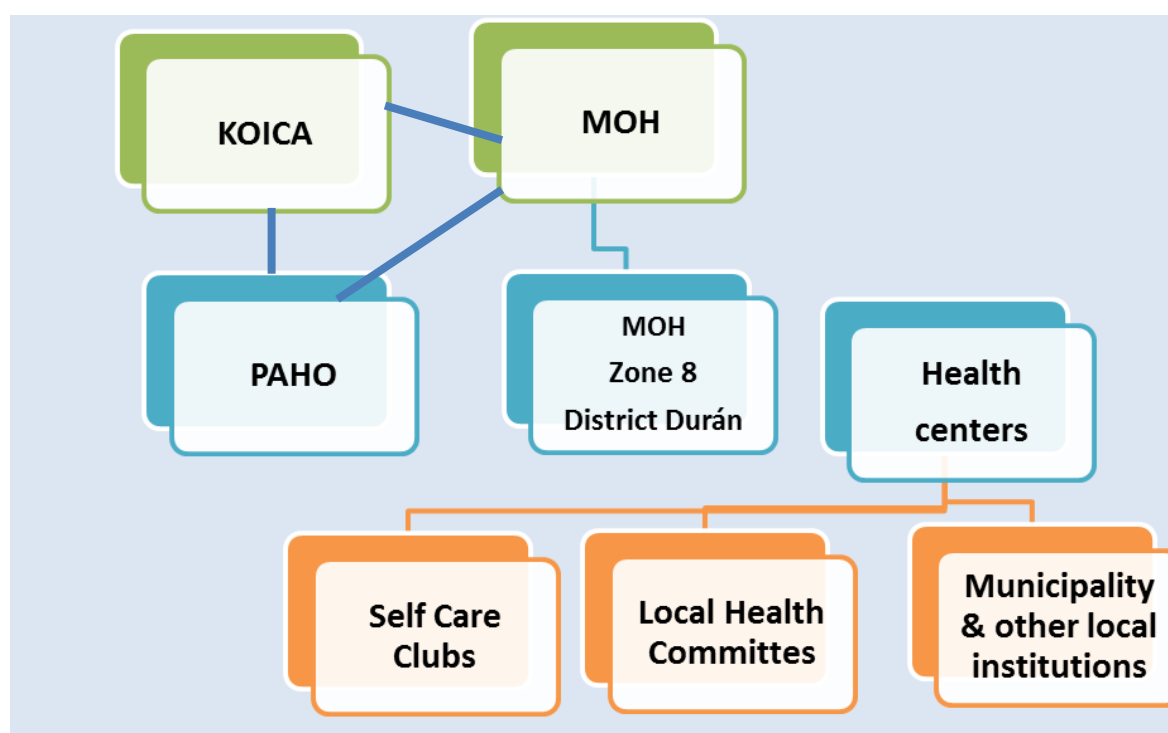
Since its planning, the project has been addressed to build the capacity for health promotion of the three key stakeholders at the local levels: i) health services; ii) community; and, iii) other

stakeholders and to generate articulated processes for a comprehensive development of health promotion.

The project has a complex but clear structure in order to link permanently national health policies with local priorities, through national public health structures, it means with Zonal 8 Coordination and Durán District Direction participation. One issue to overcome is overlapping of regular processes of MOH activities and “new” or additional activities than project proposes. Considering lacks of human resources, project activities cannot go ahead by itself, always need linkage and operational association with day by day health services activities and process.

Responsibilities	In Charge
<i>MOH – Technical Cooperation Secretary, SETECI</i>	<i>PAHO Country Office</i>
<i>MOH – Health Promotion National Direction</i>	<i>PAHO local team and specific technical consultants</i>
<i>MOH – Zone 8 Coordination and Duran District Direction</i>	

Implementation structure



In addition, PAHO / WHO’s strategic framework on health promotion and specific issues such as NCD prevention states the need to incorporate other strategic elements to drive the actions designed under the conceptual framework of Comprehensive Health Care Model (MAIS, for its initials in Spanish). Since its beginning, three key elements were identified for the project development:

- The project should be based on the MAIS logics. The involvement that Project seeks to foster among different local actors is supported by the MAIS framework.

- The project involves actors from MOH three management levels: district, zone and central. It proposes to feedback the central level in order to promote public policies that will then return to the Duran territorial level.
- The project should complement KOICA's project in Duran for the development of health infrastructure, considering that incorporation of new health promotion and disease prevention processes mostly depends on a proper sanitary infrastructure.

As the health promotion component of the KOICA cooperation project in Duran had been originally conceived for a two-year term, the approach in 2015 for the above mentioned theme lines covers the initial steps of the process:

- i) assessment of the situation and characterization of the issue;
- ii) interventions or strategies design; and,
- iii) capacity building for the implementation thereof.

In the following years the process should continue with the **implementation of interventions**, their assessment and enhancement towards the consolidation of health promotion processes.

Following is a cross-cutting description of the key elements of the process during 2015, and section 5 specifically describes the processes for each theme line. Two additional elements of the strategic approach should be highlighted: i) capacity building of the three stakeholders should be done throughout the project, both regarding "assessment" and "design" of the interventions and, of course, the preparation for their implementation; and i) the implemented actions did not rigorously follow the schedule of the process, meaning that since its beginning, key interventions have been identified and worked on without having completed essential actions such as the diagnostic of social determinants or the measurement of NCD risk factors.

Situation assessment / characterization of the issue, stakeholders, opportunities

In order to address the priority issues, during its first year the project included actions to characterize the health situation as a starting point to design interventions and drive capacity building. Below are the main objectives of the situation assessment:

- Better identify vulnerable groups, inequalities and target populations
- Identify risk factors, habits, uses and knowledge that should be the subject of the intervention
- Record key information for the adaptation of the intervention to the Duran reality
- Set up baselines for future assessment of the project or the changes generated by it at a longer term
- Generate and unify among the three types of actors a basic understanding level that enhances the inter-sectoral dialogue

The characteristics of the situation assessment process are:

- Research-action type process
- Involvement of different stakeholders
- Use of validated methodologies
- Methodology transfer to local stakeholders

Below is a relation of the assessments made in the 2015 period:

- Study of social determinants
- CAP survey on dengue and chikungunya communication
- Design of the STEP survey

- ACIC (Assessment of Chronic Illness Care) and PACIC (Patient Assessment of Chronic Illness Care)
- Characterization of the situation of health promotion actions at the schools
- Studies on A. Aegypti breeding grounds

Design and adaptation of interventions or strategies

The design and adaptation of interventions for health promotion in Duran in the project expects to meet the characteristics of the PAHO/WHO cooperation framework in the country and include WHO technical recommendations for those subjects. Therefore, the project was designed with the following intervention approaches:

- Key interventions and policy proposals based on evidence
- Implementation in the territory of country with public health policies
- Supplementation for population interventions (on determinants) and individual interventions with risk approach
- Interventions with life course approach

Key interventions and policy proposals based on evidence

The interventions proposed as lines of action in the project, in response to the three priority health issues, have been recommended within the strategic frameworks of PAHO / WHO and other international recommendations regarding health promotion policies based on evidence regarding individual care to patients with NCDs and tuberculosis. PAHO has considered the following strategic frameworks to identify the actions to be carried out in this project:

- ✓ NCD Global Action Plan
- ✓ NCD Global Monitoring Framework
- ✓ Global recommendations on physical activity for health
- ✓ Regional NCD Strategy 2013 – 2020 PAHO
- ✓ Plan of Action for the Prevention of Obesity in Children and Adolescents
- ✓ Sugar intake for adults and children
- ✓ School policy Framework. Implementation of the WHO Global Strategy on Diet, Physical Activity and Health
- ✓ Global Strategy for Dengue Prevention and Control 2012
- ✓ STOP TB Strategy
- ✓ PAHO Strategic Plan 2014-2019

Implementation in the territory of country with public policies

Over the past years, Ecuador has made important progress in public policies development on health promotion, particularly regarding risk factors and determinants of chronic non-communicable diseases. The National Plan for Good Living, in its objectives 3.6, 3.7 and 3.12, raises important public policy challenges in terms of healthy environments, healthy eating and physical activity to which this project seeks to contribute.

The strategies and interventions promoted within the framework of this project are related with such policies in two senses:

- 1) Optimizing existing public policy as a tool to enhance the interventions scheduled in the Project; and,
- 2) Supporting to the public policy at the local level through the Project.

Population interventions plus individual risk approach interventions

The Project core argues that it is essential to complement the approach addressed to high risk population with public health strategies for the whole population¹. According to the strategic framework promoted by PAHO to address diabetes and other NCDs², two methods should be used to apply prevention strategies: first one based on the population and other one addressed to high risk individuals. The population method is mostly focused on health promotion activities and actions that influence the environment (physical, social, economic and regulatory). The individual method focuses on affected persons or those with high risk through direct intervention. Both methods complement each other and have better results if they work as one.

The Duran Project has required combine both methods with actions: risk approach processes (detection of diabetes and changes in life styles of people with RF) and population actions (promotion of healthy diet for students and their families).

Furthermore, the project intends to incorporate vulnerable populations approach, which states that population approach may increase inequalities in health and the need to design public health strategies considering vulnerabilities. The vulnerable populations approach requires two elements: intersectoral processes and participative intervention³. In the first year Project has sought such approach particularly on Tuberculosis component, but its general trend has been applying a research approach to health promotion in order to recognition of health vulnerabilities in the priority fronts. The social determinants study made in the first year shows several elements that support the approach.

Intervention with life course approach

The life course approach addresses the different moments of life and it recognizes that human development and health depend on different factors interaction along the life course. It understands that investing in timely care for every generation will benefit the next one, and the highest benefit in life progression could have been derived from previous interventions.

The life course concept, both for population and individual contexts, inspires actions design for NCDs prevention. During its first year, the Project drove actions based on this approach towards the promotion of physical activity and healthy diet among the students.

Above conceptual elements characterize the Project general approach in 2015. Then, five intervention strategies were designed as it follows:

- Promotion of healthy diet and physical activity with families, children and adolescents enrolled in schools
- Contribution for life styles changes to prevent NCDs and its complications
- Health services improvement for NCDs
- Social mobilization for dengue, chikungunya prevention, at the end of period also for zika prevention.
- Tuberculosis control with community participation and intersectoral approach

¹ Cardiovascular disease prevention. Translating evidence into action. Geneva, World Health Organization, 2005

² Pan American Health Organization. Population and Individual Approaches to the Prevention and Management of Diabetes and Obesity. Washington, D.C.: PAHO, © 2011

³ The Inequality Paradox: The Population Approach and Vulnerable Populations | Katherine L. Frohlich, PhD, and Louise Potvin, PhD. American Journal of Public Health | February 2008, Vol 98, N° 2

Capacity building for implementation

The capacities of the three stakeholders: health services, community/users and local stakeholders (intersectoral) have to be built for interventions implementation and adapted during this stage, but for other approach elements.

The Project included capacity building to understand and analyze health issues in Duran, to design actions and implement them. The following actions are the most important ones:

- Training on chronic care model
- Observational visit related with the implementation of the chronic care model
- Training on diabetes (health personnel, patients and other actors)
- Training on life style change
- Training on psychosocial support for tuberculosis patients
- Transference of WHO methodology for mosquito breeding grounds study.

Intersectoral work and engagement of other stakeholders

A cross cutting element of the three strategic components of the process was involvement of other actors in health promotion process.

Human talent gap in the District, notorious mostly for promotional activities, prompted alternatives searching. Out of them,, as MAIS proposes, the project sought the active participation of students in the social sciences and health, for developing community involving practices. It was reached support from two universities in Guayaquil: Catholic University and University of Guayaquil

For capacity building on education and change of life style, the project resorted to national stakeholders with wide experience in the subject. Some institutions of the Ministry of Health and private organizations have been working for years on diabetes education. During 2015: the FUVIDA Foundation, the House of Diabetes (Foundation Los Fresnos) and the country office of ALAD (Latin American Diabetes Association). The experience of El Puyo Hospital has implemented key chronic patients care improvements and it was also taken into account as reference for the project. Concrete cooperation work has been done during the year with Foundation Los Fresnos and El Puyo Hospital.

Martha Gutierrez Mutual Support Association, social organization of former tuberculosis patients worked for two months, monitoring Tb patients in Durán, to avoid treatment desertion and help to irregular treatment patients. Association team work offers peer support with the participation of former tuberculosis patients who, based on their own experience, encourage and guide to affected persons for procuring the required social support for patients.

For prevention of dengue and chikungunya, later on zika prevention too, it is necessary *A. aegypti* breeding grounds control. The Project started an intersectoral process involving academia and the private sector. Preliminary contacts with University of Guayaquil have raised the possibility of joint management with its Research and Development System (SINDE for its initials in Spanish) and the Architecture and Design School, in order to design covers for low tanks that majority of families in El Recreo use for water storage. Meetings have also been held with the private sector in order to look for low cost covers under sustainable production and commercialization schemes.

The role of street food sellers and their associations in the promotion of a healthy diet for students is being discussed. Ultra-processed food sales around the schools could be reduced through a combination of regulations, education-communication actions addressed to the sellers, due their associations, and implementation of sustainable alternatives.

Looking for solutions for poor quality water at nine El Recreo schools, the inter-institutional coordination maintained several work meetings among Ministry of Education - MINEDUC, Ministry of Health - 8th Zone, Sanitary Regulation and Control Agency - ARCSA, Decentralized Autonomous Government of Duran - GAD, Municipal Potable Water Enterprise of Duran - EMAPAD, Ministry of Economic and Social Inclusion - MIES, and National Water Secretariat - SENAGUA and PAHO/WHO.

3.2 Logical Framework of the Project

Objective

Strengthen the capacity of the first care level and the organized community in El Recreo Circuit of the Duran District to manage the Health Promotion process, including an educational program addressed to the population.

Expected outcomes

EO1. Increased capacity of first care level resources to identify social determinants and strengthen citizen participation by jointly designing intervention plans and proposals for collective wellbeing in coordination with the GADs (Decentralized Autonomous Governments, for its initials in Spanish) and other sectors.

EO2. Education and communication program addressed to individuals, families and the community implemented in order to promote change of habits and life styles in terms of the issues that have the most effects on diseases, in coordination with the relevant circuit instances.

Thematic lines

Besides the two expected results, baseline diagnosis of Project identified three public health problems that developed as thematic lines:

- i) chronic diseases, particularly diabetes, and associated behavioral risk factors;
- ii) tuberculosis control; and,
- iii) dengue prevention.

These issues were prioritized due to the high mortality and morbidity connected with NCDs, the great effects of a potential dengue epidemics in this population and the need to cover, with an equality and inter-sectoral approach, the existing gaps regarding tuberculosis control in the area. These issues have driven the actions towards the achievement of the two Expected Outcomes – EO 1 increased capacity of the first care level and EO 2 community education and communication program.

The conceptual structure developed at the beginning of the project in 2015 in order to design comprehensive interventions that would lead to the achievement of the objective “capacity building to manage the health promotion process” of the three types of stakeholders (health services, community and institutions) includes five lines of action to address the three priority health issues mentioned above:

- 1) Promotion of healthy diet and physical activities among families with children and adolescents enrolled in schools;

- 2) Change of life styles to prevent NCDs and complications thereof;
- 3) Improvement of NCDs care by the health services;
- 4) Social mobilization for dengue, chikungunya and zika prevention;
- 5) Tuberculosis control with community participation and inter-sectoral approach.

It is worth to note that three of these lines of action are specific to Non-Communicable Chronic Diseases issues. First two deals with the promotion of healthy life styles and are comprised by a combination of preventive interventions at the population level and individual interventions with risk approach in order to cover a significant proportion of the population. The third line of action about improvement of NCDs care by the health services was designed considering the important gaps that have been identified in this aspect and the need to consolidate a coherent care model that could support health promotion actions by the above mentioned services.

Promotion of healthy diet and physical activities among families with children and adolescents enrolled in schools

Children and adolescents in schools and their families, teachers and the whole education community of the nine schools in El Recreo are the target for actions addressed to generate active life styles and promote healthy diet. The project considers the schools as a privileged environment for the promotion of life styles among the population, and so the families and teachers of the students.

Within this line of action, the project also addresses the consumption of safe water in schools as a key factor to reduce the consumption of sweetened beverages and prevent the creation of breeding grounds for the dengue mosquito.

Change of life styles to prevent NCDs and complications thereof

During the first stage of the project, a set of individual interventions with risk approach and complemented with population interventions were designed and implemented in order to promote changes in life styles, particularly in terms of healthy diet and physical activity. The beneficiary population was firstly the patients with NCDs (diabetes and hypertension) or with risk factors; however, the actions were conceived to also benefit their families as a first approach to the general population.

Improvement of NCDs care by the health services

One of the objectives of the project was the capacity building of health workers to address chronic non-communicable diseases. This line of action comprehensively covers the NCD care model, with special focus on care processes that are a key complement of health promotion actions. The Chronic Care Model (CCM), promoted by PAHO / WHO was adopted as a reference framework to improve NCDs care. The beneficiary population primarily is the patients with chronic diseases (particularly diabetes) and the relevant sanitary staff.

Social mobilization for dengue, chikungunya and zika prevention

This line of action, initially conceived as a dengue control measure, acquired during 2015 even more relevance in light of the risk of Chikungunya and Zika outbreaks in Duran. It consists in a community participation strategy based on the communication for behavioral impact toolkit (COMBI) with the objective of preventing the creation of breeding grounds for *A. aegypti* with an innovative approach.

Tuberculosis control with community participation and inter-sectoral approach

The main contribution of this line of action to the health promotion process in Duran, with predominant elements on case detection and management, is precisely its approach to the determinants and the response from the population to address the TB issue. In this first stage (2015), the community (former TB patients) got involved in the support to cases at risk of

abandonment and training to sanitary workers and patients.

Strategic approach

Since its planning, the project has been addressed to build the capacity for health promotion of the three key stakeholders at the local levels: i) health services; ii) community; and, iii) other stakeholders, and to generate articulating processes for a comprehensive development of health promotion. In addition, PAHO / WHO's strategic framework on health promotion and specific issues such as NCD prevention states the need to incorporate other strategic elements to drive the actions that in turn are designed under the conceptual framework of the Comprehensive Health Care Model (MAIS, for its initials in Spanish). Since its beginning, three key elements were identified for the development of the project:

- The project should be based on the MAIS logics. The involvement that the Project seeks to foster among the different local actors is supported by the MAIS regulatory framework.
- The project involves actors from the three management levels of MSP, i.e. district, zone and central, and intends to feedback the central level in order to promote public policies that will then return to the Duran territorial level.
- The project should complement KOICA's project in Duran for the development of health infrastructure, considering that the incorporation of new health promotion and disease prevention processes mostly depends on a proper sanitary infrastructure.

As the health promotion component of the KOICA cooperation project in Duran had been originally conceived for a two-year term, the approach in 2015 for the above mentioned theme lines covers the initial steps of the process:

- iv) **assessment of the situation and characterization of the issue;**
- v) **ii) interventions or strategies design; and,**
- vi) **iii) capacity building for the implementation thereof.**

In the following years the process should continue with the **implementation of interventions**, their assessment and enhancement towards the consolidation of health promotion processes.

Two additional elements of the strategic approach should be highlighted: i) capacity building of the three stakeholders should be done throughout the project, both regarding "assessment" and interventions "design" and, of course, the preparation and implementation; and the implemented actions did not rigorously follow the schedule of the process, meaning that since its beginning, key interventions have been identified and worked on without having completed essential actions such as the diagnostic of social determinants or the measurement of NCD risk factors.

4. PERFORMANCE REVIEW

4.1 Monitoring and Evaluation Activities

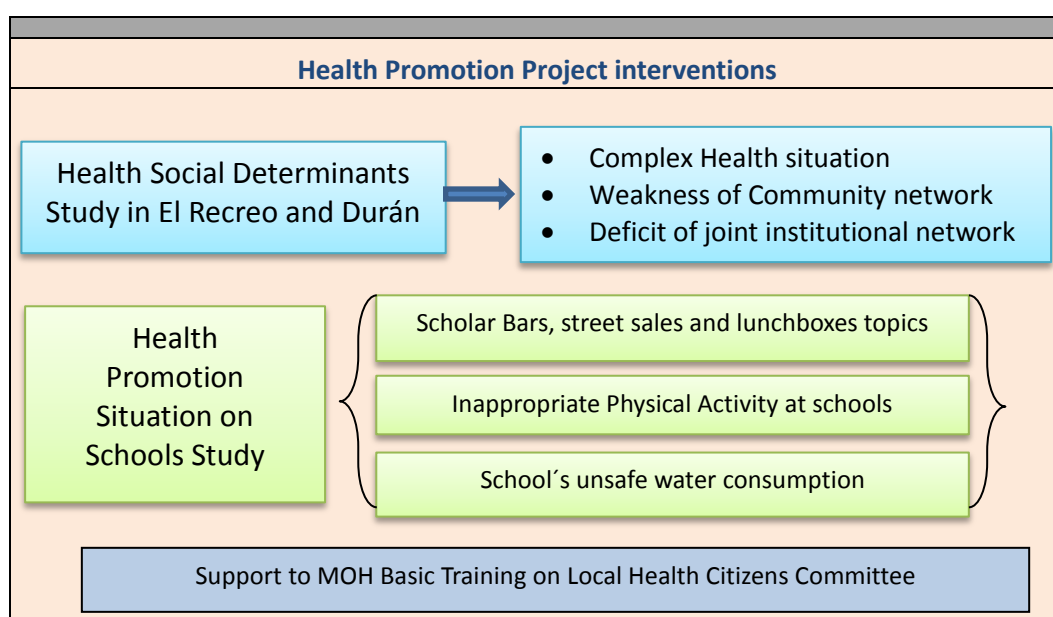
Monitoring of project activities and processes had been developed at least in two levels, first one locally with District and Zonal teams, with whom PAHO team maintained permanent communication before, during and after activities.

Monthly, MOH-PAHO local team formed by Zonal 8 Coordination and District Durán team, as well as PAHO team, presented complete activities report by components in teleconference with national

MOH team, PAHO country office team and KOICA team. These opportunities allowed reviewing all project components advance in the respective month. PHAO presents monthly a complete written report of activities to KOICA, according to KOICA form. Special and specific meetings for project indicators advance had taken place between KOICA and PHAO team, in order to review indicators and next phase planning. In this context, first phase was delayed until May 2016. PAHO presented also a complete midterm report, where it was possible identify new possibilities and needs for project better implementation.

It is important address that KOICA and PAHO identified some planning lacks, for instance on well definition of outputs, outcomes and indicators, already in the project implementation. It is possible say that some innovations were introduced ongoing due this joint monitoring meetings.

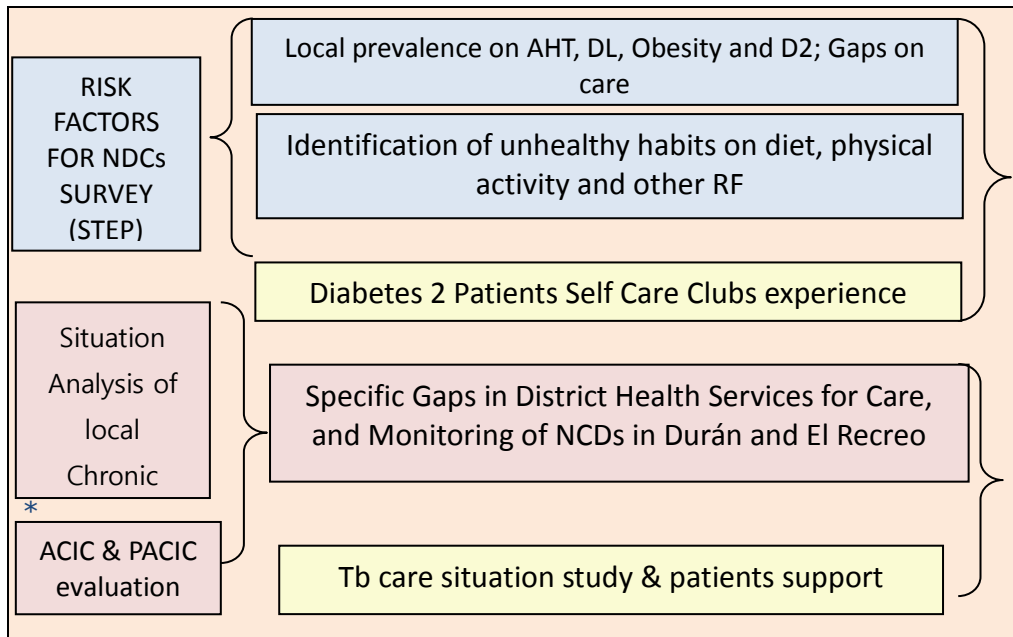
4.2 Project Result (table)



The study of social determinants in Duran (2015) demonstrated the complex net of problems that community is facing in the district. Health is crossed by the social factors that should be solved by different sectors of government institutions. It also highlighted the fragility of community and institutional networks.

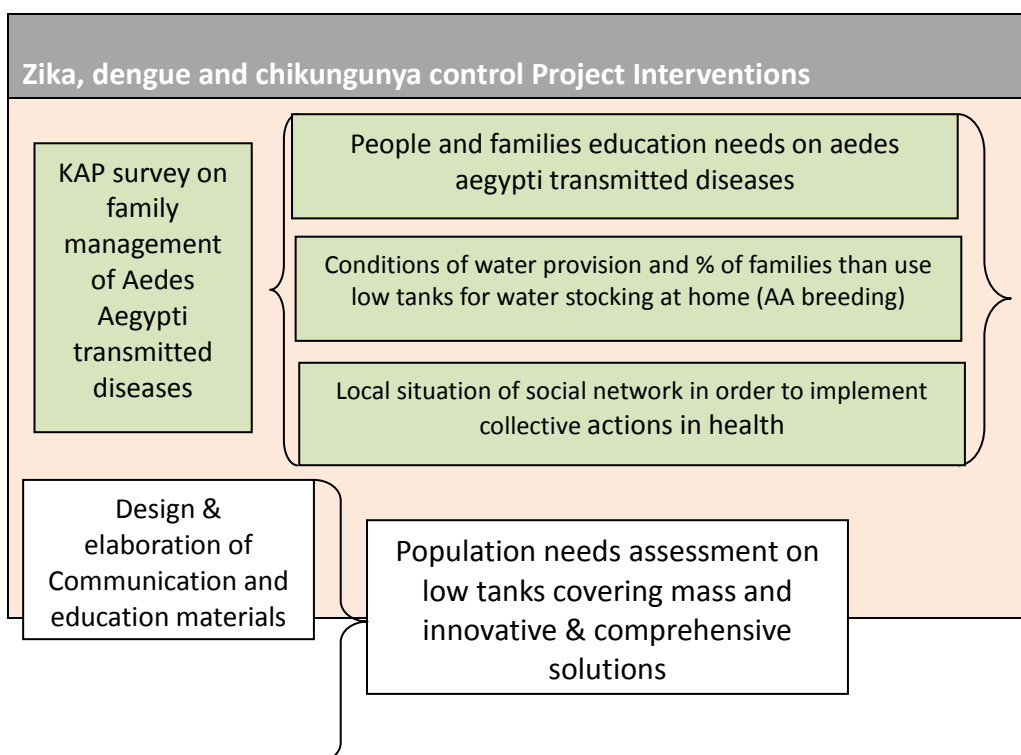
Social and technical investment in project first phase developing studies for identifying risk factors for chronic non communicable diseases situation, by STEP survey implementation, offers certain data of what has to be changed. The STEP survey obtained data, even in processing; it will give to the District and thus the country and the MOH, certain signs and clear figures to support actions to be undertaken to promote healthy habits El Recreo and Duran population, and specific policies to guide health promotion.

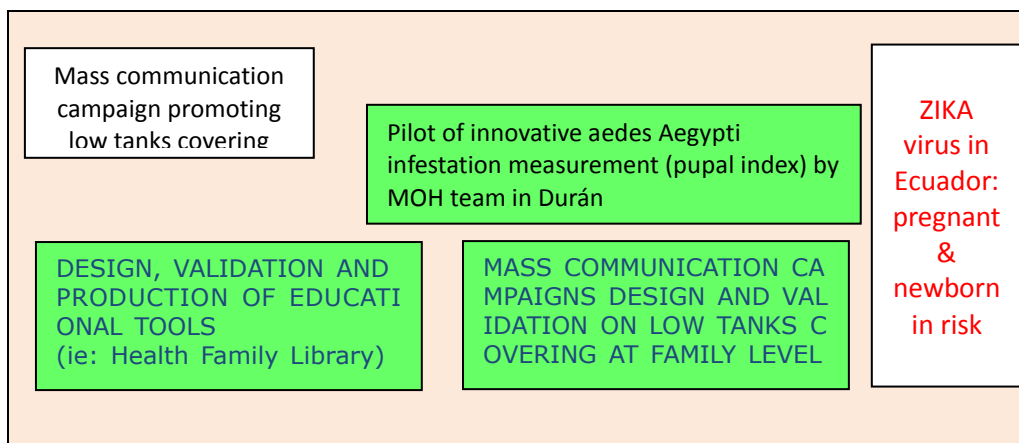
NCDs Project first phase intervention



The experience of intersectoral work for in depth knowing the health promotion in schools situation, regarding on use of safe water, healthy diet, physical activity and control of *Aedes aegypti* (mosquito which produces zika, dengue and chikungunya), served a diagnosis wide platform implemented by health, education and municipal government district institutions of (2015), providing a solid groundwork for project second phase.

Health services active assessments on chronic care that they meet (ACIC and PACIC) -made by the same health teams and chronic users- mark the starting point for health services district and all of Zone 8 districts on what they have to improve and change for implementing a chronic care model. This process had not only local impact but, through technical assistance from PAHO, the MOH decided to launch a pilot implementation process for chronic care in five districts, one of those Duran is. At this point, the major obstacles to implementing a true model of chronic care are the lack of staff and reduced response capacity of the District.





The design and elaboration of educational materials series and mass communication campaign on relevant topics of the project in El Recreo, it means the availability of an educational arsenal for schools, users of health services, local committees, user clubs, which will be used in the second phase, not only in Duran, but also in other districts of Zone 8. As a important result and project contribution to MOH, photographic installations by the project (so called “Totems” on aedes aegypti control and healthy lunch boxes developed in first year) have been delivered and used by all districts of Zone 8, demonstrating its validity and impact as educational and communicational instruments. MOH national level asked for those “totems” too.

4.3 Activities undertaken and Results achieved

4.3.1 Expected result 1.

Increased capacity of first care level resources to identify social determinants and strengthen citizen participation by jointly designing intervention plans and proposals for collective wellbeing in coordination with the GADs and other sectors.

Scheduled activity	Actions carried out in 2015
1.1 Permanent coordination with MSP and the community to implement, follow-up and assess the Project	Permanent inter-sectoral and inter-disciplinary coordination: Zone MSP, District MSP, GAD, Education, non-governmental actors with PAHO support.
1.2 Analysis of social determinants and social networks and design of methodologies and tools for the process	Analysis of social determinants and social networks ACIC and methodology transfer to sanitary professionals. Course on Chronic Care Model. Training on diabetes education addressed to sanitary professionals.
1.3 Design and implementation of the training plan to strengthen the capacities of the first level staff to manage health promotion	Internships related with the implementation of components of the Chronic Care Model in the 3 rd Zone.
1.4 Strengthen community actions and participation in the	Inter-sectoral awareness raising and implementation of a strategy on healthy diet and physical activity promotion among the education community and families.

definition of issues and the design of solutions	PACIC.
--	--------

4.3.1 Assessment of social determinants and social networks

Methodology

Phase 1: A document review of different existing sources was undertaken, information was obtained and the social determinants, as well as the general health situation in the district, were described. The descriptive analysis was based on the proposed parameters and indicators of charts 1 and 2 of the methodological proposal. The proposed indicators in each of the parameters were analyzed with the team responsible for accompanying the study in the Duran district and based on the identification and availability of the information sources required to develop the indicators.

This phase was executed in two instances. A) In the first, a general analysis of the social health determinants and B) in the second, a general analysis of the health situation. In Phase 2, and based on the results of Phase 1, the priority health problems of the Duran district were analyzed according to the following parameters: a) territories with greater vulnerability; b) sanitary issues in the territories with greater vulnerability; c) issue mainstreaming in the territories with greater vulnerability and d) magnitude, trend and equity gap in regards to national statistics. In Phase 3, and based on the results of Phases 1 and 2, general recommendations were issued regarding the definition of interventions on the priority problems.

Results

The health situation in El Recreo is determined mainly by poverty, marginalization, lack of basic services, low level of school enrollment, unawareness of rights, little or no organization nor community participation.

The environmental conditions, the deficit or absence of basic services such as water, drainage systems and garbage collection play an important role in the health / disease process. Thus, the most frequent reasons for consultation are: intestinal parasitism, urinary tract infections, diarrhea and gastroenteritis of infectious origin; chronic diseases such as hypertension and mellitus diabetes; acute infections of the upper respiratory track and skin infections related with hygiene conditions of the house, area or sector, the final disposal of garbage that is burned in the city or deposited in places difficult to access by the garbage collector vehicle, among others. The main findings of the analysis made in El Recreo are as follows:

The Canton has experienced accelerated population growth during the last decades. Its current population is 278,288 inhabitants with a density of 892.7 inhabitant / Km². The population growth rate PGR is 1.9 per 1,000 inhabitants, greater than the 8th Zone which was 1.7 per 1,000 inhabitants during the same period. 97.3% of the population resides in the municipal capital and the poverty rate by Non-Satisfied Basic Index (NBI) is 65.8%, exceeding the 8th Zone in 20.9% points, and the national figure in 28.7%. 51.31% of the population of the canton are women, with a sex ration of 98.73 men per every 100 women.

Environment / context / sanitation

- The percentage of green areas in Duran is 3% of the urban territory.
- For 2010, as per the National Population and Housing, 42.6% of the Duran population was connected to the public main and 42.9% to a septic system.

- Downtown Duran and the new citadels have a channel system, but the peripheral zones with an important number of cooperatives are forced to eliminate sewage waters through septic systems or latrines.
- There is a partially combined sewage system that gathers sewage water apart from rain water, finally converging into the same collector for mixed disposal.
- 81.8% of the garbage or solid residues in the Duran Canton is collected by garbage trucks, being the collection coverage higher than the national index but lower in almost 10% to the coverage in 8th Zone.
- 13% of the population in the urban area of the Duran canton and 91.2% in the rural area burn their garbage.

Water

- According to information from SENPLADES, the total coverage of the water public main in Duran is 62.8%.
- 27.5% of the inhabitants receive water from tank trucks, 3.2% use well water and 2.1% from rivers, watersheds, ditches or canals.
- An important part of the population of the Duran Canton is supplied by tank trucks and store the water in tanks or cisterns.
- The water supplied through the public main comes from the Chobo Wells that are managed by the Municipality of Duran and from underground wells.
- Water is stored in strategically located reservoirs in several sectors of the town. A reservoir is under construction in El Recreo.
- Most of the users use suction pump to obtain water.
- Some cooperatives such as “28 de septiembre” receive water from the public main and in most cases there is a water meter connected to a hose that distributes the water to several neighbors in a certain block or sector. In other cases, the water goes through a hose to cisterns and it is then distributed by a neighbor to the houses that pay a monthly rate.
- According to some neighbors, the water supplied by the potable water company through such hoses is of poor quality and has unpleasant taste, color and smell. Consequently, they do not use it for cooking or intake. That is why, in spite of receiving this water several days a week, they buy water from the tank trucks.
- In some cases the water from the tank trucks is boiled and in other cases it is used raw.
- The only water supply to cooperatives such as “Unidos Venceremos”, “Primero de mayo”, and “Una sola fuerza” in sector III, is through tank trucks.
- Due to access problems, during winter the neighbors need to carry the water to their houses from the main streets.
- The cost of the water tank is \$0.80 and it is used raw. According to their economic possibilities, some inhabitants buy water gallons for consumption that cost \$1.25.

Occupation, employment / poverty

- The poverty indexes in Duran are higher than the national and provincial figures. Poverty by Non-Satisfied Basic Index NBI is 65.8%, exceeding the index of the 8th Zone in 20.9% points, and the national index in 28.7%.
- The Economically Active Population (EAP) in the Duran Canton, as per data from the survey made by INEC (National Institute for Statistics and Census) in 2010, is 47.4% (lower than the national average). 68.5% of them are men (62,142) and 26.3% (36,553) are women. The unemployment rate was 8.51%.
- The main economic activities are related to wholesales and retails, transport and storage, lodging and food service activities, education, public administration and defense, agriculture, livestock and forestry.

- The lack of steady employment is an issue in Recreo I and Recreo II, and it affects women and men the same.
- Most of the women do not work and face major economic issues as they are the heads of households; there is a high rate of single mothers.
- In some cases in order to be hired as maids they require a high school diploma and letters of recommendation which limits their access to job.
- The employers show distrust when hiring help due to situations of theft, child abuse, etc.
- Most women that work do so as maids in Guayaquil (La Puntilla or Sanborondon); others work in housekeeping, laundry, as restaurant aides, cleaning vegetables at markets, selling water, soft drinks and sweets on the main roads of Duran and Guayaquil.
- Others work in the most populated areas of Duran and Guayaquil gathering plastic bottles, cartons, scrap to sell to recyclers. Some sell ice and popsicles at home as they cannot work elsewhere because they have children to care for. The above types of job result in daily income.
- Men work in masonry, marble and recycling; others sell water and soft drinks on the main roads of Duran and Guayaquil.
- Almost every informal work result in daily income and depends on the sales and contracts with suppliers.

Violence

- Violation of the rights of children and adolescents, mainly attributable to the mothers.
- Home desertion which rate is higher in the case of mothers than fathers.
- The children are left home alone or under the care of third parties.
- Some issues relate to the use of alcohol, drugs and other narcotic substances by children and adolescents.
- Duran shows a high rate of use of these substances, mainly in the education sector, and it affects the inhabitants of the citadels and cooperatives of Recreo I and Recreo II.
- The high rate of consumption of alcohol and drugs increased the number of claims filed on rape and sexual abuse.
- Identification of high rates of sexual violence where the perpetrator is almost always the father, grandfather, uncle or someone very close to the victim.
- The use of alcohol, drugs and other substances also generates high rates of violence and gender violence in the citadels and cooperatives of Recreo I and Recreo II.
- In many households, violence ensues due to the lack of economic resources to cover the needs of the children (food, school transportation, medicines, etc.). Violence is perpetrated by the husband or partner, and most always in front of the children.

Education

- 4.4% of the population of Duran is illiterate as per data from INEC, 2010 survey. Prevalence of illiteracy is 4.5% in women and 3.1% in men. All ethnic groups have lower rates of illiteracy contrasting the average of the 8th Zone and the national average.
- 71.9% of Duran's population identify themselves as mestizo (2.6% of illiteracy).
- The average school attendance in the 09D24 district is 10 (the same as 8th Zone).
- Teacher development involves nearly 1,400 teachers (men and women), currently teaching in public schools.
- Near 80,000 children are enrolled in the schools in the canton; 45,000 of them in public schools and 35,000 in private schools.

- According to the survey of the Ministry of Education there are 127 schools in the canton; 42.51% of them (54) are public and 57.48% (64) private. El Recreo I has 17 schools, 7 public (41.17%) and 10 private (58.82%).
- Limitations such as lack of teachers for the first levels ((kindergarten) persist, as well as for specialization subjects such as physics, chemistry, language, math, etc.
- The limitations in educational performance in the canton could be related to family features.
- It is especially the cooperatives that find difficulties regarding the transportation of children and adolescents to school.
- The heavy rains in winter contribute to school absenteeism (mud covered streets).
- Sometimes the families cannot afford to pay school transportation by moto-tricycle or bus.

Housing

- In the urban area of Duran, the houses are made of brick, cement block, cement floor and zinc roof.
- The characteristics of the houses in some citadels and cooperatives are precarious and with low-quality sanitation.
- Most of the cooperatives are a result of invasions and are sold to their current owners through land trafficking.
- In the cooperatives of El Recreo, such as “Unidos Venceremos”, “Una Sola Fuerza”, and “Primero de Mayo”, most of the houses are built with guadua cane, in some cases they are covered with plastic and cartons with a zinc roof, their area is small and they are highly overcrowded.
- The characteristics of the houses improve when legal procedures begin in order to obtain the legal title thereto in the Municipality.

Security

- Insecurity has been identified as a critical node for the development of 8th Zone. Insecurity perception is 60%, below the national amount of (62%) (ENEMDU 2014).
- According to the 2011 Survey on victimization and insecurity perception made by INEC in the Duran canton, out of a universe of 163,863 persons, 15,389 were victims of theft (incidence of 9,391 x 100,000 inhabitants) and burglary rate was 3.2%, i.e. 2,032 out of 63,446 surveyed homes.
- By the end of 2013, the main recorded crimes were theft to people (4,152), burglary (1,181), and theft to vehicles (948).

Social Organization and mapping of local actors

Social Organization

Social networks that arise without planning during the urbanizing process and that are of clandestine nature leave a mark in the absence of community organizations that represent and seek better days for the population. Perhaps homogenous settlements by origin of their inhabitants, is a social network that persists and that, in some way, is expressed in small churches where the ceremonies or cults are held in the Kichwa language.

In the urban periphery, amidst the high population density, one can notice the absence of organized population entities, with little or no community spaces such as communal rooms or houses. This has an impact in the low community organization or in the presence of small social networks between families of high proximity that despite being and invaluable support from the everyday perspective, have low impact capacity to solve unsatisfied needs and shared problems.

The promotion of community organization and development of social networks in Duran constitutes a huge unfinished task that Health Promotion may support and strengthen.

- The inhabitants of the OUs (operating units) Recreo I and Recreo II are little empowered to actively and substantially contribute to the promotion and encouragement of health at an individual, family and community level.
- Difficulties in generating organization and community participation processes that may be influenced by land acquisition processes (settlements resulting from illegal invasions, land sold afterwards by land traffickers).
- Most of the organizations in Duran are neighborhood organizations 60 (20.83%), 45 (15.62%) are religious organizations, 40 (11.52%) are NGOs and 20 (6.94%) are childhood support organizations.
- Since 2014, the Decentralized Autonomous Government of Duran, through the Human Development Department, directly works with the community on health promotion and prevention, education and other related subjects. The outstanding subject is the promotion of work in the Rights Protection Canton Board... and thereafter the community is aware of and begins to participate in regards to the high rates of abuse that occur daily in different sectors. The number of reported cases increased from 285, in September 2014, to 380 cases in September 2015 and is linked to the violation of personal integrity, physical abuse, psychological abuse and negligence.

Health promotion management

The service network of the MSP (Ministry of Public Health, for its initials in Spanish) in the District includes ten operating units and health centers: Abel Gilbert, Oramas González, Cerro Redondo, Duran, Duran II, Recreo 1, Recreo 2, Pedro Menéndez and Primavera 2, responsible for the health care of 278,415 people (MSP, 2015).

The population assigned to the OU Recreo I and Recreo II correspond to 29.5% of the population of the Canton (82,260 inhabitants), which explains the importance of building a new health unit in the sector. The OU Recreo I has a population of 33,429 inhabitants distributed in 33 citadels and cooperatives with approximately 5,534 families. 50.26% of population is men (16,804) and 49.73% (16,821), women. The OU at Recreo II has a population of 51,831 inhabitants, distributed in 13 citadels and cooperatives of approximately 15,403 families. The 50.26% of the population are men (26,055) and the 49.73% (25,776), women.

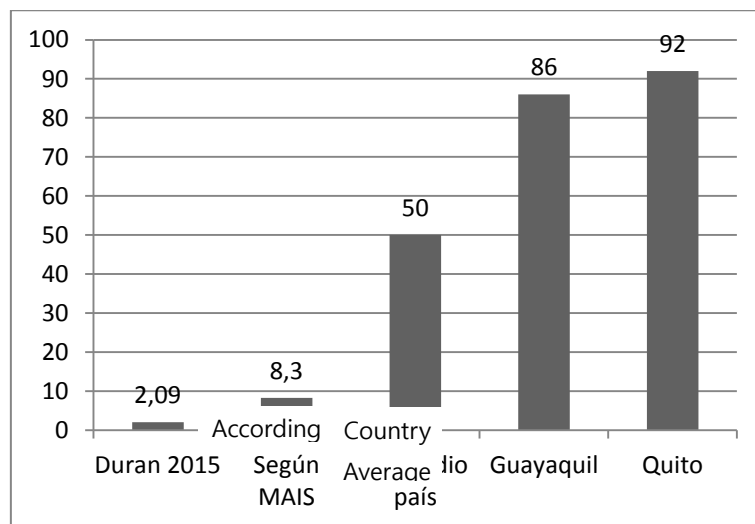
Access to health services in Ecuador is measured by the relation between the sanitary staff and the population. In the country, the average health worker (per each 10,000 inhabitants) has increased from 37 to 50 equivalent doctors between 2001 and 2010. *“Health services are still disproportionately concentrated in the main cities. While Quito in 2010 had 92 equivalent doctors per each 10,000 inhabitants, the national average was 50”⁴*. Nevertheless, this parameter has not increased proportionately in Duran. Health centers in Duran have 22 doctors, 10 nurses, 16 dentists, 10 obstetricians, 5 psychologists and 3 primary health care technicians (PHCT). The average sanitary personnel⁵ in Duran is 2.09 / 10,000 inhab. If MAIS allocation were fulfilled, it would increase to 8.3/10,000 inhab. Even so, in comparison, the situation in Duran is highly in

⁴ SENPLADES. Atlas of Social Economic Inequalities. Ecuador. 2013

⁵ Sanitary personnel per each 10,000 inhabitants is the weighted sum of sanitary personnel, being 1 the coefficient assigned to doctors or professionals with equivalent competence, 0.6 to professional sanitary assistants, and 0.3 for non-professional sanitary assistants in each place, estimated in multiples of 10,000.

disadvantage.

Figure 1. Access to public health services. Rate of average sanitary personnel x 10,000 inhabitants



*Source: MSP District 09D24; SENPLADES: Atlas of Inequalities
Made by: MSP-KOICA-OPS Project, 2015*

The District has an average of 59.9 / 10,000 sanitary personnel; if the allotment of the Comprehensive Health Care Model (MAIS, for its initials in Spanish) was applied, the weighted personnel would reach 237.3. The Health District has a 397% gap in regards to availability of sanitary personnel. When complying with the set of responsibilities as First Level network, this gap is a high impact obstacle, especially in the programming and time for health promotion because the priority, for obvious reasons, is the attention to medical care demand that is additionally regulated by the centralized appointment call center, which in many cases, assigns turns or operating units without sufficient knowledge of cause, without knowing, for example, the particulars of chronic patients.



Most of the health units of the District are located in unsuitable premises, far from the minimum

operating requirements. Three units have suitable waiting space for users whereas the others are insufficient, lacking consultation rooms and specific areas, for example, to care for people with tuberculosis.

These conditions characterize the units in El Recreo, meaning a severe limitation for educational activities, lectures or workshops with users in the same units. The lack of proper spaces in the health units is similar in the community environment. This is an additional obstacle for educational or operational processes for civil society groups. The meetings in the HC Recreo 1 take place in a small terrace in the facility, with plastic tents to protect the attendants from the sun and rain. In the HC Recreo 2, the waiting room is narrow and generally crowded. The facilities of the National Police or a nearby school with available and adequate classrooms are used for the above mentioned purposes.

In the midst of these limitations, we should highlight the acknowledgement and satisfying perception that the users have in regards to the attention received from the health teams because 13.1% of them are satisfied with the quality of the attention, the kindness and dedication received from the sanitary personnel; 51% indicate that they are more or less satisfied; whereas 8% indicate they are happy with the attention they receive. On the other hand, 19% says they are dissatisfied and 9% strongly dissatisfied⁶⁶.

Therefore, the empowerment of the inhabitants of the sector and their active participation to substantially contribute to the promotion and encouragement of health at the individual, familiar and community level still needs strengthening and above all, a basic condition from the MSP: human talent according to the population volume and MAIS allotment.

The shortage of human resources contributes to the fact that the (extramural) actions carried out by the health teams in the community, are focused on meeting the goals assigned by MSP at the central level. Presently, this means the production of Family Cards –FC- in order to measure, among other actions, the life conditions and social health determinants. Filling the FCs takes up most of the time that the health team dedicates to community work, hindering its work on other priority actions at this level such as:

- Community organization activities involving social actors in the area of coverage to work on priority issues of the population,
- Implementation of care plans for individuals, families and communities with health risks,
- Symptomatic activities to promote health at the individual, family and community level,
- Attention to prioritized population and remote cooperatives, and
- Identification of sentinel events for the timely implementation of epidemiological measures.

The new MSP policy to schedule the consultations of the OUs through a Call Center has caused work overload for the health teams, limiting their promotion actions. Another factor to consider is the limitation of mobilization and security of the health teams.

The health teams in Duran state the importance of community organization and participation in self-health care, but also refer the difficulties in establishing local Health Committees and the numerous attempts made without satisfactory results.

⁶⁶ *Observation of Waiting Rooms in Six Health Centers in Duran. Social Work students from the Catholic University of Santiago de Guayaquil – MSP-KOICA-OPS Project, 2015*

Operation of the local citizen health committees

The MSP through its Health Promotion and Equality Direction is fostering a process to establish Local Citizens Health Committees (LCHC) as part of the Social participation in Health subjects. The process will enable the promotion of the social actors' actions in decision making and public health management to impact social health determinants with equality and equity, by incorporating the co-responsibility of the citizen power in achieving Good Health Living. The guidelines of the LCHC indicate that the Comprehensive Health Care Team (EAIS, for its initials in Spanish) will work with the local Health Committees in: a) the Comprehensive Health Assessment CHA, b) Mapping of local actors linked to Health, c) Baseline Situation Assessment, and d) Local Health Plan – participatory Planning and Budget, consolidated at district level.

Situation in Duran

In general, the capacities of the health teams of the MSP centers in Duran show that the interaction and development levels of the local citizen committees are still incipient. A local health committee must be understood as a citizen body with a high level of self-motivation and commitment with its surroundings, the health of the families from their immediate community, a work plan developed by its members and a “partner” relationship with health teams.

To talk about the citizen health committee is therefore to think and work for the promotion of social actors that contribute to the health and the life of their families, for which they require training and tools, spaces and times for community action.

The health teams from the El Recreo, as well as the rest in the Duran District, have an immense will to contribute to and comply with the MAIS guidelines on social participation. Their commitment with the health of the population and their immediate problems is tested again and again on a daily basis. Their contribution that apart from their working hours or even their professional responsibilities, is significant and highly regarded by the community. They work in precarious, narrow facilities, stressed by a crowd of users and with minimum time available per patient; this impacts on their filling several time consuming forms and matrixes. In these conditions, the development of extramural activities, in contact with the community, is limited.

The good will of the sanitary personnel and the officers of the District to develop social participation is not enough. The staff should have the minimum required education to overcome the vertical relationship that generally prevails in the vertical medicalized model that MAIS wants to leave behind. The time of the health team should be enough to establish relations that promote social community actions; however, it is scarce and generally is limited to requesting the collaboration of the people that are part of the citizens health committee for activities defined from other instances. The main challenge in Duran is to start up the social actions.

From the side of the citizens, the limitations for the creation of the committees are as follows: i) ignorance of their health care responsibility; ii) the political nature that part of the population attributes to the committees; iii) the perception regarding the need of a bonus or health care benefits. A health committee is summoned to be a community education and health promotion entity.

The commitments acquired during the creation of LCHCs, such as the design of work plans for the health teams have been implemented as an administrative requirement, but they do not account for genuine social participation processes. In order to strengthen their capacities, the Local Health

Committees require at least: tools for health education and horizontal accompaniment from the MSP district level, which can be effectively supported by the project (the teams from each unit are not in condition to do this, because of what has previously been indicated).

Activities

At the end of 2015, the MSP proposed the development of the Citizen Education and Social Participation Training School, with subjects and a methodology that affects the awareness of the people on social actions. In the case of Duran, it has the support of the Project that can constitute a solid basis to promote that required citizen social action. The four modules of the proposal were met, supporting the technician in charge of district Social Promotion with a purposeful outcome: six citizenship units would develop Local Citizen Health Committees and 40 persons that approved the School and who, with the appropriate follow-up and –additional- external support to the health teams of each unit, can achieve better levels of participation in health promotion.

Outcomes

- El Recreo 1 and 2 have groups of citizens trained by the Citizenship and Local Health Committee Training School.
- Six health units of the Duran District have citizenship groups trained by the Citizenship and Local Health Committee Training School.
- A group of 40 citizens is able to develop social participation in the District.
- The LHCs use the Family Health Library as a tool to formulate action plans and encourage social participation in their communities.

4.3.2 Expected result 2.

Education and communication program addressed to individuals, families and the community implemented in order to promote change of habits and life styles in terms of the issues that have the most effects on diseases, in coordination with the relevant circuit instances.

Scheduled activity	Actions carried out in 2015
2.1 CAP survey on habits and life styles of the population	CAP (knowledge, attitudes and practices, for its initials in Spanish) survey on dengue prevention.
2.2 Strengthening of health program user committees to promote healthy habits and life styles	STEP (STEP wise approach to surveillance) survey planning to measure behavioral and biologic NCD risk factors.
2.3 Design, production and dissemination of training materials to promote change of habits and life styles and assess the process and its impact	Implementation of diabetes education program for committees of patients with diabetes and NCD RF. Implementation of the peer support program for tuberculosis patients in order to prevent abandonment. Creation of the family health library.
2.4. Design of methodology and tools on promotion of healthy habits and life styles at the first care level	Production of a photo-documentary and mobile exposition on healthy lunch boxes. Design and planning of a strategy to promote healthy food and physical activity among the education community.
2.5. Training to the district personnel and local organizations on	Development of diabetes education program addressed to persons with diabetes and NCD RF.

methodologies and tools for the promotion of healthy habits and life styles	Peer follow up to TB patients. Communication campaign.
---	---

Communication and social mobilization to health.

Design and production of educational-communicational tools

The starting point to develop communication and social mobilization actions is to understand communication as a social and cultural relationship where men and women interact in social-cultural practices. Communication is highlighted within the framework of the interaction of social subjects that participate from their reality in order to act upon it and procure changes. This means that social communication is related to cultural practices, social interactions, everyday events and perceptions.

So, it is about sharing information, but especially about achieving interaction and participation between the different social actors. It is not merely information reception or transfer, but rather appropriation thereof, with the intervention of subjectivities and sensibilities.

In this sense, in the education-communication context, the project has generated different tools, some of which have clear and educational information on prioritized subjects such as the Family Health Library, while others aim to encourage critical perception on the prioritized subjects, reflection on their health processes and diseases. For example, the photo-documentaries show everyday events, tanks covering issues; they do not give “recipes” or “solutions”, but do invite to reflection and internalization of the issue.

The mobile photographic exposition and photo-documentaries foster collective reflection, as a family, presenting the issue through more than 100 photos that stress on the importance of preventing dengue and chikungunya, as well as healthy nutrition, particularly the healthy lunch box.

The social communication campaign on tanks covering, within the framework of dengue, chikungunya and zika prevention, is a call for ACTION. Its conceptual framework is the COMBI strategy that raises the importance to define a clear, precise and priority behavioral objective to prevent and control a public health issue, as is the case of dengue, chikungunya and zika.

In this sense, the objective of the social communication campaign is to send a message to COVER FLOOR TANKS, through known and close communication codes, through alternative and also very close means.

These tools produced within the project’s framework support the education and participation processes and actions defined in the Project. I.e., they constitute support tools for workshops, meetings, educational processes, at schools, addressed to local health committees, self-care groups and other educational spaces of the community.

It is about achieving participation and social mobilization, raising awareness, internalizing knowledge and practices through different means and strategies.

Main subjects

These education-communicational tools are produced to support the achievement of the project’s objectives. Their prioritized subjects are:

- Healthy diet
- Physical activity
- Dengue and chikungunya prevention

- Changes in life styles to prevent and treat diabetes
- Tuberculosis control and prevention

Family Health Library

This material is an educational support for meetings and workshops with the parents of the local schools. It is also a reference source for families, the educational community, local leaders, self-care groups, local health committees and those who work on education on health for the community.

It comprises FIVE EDUCATIONAL LEAFLETS that include questions and answers and charts that emphasize the most relevant points of each subject. Each leaflet ends with a story that presents each subject in an everyday and entertaining fashion, in accordance with the local reality.

The subjects included in the Family Health Library are: 1. Healthy diet; 2. Physical exercise; 3. Dengue, chikungunya and zika Prevention; 4. Diabetes; and, 5. Tuberculosis.

Several nutritious recipes are also included to promote a balanced and healthy diet using natural products of the zone.

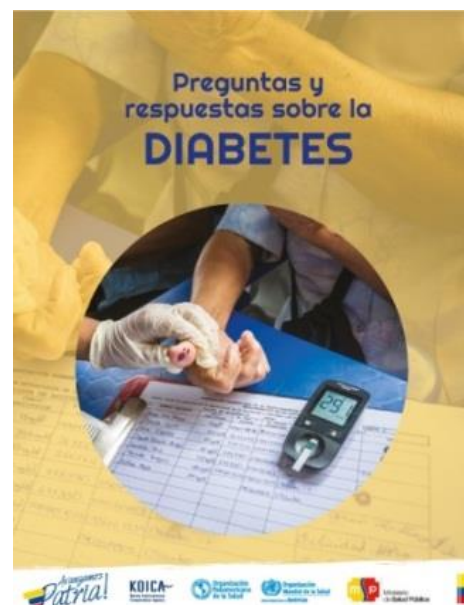
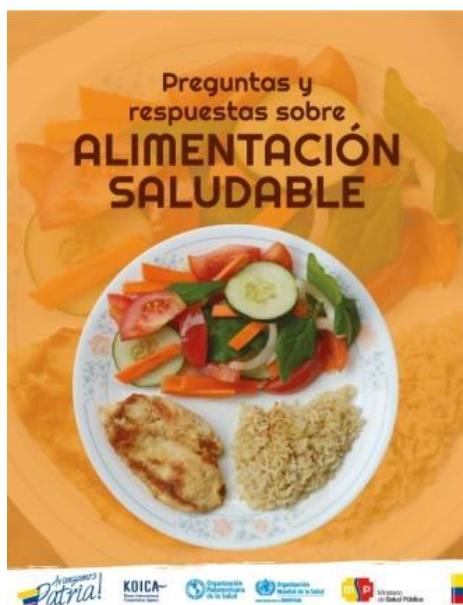
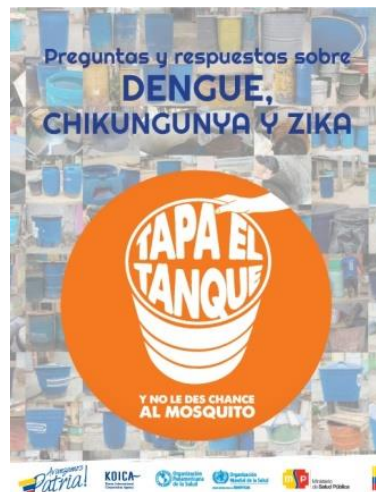


Photo-documentaries

Five documentaries were produced on floor tanks, school lunch boxes and life stories on tuberculosis and diabetes.

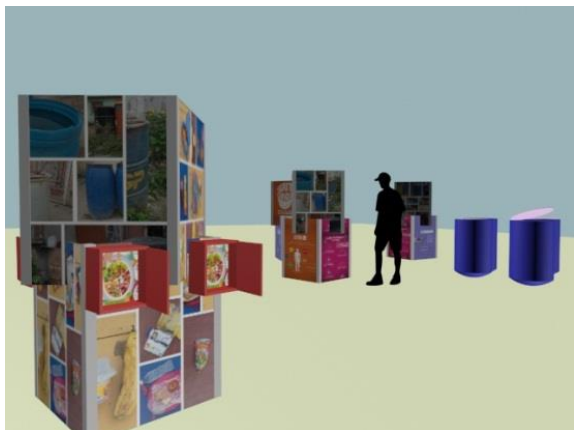
There are more than 100 pictures on the defined subjects. Each photo-documentary includes approximately 30 selected pictures in digital format with their relevant brief descriptions. They last approximately 3 minutes.

The work with photo-documentaries was chosen due to the communicational power of photography. Experience in the use of photographs in health related activities have proven their worth for educational communication processes.

Mobile educational communicational photographic exposition

Two educational communicational photographic expositions have been developed. The first one regarding dengue, chikungunya and zika prevention, with emphasis on the tank covering issue; and, the second on the healthy lunch box, emphasizing on natural food intake instead of processed or ultra-processed food. This proposal allows an insightful access to the contents for a diverse public.

The project has implemented a mobile proposal with museographic and entertainment resources that allow a better understanding of the previously proposed subjects. The photographs will be used next year in several mobile displays.



Cover your tank social communication campaign

The objective of the social communication campaign "COVER YOUR TANK" is to send the message to COVER FLOOR TANKS through known and close communication codes, using alternative, everyday means.

This social communication campaign on tanks covering within the framework of dengue, chikungunya and zika prevention, is a call for ACTION. Its conceptual framework is the COMBI strategy that raises the importance to define a clear, precise and priority behavioral objective to prevent and control a public health issue, such as the case of dengue, chikungunya and zika.

It uses different media such as bike banners with megaphones, audio, posters, human banner, painted walls, among other tools.



4.3.3 Results by action lines

- The approach to the family with children enrolled in schools will trigger detection processes of people with NCDs or NCD RF which continuous care is to be strengthened through the other two lines of action (patients clubs and services).
- The line of action that seeks to improve the NCD care processes of the health units complements, therefore, the efforts to empower the patients and their families in order to change their life styles. The self-care component is fully linked to the rest of improvements of the process in the health units.
- The actions to assess the situation, as well as the analysis of determinants and the STEP survey crosscut these three first lines of action. ACIC and PACIC are likewise useful to strengthen the capacities of the user clubs and the services.
- Even though the community participation strategy to control dengue is addressed to a typically domestic breeding ground, it has in the school a key environment not only for actions against breeding grounds at the school but also regarding the role of the children in motivating the relevant response at their households.
- The approach to the dengue issue through floor tanks is related with the purified water promotion actions. Though the water subject has only been addressed by the Project in terms of water quality at schools, the campaign seeks to show floor tanks as a key element of the households that require a different approach, and therefore will help with the introduction of water purification elements at a population level.
- The tuberculosis subject contributes to the analysis of determinants and mapping of stakeholders, with the approach of the peer strategy to vulnerabilities in specific population groups.
- ACIC and PACIC and the approach to NCD care processes is indirectly connected with TB care improvements beyond the implications of diabetes-tuberculosis comorbidity that could be an issue that has not been duly evidenced yet.
- The family library that is part of the “education and communication” interpersonal strategies mainstreams all the lines of actions, including important elements of dengue and chikungunya prevention.

Promotion of healthy food and physical activity among families with children and adolescents enrolled in the school

The target population of this work line is the families and teachers of the students of the nine schools in El Recreo 1 and El Recreo 2. The work with this community seeks to promote healthy diet and physical activity in order to prevent NCDs through individual, group, family and community experiences that will additionally strengthen the inter-institutional and intersectoral networks.

The strategy in schools includes two additional elements: on one side, the provision of safe water to the school as a requirement to discourage the consumption of sweetened beverages; and, on the other side, the control of mosquito infestation at the school, given the importance that the school environment may have on an increased communication of dengue and / or chikungunya, due to favorable environmental and epidemiological conditions as well as to its cultural repercussion on the families and other environments where the students dwell.

Activities

Inter-sectoral work for promotion at schools

Since its beginning, this process involved the Duran Municipal Government, the 8th Zone Coordination (Surveillance), ARCSA and the Education District Office in Duran. The following activities have been carried out with all of them:

- ✓ Assessment of the health situation in the schools of El Recreo
- ✓ Assessment of water supply to schools
- ✓ Design of a strategy to improve water supply to schools
- ✓ Workshop to analyze the situation on the basis of the report
- ✓ Workshop on perception recognition by the faculty of the schools in El Recreo
- ✓ Agreement to execute a District Commitment Letter on Health Promotion at the schools of El Recreo.

The situation has led to design and production of educational-communicational materials on the subject matters of the intervention.

Characterization of the situation of the nine schools of El Recreo

The intervention started with the characterization of the situation of the schools with a tool that included school bars and other factors connected with healthy diet, purified water, physical activity and dengue control. The main findings are detailed in Annex 4 (Situation of Health Promotion in the Schools of El Recreo). Among them we should highlight the progress in the implementation of the regulations for school bars, the learning on the move program and the existence of gaps regarding:

- Ultra-processed food sale in the surroundings of the schools,
- Prevalence of ultra-processed food in lunch boxes,
- Consumption of juices and other ultra-processed beverages with high contents of sugar, and
- Implementation of the recommendations of WHO regarding physical activity in the schools of Duran.

Based on the report and workshop, a process was designed in order to define a promotion strategy in schools that in its first phase consists of a research-action process to deepen the understanding of the determinants of the four subjects where we identified gaps.

Institutional workshop on health promotion strategy for the schools of El Recreo

Once we had the results of health promotion actions, a workshop was organized to socialize the findings among the educational community and deepen the analysis of the prioritized aspects. The objective of the meeting was to define intersectoral actions required by the comprehensive health

promotion strategy in schools. The workshop had a good attendance of different divisions of the Ministry of Health in the District and Zone, the Ministry of Education and the GAD. PAHO presented the technical cooperation framework in schools, particularly emphasizing the objectives of the Regional Plan for the Reduction of Children Obesity and the strategies to improve purified water supply and dengue control. The work groups reviewed the lines of action regarding healthy diet, physical activity, dengue control and purified water. The work made by each group was systematized (Annex 5) and the next steps for the structuration of a comprehensive health promotion in the schools of Duran were defined.

Exploration workshop on attitudes, determinants and knowledge of the education community

The development of a strategy to work with the education community continued in November with a first exploration workshop on the perception of the students, parents and teachers regarding healthy diet, purified water access and consumption and physical activity. The three types of actors from seven out of the nine schools of El Recreo attended the workshop, as well as a group of street sellers from different sectors of the Canton. Among the findings, we can highlight the lack of institutional clarity on the responsibility to guarantee purified water supply and the absence of plans in such respect in the schools; little commitment of teachers with the discussed subjects; restrictions of the families regarding the ideal food, water and activity conditions; low information level of the mothers; limited physical activities in the neighborhoods due to drug or crime related risks; high level of information of the students about the need of purified water, healthy diet and physical activity; the street sellers associations can be a way to approach this key actor (the students).

Inter-institutional design of a strategy to improve the quality of the water supplied to the schools in Duran and analysis of such quality in the nine schools of El Recreo-Duran Sector

As a key element to promote healthy diet in schools and reduce the consumption of sweetened beverages with high energetic content, it was a priority to address the water quality issue in the nine schools of El Recreo. This activity involved several institutions (Ministry of Education - MINEDUC, Ministry of Health - MSP 8th Zone, Agency for Sanitary Regulation and Control - ARCSA, Decentralized Autonomous Government of Duran - GAD, Duran Potable Water Municipal Enterprise - EMAPAD, Water Secretariat - SENAGUA and PAHO / WHO), and included the following activities carried out during the second half of 2015:

- Inter-institutional meetings to define the strategic lines to improve the quality of water in the schools of El Recreo-Duran, Guayas Province.
- Inspection by the MINEDUC, MSP and PAHO to the internal water supply systems of the nine public schools of El Recreo-Duran, emphasizing on cisterns and roof tanks for water storage.
- Design of the strategy for the improvement of the quality of water in the public schools of El Recreo, in coordination with MSP, GAD Duran, MINEDUC and PAHO.
- Practical educational meeting with children on monitoring of hands contamination, hands washing and observation of water quality tests.
- Joint work with the education and health coordinating offices of the District and PAHO, ARCSA to apply field tests for bromathological and microbiological analyses of the water quality in the nine schools of El Recreo.
- Likewise, in coordination EMAPAD and with the technical support of SENAGUA, physical-chemical and bacteriological analyses were made to the water main (2 de Mayo sector) and to one school (Rafael Larrea), and the optimum dose of sodium hypochlorite at 5% (breaking point) was determined for water disinfection in schools.
- Determination of the optimum dose of sodium hypochlorite produced by the chlorine generating equipment of the MSP (equipment installed at the Oramas González Maternity)

The main findings were as follows:

- Seven out of the nine schools receive water from the public main, but only two days per week, eight hours per day, and the other two schools are supplied by water wagons or tank trucks.
- The schools lack of a person in charge of or processes to manage water supply and storage and the water stored in their cisterns or roof tanks is not being treated.
- There is no record whatsoever of the maintenance of the cisterns.
- There is no control of the sanitary conditions of tank trucks and neither control nor surveillance of the quality of the water they supply to the population.
- The field studies made by ARCSA in the nine schools of El Recreo showed that in six of them water contained in their cisterns and supplied through faucets do not meet the Standard INEN NTE 1108, as they have fecal coliforms and lack residual chlorine.
- The laboratory tests made to the water by EMAPAD and SENAGUA with the support from MSP and PAHO showed that the relevant physical and chemical parameters, including color, met the Standard INEN NTE 1108, opposite to the bacteriological parameters that showed the presence of fecal coliforms, which corroborates the research made by ARCSA.
- The optimum concentration and dose of sodium hypochlorite generated by the equipment of MSP was determined as follows: 1.5 mg/L with residual chlorine of 0.47 mg/L 30 minutes after the treatment.

Until a comprehensive solution is given to the infrastructure for water supply to the schools in Duran, the Project has recommended an intervention on water purification in the schools. The strategy should combine operational solutions of easy implementation with an educational-communicational component and the establishment of maintenance, surveillance and control procedures. The most suitable solution in the short term is the purification of water in 20 liter drums to be installed in each school room, this way improving the quality of the water and at the same time promoting among the students a proper water care and use culture. The proposal, however, highlights the need to promptly implement routines to have the cisterns and roof tanks maintained by specifically designed duly trained and supervised staff.

Interpersonal education and communication strategy. Creation of a “family library” to implement education and communication actions with groups of parents, students and teachers through “targeted group readings” and the dissemination of support materials. The education-communication process also includes the implementation of mobile expositions on the contents of the school box and the dissemination in different environments of a photo-documentary on healthy boxes. The core subject of the process will be the graphic labelling of food.

Outcomes

- The Health and Education Duran District and 8th Zone have:
 - A BASELINE on health promotion in the schools of El Recreo
 - The diagnostic of the water quality
 - A preliminary record on determinants, attitudes and training needs
 - A proposed strategy to work with the educational community on healthy diet, purified water, physical activity and dengue control
 - Experience (ongoing) on the awareness process for the teachers, students, and parents of the schools and street sellers association in Duran
- The Health and Education Duran District and 8th Zone have a proposal for inter-sectoral work with the following elements:

- Inter-institutional commitment letter for HP in schools
 - Designation of the inter-institutional team that will work on the water issue in the nine schools
 - Drafting of a proposal to improve the water quality in the schools, based on disinfection of water in cisterns and drums, maintenance protocols and awareness raising actions
- The Health and Education Duran District and the 8th Zone have the following educational-communicational materials:
 - Family Health Library: educational-communicational cards to work with the families and teachers of the schools
 - Review and socialization of practical material to work with teachers and students on healthy diet and physical activity
 - Photo-documentary on healthy lunch boxes
 - Mobile photographic exposition to raise awareness on healthy lunch boxes
 - Graphic material to work in the schools on the healthy dish concept.

Change of life styles to prevent NCDs and their complications

Description of the line of action

The need to define a target population for these promotion actions lead, in the first instance, to develop a line of work addressed to persons with NCDs and persons with cardio-metabolic risk factors for these diseases. In line with international clinical guidelines, it was decided that such interventions for life style changes should be “structured”, meaning that they should be professionally driven and have a follow-up plan.

Identified as the main actors of this intervention were the groups of users with diabetes and HBP (arterial hypertension, for its initials in Spanish). The prioritization of people with RF obeys to the need to reduce premature mortality due to NCDs in the next ten years. Patients, sanitary workers and other actors worked on the educational intervention, starting with the patients with NCD or RF, with the intention to also reach their families.

The graphic labelling of food was conceived as a key tool in the educational process. Population interventions related with determinants in the Duran environment regarding physical activity and access to and consumption of healthy food are an essential part of the project. Due to its intersectoral nature and population approach, they were identified as key lines of work that will be developed in the second phase, as initially scheduled.

Activities

- ✓ Training to sanitary professionals on CCM and diabetes education
- ✓ Learning visit to El Puyo General Hospital
- ✓ Training to self-care clubs
- ✓ Training to promoters of GAD Duran
- ✓ Design and production of educational materials for CNCD (chronic non-communicable diseases, for its initials in English)
- ✓ Open House on diabetes prevention in Duran

Planning of STEP survey to measure risk factors

Being the change in lifestyle for the prevention of chronic diseases a central theme of this project, it was decided to perform a STEP survey for measuring the risk factors of chronic diseases. The STEP survey developed by WHO aims to measure the prevalence of major behavioral and biological factors that influence risk the four major NCDs. Conducting a survey of its kind in Duran would aim to

generate probabilistic information specific from the Project target population, allowing more elements to guide the actions of promotion and prevention in Durán. The availability of data on the prevalence of NCDs and their risk factors (RF) for El Recreo population, is a very strong public health management tool, for mobilization and awareness of other actors and community participation. Conducting this survey in Durán also arouses interest at national level because the opportunity that institutions have in knowing the STEP methodology and processes related to its possible application for future national prevalence measurements of risk factors that the country must make in under the surveillance of NCDs.

During 2015 PAHO coordinated with the MOH and INEC actions survey planning. During the period the following activities were developed:

- Creation of an interagency committee with the presence of MSP, INEC, PAHO and Universities
- Design and calculation of sample size
- Adaptation of the questionnaire survey of the population of Duran
- Management to provide mobile electronic devices and software STEP adaptation to Spanish and Ecuador questionnaire.
- Calculation of inputs, costs, planning details, identification of possible suppliers and local partner for the recruitment of enumerators
- Development of survey documents
 - Draft Sampling Plan
 - Pilot Test Plan
 - Interviewer Manual
 - Supervisor's Guide

Due to delays in planning the sampling operation and preparation of inputs and tools, conducting the survey it was postponed to the first quarter of 2016.

STEP survey was executed along March-April 2016, after completing preparatory stage. Joint coordination of process involved INEC, MOH, Durán Police Unit, Durán Red Cross, WHO and PAHO. Questionnaires were administrated by half hundred pollsters and ten supervisors, they used mobile devices and transmitted information directly to specific WHO website.

Pollster's teams developed STEP 1-2 (risk factors and anthropometric measurements) in the same day and moment of interview; later on, the day after or some days after, STEP 3 teams visit the survey participants who accepted glycaemia and cholesterol measurements in order to do it. Universe for survey was El Recreo population.

STEP Survey in Durán, 2016, collect data from 2,231 people, 2,2% more than planned; sample obtained by age-sex groups was as the following distribution: 565 men aged 18 to 44 years (planned 559); 548 men aged 45 to 69 years (planned 534); 558 women aged 18 to 44 years (planned 561) and 560 women aged 45 to 69 years (planned 535). There is available a STEP Survey Preliminary Report. (Annex 8)

Workshops on diabetes education with patients of the communities Recreo 1 and Recreo 2

The interventions with patients addressed the following topics: diabetes education, podiatry, physical activity and nutrition. 12 workshops were organized with the two groups of users of the two units. Each group attended two workshops on nutrition and one on each of the other subjects. Postprandial glycaemia tests were applied to the attendants of all the workshops and their blood pressure was measured during the first and second activity.

The attendance of patients of the user clubs coordinated by Casa de la Diabetes slowly increased during the activities (two months). 19 members of the user club of El Recreo 1 attended the first workshop and the last one was attended by 42 members. Women were the majority because much more women are being monitored both by the diabetes and hypertension services. The number of diabetic persons per session was between five and twelve, and the number of patients with hypertension was between 3 and 13. The patients' relatives also participated in the workshop in numbers between 3 and 24. The results of the glycaemia tests showed patients with levels above 200 mg/dl.

The attendance of the user club of El Recreo 2 was steady, as it started with 37 persons in the first meeting, reached 69 in the third one and ended with 39 in the last one. Again, women were the majority. The number of diabetic persons per session was between 10 and 27 and the number of patients with hypertension was between 4 and 29. The patients' relatives also participated in the workshop in numbers between 6 and 26. Similar to El Recreo 1, the results of the glycaemia tests showed patients with levels above 200 mg/dl.

Regarding nutrition, the only subject with two workshops for each user group, an assessment was made at the baseline and other at the end of the second workshop that showed a high learning curve regarding five of the six subjects in question. Speaking of the number of meals per day, differentiation between carbohydrates and proteins, consumption of vegetables and the healthy dish, the patients initially had little knowledge; however, in the final evaluation the results on all the subjects exceeded 50%.

A semi-quantitative evaluation made to the perception of the trainer about the level of knowledge of the attendants at the beginning and end of each workshop showed an important improvement. Over a total of 55 points, the scores given by the trainers were: food, from 11 to 46 points; physical activity, from 2 to 34 points; foot care, from 2 to 37 points, and diabetes education, from 1 to 44 points.

Training to promoters of GAD Duran

Training to the technical staff of the Municipal GAD of Duran on general aspects of diabetes, its prevention and handling.

Open House on Diabetes Prevention in Duran

A health fair was held to celebrate the World Diabetes Day with the motto "*Act to change your life today, act to change the world of tomorrow*", on November 21 at the Abel Gilbert jetty in Duran. Sanitary professionals from the operating units Recreo 1, Abel Gilbert, Duran 2, Duran 1, Primavera, Oramas Gonzales District and Recreo 2 participated in the event, as well as the sanitary team of Casa de la Diabetes. This activity was coordinated among the Pan American Health Organization – PAHO / WHO, the Ministry of Public Health, the Municipality of the Duran Canton and Casa de la Diabetes. In addition to education-communication actions, it included glycaemia, BP and Ac1 tests and podiatry practices.

Design and production of educational material on diabetes prevention and handling

Educational-communicational materials, as described in the outcomes, were designed and produced thanks to the experience of the professionals of Casa de la Diabetes and their knowledge on the characteristics of the patients clubs.

Interpersonal education and communication strategy

As part of the family health library described in the promotion strategy for students and their

families and in addition to the physical activity and healthy diet modules, a module on diabetes was included, which was addressed to patients, their families and the general population. The interpersonal education and communication strategy also included the creation of the following materials to be distributed among the user clubs and health units:

- Magnetized dish for practical training on healthy diet
- Information on diabetic foot care
- Printed material on diabetics self-care

Outcomes

- The District has a methodology and has made a planning exercise for a STEP survey on NCD risk factors to be done in 2016.
- The District has an interpersonal education and communication strategy as well as educational materials to promote change of life styles in terms of healthy diet and physical activities of patients with NCDs and their families.
- The user clubs of El Recreo 1 and 2 health units are active; the number of members has increased and they have been strengthened through training, methodologies and tools to keep on working on diabetes education.
- The District and the 8th Zone coordinate actions with a national institution specialized in diabetes education.

Improvement of NCDs care by the health services

Self-management, patient focused attention, community participation, clinical decisions based on evidence are some of the elements of the CCM, which conceptual framework was used to drive the actions for the capacity building of the first level resources of Duran for health promotion on chronic diseases.

These capacities are required to complement, from the side of the services, the interventions related to change of life styles in the community. The important gaps in the health services in El Recreo show the need to comprehensively work on all the components of CCM, turning mandatory the short term solution of limitations of aspects such as clinical information and organization of the services.

In order to achieve the improvement of the service, the project promoted the continuous improvement methodology (PDCA – plan-do-check-act) methodology. The opportunistic detection of diabetes, the evaluation of total cardiovascular risk, the structured interventions for change of life style and the adoption of a systematic programmatic approach to handling HBP are key interventions recommended within the reference frameworks of PAHO, to be implemented as part of the project.

A first step is to amend basic structural and functional elements referred to by the CCM and make further short cycle based improvements. The process should result in increased care ratios related to detection, adherence and prevention of complications.

Activities

ACIC

An ACIC was done in mid-July with the participation of 34 sanitary workers of the nine health units and at District level. ACIC is used to update the health systems regarding chronic illnesses care. Its results can be used to help the sanitary teams identify improvement opportunities.

The above mentioned participants were trained on the methodology for future assessments. The exercise was carried out by 5-person groups; however, each participant made his / her own assessment. The score of the seven components of the assessment over a total of 11 points was between 4.7 (Integration of the components of the model) and 6.0 (Organization of the service provision system). 5 exceed the usual score in chronic care improvement projects. In general, the teams tend to over qualify their actual services until they understand better the chronic care system.

25 professionals made the exercise with HBP and seven with diabetes, with similar scores for both groups. Group 3, made up of nurses, showed lower scores (between 3.1 and 4.2), it meaning that they may understand better the gaps in the organization of some processes, as highlighted by this group during the discussion.

The deficit of human resources in the District and infrastructure deficiencies poses big challenges to NCD care, monitoring and surveillance. The use of community resources is limited by structural deficiencies in the social organization of the sectors. At the end of the assessment, the 34 professionals and the team at the zone were alerted and trained with the necessary tools to replicate the assessment in their health units and encouraged to participate in the chronic care course.

Course on Chronic Care Model

At the end of July and with the support from the Non-Communicable Diseases Area of PAHO, a workshop was organized on a model for the comprehensive care of NCDs within the framework of primary health care (APS, for its initials in Spanish). It was coordinated by two international experts from PAHO / WHO and its objective was to provide guidelines on planning and provision of high quality services for people with ECNTs or risk factor in Duran and other districts of the 8th Zone. For experience exchange and replication purposes, officials from the 4th Zone of the Ministry of Health participated in the course as they are implementing the CCM principles. Other participants came from the MSP Directions involved in the NCD care model (Prevention and control strategies, Health promotion, Hospital network, First level and Medicines). As a baseline to analyze the gaps in NCD care a second ACIC was done at the beginning of the workshop, this time involving the other districts of the 8th Zone that were attending to the event.

53 professionals regularly attended the CCM course. It included 16 hours of theory and 8 hours of group work, and ended with the design of seven chronic care improvement projects for the participant health units.

Improvement projects and strategies regarding diabetes and hypertension

The above mentioned projects were designed using the continuous improvement methodology for the specific priorities of each health unit. Three of the projects were addressed to the Duran District, one for the 8th Zone coordination, one for the remaining districts of the 8th Zone, one for the 3rd Zone and the last one was designed by the participants of the central level of the MSP. Each group drafted a preliminary chronic care improvement project that was discussed by all the attendants during the last part of the workshop.

PAHO / WHO supported the training workshop as follows: participation of international experts, a progress assessment and a reformulation for December 2015 – March 2016. The MOH teams prioritized diabetes and hypertension in the NCD improvement projects due to the high demand of related services.

During the discussion of the Project, the following limitations for NCD care in Duran according to the CCM principles were found:

- Physical conditions that do not allow patient focused care i.e. lack of privacy at the consultation rooms.
- Insufficient consultation times for comprehensive evaluation of chronic patients.
- Impractical information processes that overburden the physicians.
- Almost useless information. None of the units can make a basic stratification of the patients with diabetes according to their control or risk level (for example: number of patients according to cardiovascular risk, number of patients with diabetes, currently monitored number of compensated diabetics, etc.).
- Lack of standard protocols for processes such as blood pressure check by the nurse prior to the consultation.
- Lack of routine procedures for preventive foot check.
- Lack of use of simple screening and stratification tools such as the FINDRISK scale to screen people at risk of diabetes or Total Cardiovascular Risk Assessment in order to prioritize the monitoring of patients with higher risk.
- Lack of clarity and regulations on the roles of nurses and physicians during initial care, monitoring and self-care. Doctors filling family cards and carrying out other actions that could be assigned to other staff in order to optimize the reduced medical staff.
- Problems with the centralized scheduling system in terms of patient focused care, opportunistic capture of diabetes and hypertension, monitoring and continuum care.
- Restrictions of basic laboratory tests for NCD care. The MSP units through the Duran District cannot make the glycosylated hemoglobin test (HbA1c), because it is considered as second level. Glycosylated hemoglobin is a key element for first care level. Some patients have not been checked for HbA1c neither once a year. There is no access to microalbuminuria check...
- Limited evaluations by specialists. The most worrisome is the lack of eye funduscopic examination to discard diabetic retinopathy.
- Only the specialists are authorized to prescribe insulin; thus, there is only one physician of the MSP in Duran that can do it.
- There is no electrocardiography availability in the MSP units in the District; it might be required for the evaluation of patients with hypertension.

The key diabetes and hypertension care aspects that could be improved using the continuous improvement methodology in the health units are:

- Timely detection of diabetes and hypertension based on risk approach and worldwide recommended screening tools (opportunistic diabetes detection protocol of the MSP - Ecuador (based on FINDRISK survey)).
- Timely detection and handling of complications:
 - Fix laboratory limitations (HgAc1, microalbuminuria)
 - Solve specialist evaluation processes such as the use of non-mydratic retinal cameras for retinopathy screening
 - Establish procedures for foot preventive evaluation
- Improve procedures and tools to record clinical information for risk stratification, continuum care, team work and early detection of complications
- Incorporate tools and procedures for risk stratification and risk based management: Total cardiovascular risk assessment strategy
- Implement recommendations and clinical guidelines based on evidence: HbA1c
- Enhance the internal organization of the services so as to favor patient focused care: consultation conditions and times, scheduling based on risk stratification
- Organize the staff roles (nurse, assistant, nutritionist, social worker and physician).

The improvement project for the health units of El Recreo 1 and 2 was again reformulated

in November, defining its objective as follows: “Classify all diabetic patients assisted from January to March, 2016 according to risk level, and define a differentiated follow-up plan towards the achievement of control goals”. Bottlenecks in the care process were better defined. The unavailability of HbA1c was considered as an obstacle to be solved and so the insufficient consultation times. The implementation of the clinical information system used in El Puyo is also one of the measures to be taken.

At the end of the year, a group of participant professionals started the virtual “practice community” hosted by the PAHO platform of the chronic care observatory. Such community will enhance the exchange of and support to improvement experiences. The support during 2015 also allowed the identification of limitations and failures in diabetes and HBP care processes and the planning of priority actions for these two subjects.

Training on CNCD and diabetes education

6 workshops with a total duration of 28 hours and addressed to sanitary professionals were organized with the objective of enhancing knowledge transfer on comprehensive education to patients with ENCT and diabetes. They considered basic and new aspects such as: advisory to the patient on healthy diet, diabetes, self-control, podiatry, physical activity and nutrition.

Each workshop followed a theoretical – practical methodology, whereby the attendants, through workgroups, applied the acquired knowledge in exercises which results were further exposed and evaluated.

35 professionals attended the workshops, 23 of them being physicians and the rest included nurses, nurse assistants, one obstetrician, one psychologist and officials at zone level. The low number attending nurses (3 in the workshop with higher attendance) could be considered as a weakness, and consequently it confirms the need to work more on the organization of the roles, as nurses play a material role in self-care, which was the core aspect of this training. The organization of the roles was also discussed when the care model was being analyzed. An initial evaluation of 11 questions on general NCD aspects showed an average knowledge rate of 53 points / 100.

The final evaluations were more related with the subjects of the 6 workshops, which did not allow comparison with the pre-test, but showed a “middle” knowledge rate. The average rate of the 34 sanitary professionals that took the final evaluation was 25.9 / 100 points, thus highlighting the need to have them continuously trained while their capacities and routines are built with practice.

In conclusion, the 35 professionals should conform groups in their health units in order to draft projects on diabetes education that will be discussed in a general meeting to be held in December.

All the Districts of the 8th Zone are spreading the knowledge acquired in such workshops, particularly some aspects that had not been considered before such as foot care for persons with diabetes. This has been done through open houses, one of which was held in Duran on November 20.

Support to extra mural activities of the family health teams

Within the framework of information gathering for the analysis of social determinants, extra mural health promotion activities in el Recreo 1 and 2 allowed the identification of important aspects for the family work model.

Observational visit to Hospital El Puyo

An exploration visit was made by a group of health centers professionals, including particularly decision makers, from the Duran District and other eleven 8th Zone Districts, supported by PAHO and KOICA. The group could appreciate an interesting on going experience on implementation of chronic care model with diabetic users of MOH General Hospital along 20 year. Visit demonstrated

possibilities and challenges to face in order to implement chronic care improvement processes.

PACIC

This assessment was applied by some health units to selected chronic patients, even though, technically speaking, it is better to do it upon the implementation of the chronic care model. Anyways we now have a baseline evaluation of this subject.

Outcomes

- The staff of District 09D24 and the 8th Zone is encouraged to improve CNCD care. The training and the exchange visit to El Puyo allowed a better identification of the possibilities of progress in spite of the restrictions to the implementation of a chronic care model.
- The Duran District and other districts of the 8th Zone are implementing their ENCT care improvement plans.
- District 09D24 and the 8th Zone have ACIC trained personnel.
- The Duran District has an ACIC BASELINE that allows future and periodic assessments to measure progress.
- The Duran District has a PACIC BASELINE.
- The District and the 8th Zone work in coordination with other instances of the MSP's 3rd Zone which have experience in the chronic care model and diabetes care.
- The health units have tools to develop plans on diabetes education.
- The 8th Zone and District are implementing a permanent multi-mode training plan on ENCT services that includes Project coordinated activities:
 - o Specialized workshops,
 - o Management workshops,
 - o HBP on line training, and
 - o Personalized virtual follow-up through the Practice Community hosted by the PAHO / WHO web site.

Social mobilization for dengue, chikungunya and zika prevention

Description of the line of action

Prevention of dengue communication is a public health priority in Duran as that area has favorable climate and environmental conditions for vector infestation and consequently its population is exposed to dengue or serious dengue.

The appearance of the chikungunya virus in Ecuador in December, 2014 and the recent appearance of the zika virus in South America could affect most of the population in Duran. Therefore is clear the need to intensify efforts to reduce *Aedes aegypti* infestation in the district.

The strategy promoted by WHO and some experiences in Asia and South America show that there are many types of reservoirs that may turn into breeding grounds of *A. aegypti*, particularly those storing of high volumes of water that have the biggest production of adult mosquitoes. Interventions specifically addressed to most productive breeding grounds, it will be more cost-effective than traditional measures that invite to population for control of each and every possible breeding ground, loosing daily interventions of family in the largest producers of *aedes aegypti*.

In order to promote such approach, WHO has developed a methodology to measure the production of the breeding grounds based on *aedes aegypti pupae index*. It is assumed that in Duran, as in most of the Ecuadorian coast, floor low tanks are the breeding grounds with the highest infestation rates. The project promoted actions addressed to document the importance of floor tanks in the district and to implement control actions with the participation of the community for this specific breeding ground.

Activities

KAP survey on family dengue control

404 persons were surveyed in El Recreo 1 and El Recreo 2. The findings showed the wide impact on the population of the poor water supply and the consequent need to store water. As most of the families use floor tanks for this purpose, the emphasis of the intervention should be put on that type of reservoir.

The KAP showed that only 19% of the universe remembers the message given by the communication actions in the sense of “properly covering water tanks and the importance of the use of Abate (larvicide) in the water”. Particular approach given to the Project educative activities must be reinforced. Other findings confirm the design of the communication strategy, such as the fact that 51.3% of the universe stated that they clean their tanks more than once a week, the high literacy rate and the high 87% of acceptance of temephos larvicide use.

The results of the survey, complemented with entomological studies, drove the design of a social communication strategy that incorporates the concepts of the COMBI strategy.

- Studies on mosquito production in breeding grounds

The district vector control team, with the guidance from PAHO, implemented the methodology to measure the production of breeding grounds as recommended by WHO in order to determine the pupa index of *A. aegypti* per vessel type. The studies were done in two areas of El Recreo and in the District.

The preliminary results support the strategy of focusing on dengue prevention by covering floor tanks. The methodology also allows to objectively record the level of infestation by *A. Aegypti* that can serve as proxy / indicator of the densities of adult mosquitoes and therefore constitute a more efficient measure to monitor the temporary and spatial variations of the risk of communication of the related arbovirus infections (dengue, chik, zica). The district vector control team adopted the methodology in their routines as a complement to the traditional Aedic indexes (Bretau index, household index, deposit index).

Below are the main findings:

- Low infestation by immature forms of *A. aegypti* in both studied sectors, compared with other countries that use a similar methodology.
- Despite the low infestation at the time of the measuring, the production measuring methodology allowed the documentation of floor tanks as the vessel that causes 90% of the mosquitoes.
- The determination of the floor tank as the main producer of pupas highlights the importance of a comprehensive strategy addressed to control such vessels.
- Covering the tanks with the proper lids and covering and the routine of duly covering them every time the lid is taken off could be part of a key intervention in the cooperatives of the Duran District.
- The methodology to measure production in breeding grounds, as recommended by WHO is easy to implement and operationally viable. It would be wise to keep on implementing it in other sectors of the District and in the same sectors in places with higher infestation in order to get closing results.

- Communication strategy for control of floor tanks as dengue breeding grounds

Based on the findings of the CAP survey and the entomological studies, a comprehensive

communication strategy was designed to support the control of dengue, with special emphasis on floor tanks. The objective of the strategy is to generate behavioral changes associated with tank covering and brushing and change of water, as well as the optimized use of larvicides. The approach is to highlight the importance of tanks as breeding grounds and to generate the proper response from the family in order to keep it free of mosquitoes. The strategy also promotes the search for covering solutions through inter-institutional alliances and community resources. The intervention includes the following elements:

- Photo-documentary on floor tanks control, to be exhibited in different scenarios of the Canton.
- Mobile and / or permanent museographic exposition on floor tank control, addressed to schools, public institutions, and other public spaces of the Canton.
- A module of the Family Health Library to be used for guided and participative readings in the community, schools and health services.
- A mass communication campaign addressed to covering and brushing floor tanks, spreading specific information to generate conduct changes, and using innovative communication methods with local resources and with the single message “**cover the tank**” (banners in bikes, involvement of the tank truck drivers, radio add, murals, informational billboards).

Coordination with other social actors such as universities and private companies to seek for solutions for floor tank covering

An inter-sectoral coordination process has started with the academy and private companies in order to search for sustainable solutions for floor tanks covering. A first approach with the academy involved the Guayaquil University and its social and design schools in the dengue issue. Likewise, contacts have been made with a plastic manufacturing company with domicile in Duran in order to look for innovative alternatives of sustainable production that involve the community.

Outcomes

- The Duran District and the 8th Zone have a CAP study on dengue and chikungunya in El Recreo that will drive the relevant interventions and will be considered as the BASELINE.
- The Duran District and the 8th Zone have a BASELINE to measure, in a more accurate way, the *Aedes aegypti* reproduction sites that should be controlled by the population and addressed by the institutional campaigns.
- The District has a team that knows and has worked the methodology for breeding productivity study
- The Duran District and the 8th Zone have a comprehensive communication strategy to raise the awareness of the population through a photo-documentary, mobile photo exposition and family health library that includes an information chart.

Tuberculosis control with community participation and intersectoral approach

Description of the action line

The post 2015 strategy “End of TB” launched by WHO in 2015 has a social approach to address tuberculosis as one of its three pillars, including a strong component of health promotion for the prevention of this disease through the creation of and empowerment to organizations of persons with tuberculosis.

The objective of this project action line on tuberculosis in Duran is to meet two main outcomes that should be subject of control programs at any level: improve case detection and guarantee the success of the treatment. There are big gaps in Duran that hinder the meeting of the above

mentioned outcomes.

A community participation process, articulated to health services and particularly address to avoid the abandonment of the treatment by patients at risk is being promoted. It essentially includes secondary prevention actions (and primary to the point that they should impact on the communication chain of sensitive TB and DR TB) that will highly contribute to the health promotion process in Duran as they allow stressing on two material elements:

- i) The recognition of vulnerabilities due to important social determinants in this population, and
- ii) A practical peer work experience.

In addition to the benefits of preventing abandonment to and interruptions of the treatment, the project intends to make visible the seriousness of a problem that requires an intersectoral approach, otherwise it would become one of the biggest challenges of communicable disease control in the next decade in Ecuador.

Activities

Assessment of the situation of the TB program in Duran

This assessment was done through an epidemiological analysis in order to set up a baseline and design a proposal for the improvement of TB cases detection. Observation visits were made to the health centers of the District, as well as interviews to the sanitary personnel and users, revision of the information system, mapping of the laboratories and measuring of environmental temperature at the storage sites of anti-TB medicines.

Its main findings were: low SR detection; high percentage of BK+ diagnostics indicating high community communication; TB cases among sanitary personnel with poor or insufficient infection control; treatment success rate under the country average due to patients that abandon the treatment; medicine storage sites exposed to high temperatures and humidity; inappropriate territorial distribution of the laboratories that process the samples; sanitary staff that does not ask for SR to all the patients; appointment system through the call center as an access barrier.

Failure analysis of TB cases detection in the health units of Duran

Together with the situation assessment a FMEA (Failure Modes and Effects Analysis) was done in the District; for that purpose, a survey and an observation visit were done to the personnel of the health centers during their quotidian activities in order to visualize when do the failures in detection of respiratory symptomatic patients occur, considering that they are the starting point for detection of tuberculosis cases. The results showed the times and places where the detection opportunity was missed.

Implementation of peer follow-up to patients at risk of treatment abandonment

Follow-up has been achieved in conjunction with the Martha Gutiérrez Association, based on a peer approach to patients that for different reasons were at risk of abandoning the treatment. Former patients that successfully finished their treatment share their experience and life stories with current patients and the results of this exercise drives actions to avoid treatment interruption. In some cases, current patients can, in turn, join the group of former patients to continue with the task of avoiding other affected patients to abandon the treatment and therefore result affected by its consequences.

- Home visits: Made to people under treatment in Duran or others that have abandoned the treatment (education between peers, follow-up to difficulties in the treatment,

identification of affected people at risk of abandonment, identification of SR, follow-up to contacts). The Association made 165 home visits to 97 patients with tuberculosis: 87 with sensitive TB and 10 with TB DR.

- Psychological visits: This activity is part of the Social Support Network and its priority is the patients at risk of abandonment. These are visits in depth made by a specialized psychologist with expertise in tuberculosis. During its two-month presence in the District, the Association made 47 psychological visits; 34 to 30 patients with Sensitive TB and 13 to 12 patients with TB DR; additionally they made 4 visits to follow-up the first group and 1 to follow-up the second.
- Nutritional support: A nutritional aid was given to 13 patients at risk of abandonment and with malnutrition, having previously checked that they did not have the money to buy basic food. The selection was done together with the sanitary staff, the Association and the support from the psychologist.
- Contacts study: 97 index cases were visited; 316 contacts were censused and followed up, identifying 11 RS (3.5%), 8 of them older than 15 years and 3 younger than 5; 7 of the older ones (88%) took the BAAR sputum test and the sputum of children was induced.

Following are the results of the follow-up to patients by former patients:

Detection of patients in desertion risk and irregular patients: Using the tool for classification of risk desertion, 27 out of the total patients with TB in the District (135) were identified at risk, in October; and 12 patients more were identified in November. 17 of them were irregularly taking the treatment (14 with sensitive TB and 3 with MDR TB).

Characterization of treatment risk desertion factors in Duran: The patients at risk desertion supported during the intervention are being treated at the nine health units. Duran II has the higher number of cases at risk of desertion (14 patients), followed by El Recreo I and El Recreo II with 8 patients each one (5 with MDR, living in El Recreo 2). In addition, to the irregularity in 37% of the cases in treatment risk desertion, were identified another risk factors (alone or in combination) as influencing on the adherence to the treatment, such as lack of family support (51%), mental disorder (53%), extreme poverty (37%), adverse reactions to the medicines (27%) and co-infection with HIV (25%).

The survey to identify social determinants in tuberculosis started. 26 patients with tuberculosis were surveyed. The preliminary results found that 12 persons live in overcrowding conditions (more than two persons per room); 7 are poor (income between US\$ 44 – 79 per month); 8 are extremely poor (income under US\$44 per month) and 11 have income above US\$80.

Prevention of irregularity and abandonment: 17 patients were identified in October and November with irregular treatment; thanks to the educational strategies and the implemented support, 12 of them regularized their treatment (71%); one remains with interrupted treatment, one moved to another city and three are being reincorporated to the health unit, having given their sputum samples for cultures which results will be submitted to the MDR Technical Committee of the MSP which will decide on the continuation of the treatment.

39 patients were identified in October and November with abandonment risk; 34 of them (87%) are currently under regular treatment and 5 (13%) not (four abandoned it and one is still irregular).

Training to sanitary workers on prevention of tuberculosis stigma and discrimination

The sanitary staff was trained on prevention of stigma and discrimination practiced by most of them. They were made aware that they should support the people that sustain this disease and feel discrimination at the health services. Monitoring to the patients was also strengthened by fitting the service to the needs of the patients. The workshop was successful as it was attended by 27 persons that are directly involved in TB care. Most of the attendants were women. The workshop met its objective to raise the awareness of the team and set the basis for a horizontal debate on discrimination to tuberculosis within the society and particularly the health services, in order to improve the service, avoid abandonment and reduce the communication of TB in Duran.

Self-care training to persons with TB

The subject of this training was the patient's self-care; therefore, it covered aspects such as characteristics of the disease; health promotion to improve life styles that will directly influence on the predisposition to contract or develop the disease; and, rights and duties of the patients as human beings and users of the health services.

The assessment made on stigma and discrimination to patients further showed the need to address the subject. Most of the patients have felt discrimination in the health centers and among their families (seven persons). Patients with TB think that the reasons other persons have to discriminate them are fear to contagion and lack of information.

This collective work process on discrimination, stigma and patient's rights should continue. Rights enforceability normally results in substantial changes within the institutions and the society.

Advocacy with MPS and other stakeholder's teams

Meetings were held with officials of the Municipality of Duran and the sanitary teams where the Association exposed its objectives, central activities and methodology of work with health services in order to encourage and promote the peers follow-up strategy with inter-sectoral coordination.

The following challenges for the implementation of the peer follow-up strategy for patients have been considered as the most important:

- The staff of most of the health units is open to the work of the Association, provided the promoter's actions are solely cooperative; however, when difficulties or errors in programmatic aspects are evident, the staff put up resistance. They also have some attitudes that cause distrust and fear from the patients that do not feel comfortable with coming to the health centers and speaking freely with the Association.
- The patients ignore their rights and some basic aspects of their treatment.
- The staff is not willing to work with the important community resource that the former TB patients constitute. Some units actually mistreat the Association's promoters and do not value the fundamental support they give.
- The program rules are sometimes not observed, i.e. observation of the intake of the medicines, treatment of adverse reactions, monthly consultations, tests according to tuberculosis type, immediate filling of treatment cards, among others.

Outcomes

- In the District of Duran they were able to avoid discontinuation in a group of patients at risk of abandonment.
- The Duran District has a methodology and a strategic partner for the avoidance of abandonment through peer follow-up to the patients.

- The Duran District has a way to identify TB patients at risk of abandonment in the nine health units and has information on abandonment risk related factors.
- The Duran District has sanitary professionals aware of stigma and discrimination of patients with tuberculosis.
- The Duran District has patients under tuberculosis treatment that are aware and trained to work as peers to follow-up other patients.
- The Duran District has information on stigma and discrimination that will allow it to improve its services.

Design and production of educational-communicational materials

- Newsletter "Our Voices"
- Leaflet with testimonies from affected persons
- Reproduction of the "Letter from the patient"
- In addition, the Association rebuilt its web page as proposed and it currently has updated information on their work.

2016 Project activities: essential processes tracking

1.

STEP SURVEY IMPLEMENTATION

PAHO, from January to April 2016 developed STEP survey in Durán, so it was necessary pay attention on several sequential activities as follows:

- Procurement of equipment and supply for survey administration
- Joint work whit WHO (Geneve) and PAHO (WDC), and INEC team, for software adequacy for Ecuadorian STEP version
- Joint work with INEC and MOH teams for analysis of sample design, planning operational processes for field work stage, questionnaires administration and pollsters training program design
- Advocacy and institutional agreements with Internal Affairs and Public Security Ministries, local Police Unit, DYA Foundation, Red Cross and Martha Gutierrez Association for field work
- Pollsters training 5 days' workshop with 34 people STEP 1-2 responsible
- STEP 3 team training 2 days' workshop
- Implementation and execution of 24 days' field work
- Management of administrative issues

2.

ADVOCACY AND PLANNING FOR ZIKA, DENGUE AND CHIKUNGUNYA PREVENTION, MAINLY IN PREGNANT WOMEN

Agency meetings to strengthen social participation

PAHO and UNICEF, as part of United Nations Organization, UNO, visited zonal and district institutions to organize joint process and actions for preventing Zika in Durán population, specifically in pregnant women. This was the response against emergency produced by risk of malformations and microcephaly on newborns of women who suffered zika especially during the pregnancy first trimester. Zika prevention in general population is crucial because probable complication with Gillian Barre Syndrome.

Local institutions gave continuity to the actions taken in 2015 to prevent Zika, chikungunya and dengue, as well as healthy eating and exercise, several interagency meetings were held to strengthen educational and social communication processes, including utilization of developed materials in the project-

a) Meeting of definition of key issues, strategic lines and actions

February 18th, with participation of district and zone 8 professionals (health promotion strategies, communication vector control) working on the project, it was defined strategic lines to develop in the first semester for zika prevention, dengue and chikungunya, including materials produced last year.

KEY ISSUES

- 1) Elimination and control of aedes aegypti breeding with emphasis on covering low tanks, washing and brushing them.
- 2) Self-protection and care. The priority of reducing the consequences of Zika in pregnancy (microcephaly) and, in general population, Guillain Barre syndrome.

STRATEGIES

- Intensify communication and educational activities with broad participation and coordination.

ACTIONS

- Intersectoral meetings: Descentralizad Autonomous Government, EMAPAD-MINEDUC-CCPD--MIES, CCLS, Civil Registry, IESS, Police, Armed Forces, Empresa Electrica, Plastigama, El Rosado, banks, churches.
- Call to participate actively personnel entities that could collaborate with the project targeting pregnant and socialization in the guidelines and directives manner.
- Training institutions, professional groups, local health committees, teachers Educational institutions, pregnant club, teen club, operating units, including materials developed
- Conduct socialization representative tankers to include wedge in their cars.
- Include the spot on television operating units.
- Conduct socialization across sectors and create agreements on the placement of posters public entities. Share with waste collector staff to place them in strategic places such as shops (places great reception users).
- To disseminate messages across computer platforms, social networks and other institutional mechanisms and community

MATERIALS

- Photo-documentaries, wedges, sticker, t-shirts, posters, banners, leaflets, Family Health Library, spot, documentary photo exhibition.

b) Inter-Agency Meeting prevention zika in Durán

On March 3th, the inter-agency meeting on zika prevention, with participation of representatives from major public institutions and civil society of canton Durán as local government, MIES, Education, local health committees, Red Cross, among other ones.

The main features of Zika, situation in Brazil and Colombia, pregnant and Zika and evidence with

microcephaly, Guillain Barre, zika situation in Ecuador, main symptoms, transmission were exposed.

Zika response: surveillance, case management, prevention. In addition to the transmitter vector characteristics, the main prevention actions zika: self-care: 1. avoid mosquito bites 2. Prevent mosquitoes from breeding to control and eliminate breeding sites.

They were presented and delivered to institutional representatives the main materials produced under the project: audio spot, photodocumentaries, posters, photo-museum exhibition. The representatives assume commitment to use materials in their communication processes for zika prevention. In addition a timetable for the use of documentary photography exhibition was held.

c) Meeting with Local Health Committees

On March 8th, meeting with the Local Health Committees was carried out for monitoring of actions development to prevent zika, dengue and chikungunya.

Presentation of main features of Zika Zika major risks in pregnant women, evidence of Brazil between Zika and microcephaly, Guillain Barre, zika situation in Ecuador, main symptoms, transmission were exposed. Subsequently the main prevention actions zika: self-care: 1. avoid mosquito bites 2. Prevent mosquitoes from breeding to control and eliminate breeding sites. Besides forms of *Aedes aegypti* mosquito breeding were presented. Regular use of abate, covered proper brushing and cleaning: the importance of control of tanks with low participation and mobilization of the community was stressed.

Presentation and delivery the main materials produced into the project: audio spot, photo documentaries, posters, photo-museum exhibition. Members of Local Health Committees undertook to disseminate and socialize in the community.

d) Meeting with directors and rectors of schools in the District Duran

March, 22th, meeting with schools and secondary directors in the District of Duran.

The opening session was attended by the delegate of the Zonal Coordination of Education, the Representative of PAHO / WHO, district directors of health and education, among other authorities.

The main actions on health promotion in schools were presented; chronic non communicable diseases and their risk factors, emphasizing the theme of healthy eating and physical activity. It was explained the ultra-processed meals, the subject of natural foods, processed and practical activity; the importance of food labeling.

Finally the main educative communicational products produced into the project were presented: family health library; photo documentary about school lunches; museum photographic exhibition.

4.4 Achievement(s) in Cross-Cutting Issues

Durán as a typical population of Ecuador present a very clear combination of female unequal social and cultural conditions, as well as progressive women involvement on family income activities, multiplying strong over workload for female population. Current national statistical studies refer that violence against women presents high rates including female murders. Even if project is on health promotion, current profile of outcomes and action lines does not foresee direct interventions on gender matter, Nevertheless, every activity and process had been

developed attending gender inequalities, even in educative activities and other related to studies or researches. Project seeks environmental improvements at community and inside schools level, therefore, discussions on water sources, treatment and delivery is a good opportunity for people awareness on environmental issues.

4.5 Communication and Partnership with KOICA

It is possible to affirm that project communication was generally speaking, permanent and fluent. Even if KOICA country office and PAHO country office are located in Quito, not only remote communication was feasible, but also personal meetings.

MOH at different level, central, zonal and district in different locations (Quito, Guayaquil and Durán) it necessarily forced to organize multiple regular meetings with technological support, maintaining communication and coordination among PAHO, KOICA and other partnership.

To ensure communication on the different aspect of project implementation, some modalities were adopted along the period:

- Monthly meetings, using web connection, in order to review month fulfilled activities among project partners; KOICA, MOH central level, PAHO national and local team, MOH zonal and district level were normally participants. Monthly reports elaborated by Zonal focal point and PAHO was delivered to KOICA.
- Personal meetings in Guayaquil were important in different moments of project, KOICA, MOH central level, PAHO national and local team, MOH zonal and district level were normally participants; those were to discuss specific projects issues as well as for planning linkage of project with other KOICA cooperation components in Durán.
- Personal meetings were also developed in Quito, with KOICA and PAHO technical teams, for specific aspects of project, for instance indicators, next phase planning, etc.
- Some special meetings were developed to encourage some project action lines in Durán-Guayaquil: Health Promotion Self Seminar; Health Promotion at El Recreo Schools; Open House on Diabetics Prevention; Open House on Project First Phase; Open session of STEP Survey in Durán; Intersectoral meeting for Zika prevention in pregnant women; Representatives of KOICA and PAHO were in Some of this special work journeys. Some of important meetings were as follow.

4.6 Challenges and Lessons Learned

- The initial assessment and the execution of the first phase of the Project confirm the precarious living and development conditions of the population of Duran, in particular the population from El Recreo.
- Public health needs of the Duran Canton, the determinants in its population and the complexity of the public health and health promotion approach for El Recreo sectors highlight the importance of the cooperation framework and inter-sectorial management that this Project has sought to promote and the accuracy of the selection of this population as the objective of this cooperation effort between the Ministry of Health, KOICA and PAHO.
- In spite of the State's efforts - MSP, GAD and other public and private entities-, access to basic health services for the population of the District and the Circuit is limited as is the capacity of the public health system to apply the MAIS model.

- The great significance of the daily work of the sanitary workers and other staff from the health units in El Recreo and other entities of the District must be highlighted, as they work day after day under difficult work conditions, responding to a great demand of health care.
- Despite the high work load of the health teams and the project's short execution term, the teams responded with interest, devoting their time and efforts, thus confirming their commitment with and openness to improve the life conditions of their communities.
- The search of solutions for the human talent gap in the Health centers of El Recreo 1 and 2 and in the District is a requirement for the successful implementation of MAIS and for the development of sustainable health promotion processes that demand great dedication of the teams.
- A relevant presence of institutional actors in Duran with whom health promotion processes can be developed and who showed a positive attitude and willingness for a coordinated management on this issue. The implied co-responsibility of health promotion actions found specific alternatives in Duran.
- It was possible to generate articulation among social actors in regards to issues and the search for specific solutions. The health promotion strategy in the nine schools of El Recreo was an example of joint management that should be maintained.
- A high receptivity by community actors, general population, patients and public officers from different sectors was evidenced, as well as their need for information and interest in the acquisition of knowledge, which constitutes a key element for the future work on health education.
- Existence of critical nodes in the service model which solutions do not depend on the local levels and must be managed at the zonal and central levels of the MSP: consultation times, information gathering by the doctors, basic laboratory limitations (glycosylated hemoglobin) for the first level, national centralized scheduling and quantitative performance targets that do not favor the reorientation of processes seeking for the quality required in promotion management.
- The local health citizen committees of Duran have a great potential for health promotion in the community but require greater support from district entities in order to, in turn, grant their support and complement the work of the teams of the operating units.
- The accompaniment to local citizen health committees in Duran should focus on health promotion needs of the community and should address specific health issues on which they should interact with the community and be a part of the relevant solutions.
- Local citizen health committees require continuous training and suitable tools according to the instruction levels of the community.
- Such an important gap in human resources and the high work load of the health teams point to the need to make prioritization exercises, risk stratification and identification of populations with greater levels of vulnerability.

- From a strategic point of view, the pertinence of dedicating efforts to generate processes on specific issues such as healthy diet in schools stands out, since they work as catalytic experiences on intersectoral management and can give rise to more cross-cutting and intersectoral processes.
- The short cycle improvement methodology proposed during this Project to guide little by little the application of the principles of the chronic care model, has proven to be an alternative for health promotion related processes.
- Interest and great potential of the universities to participate in health promotion processes and need to encourage better institutional frameworks for the development of this joint management.
- Significance of articulated work with non-governmental institutions and civil society bodies with country-wise experience that can contribute to the development of capacities to solve health issues.
- The usefulness of providing the sanitary workers with opportunities to exchange experiences and internships in other districts that have improved their care processes is confirmed; in this sense, work should be done in the identification and dissemination of successful experiences in the country.
- The relevance of raising base lines, situation assessments and description of problems to guide the definition and implementation of intervention strategies on health promotion. The absence of methodologies for the description of issues that guide public health actions causes the implementation of actions that lack grounds and are not suitable to the local culture and reality.
- Working on national public policies being implemented allows the valuation of local experiences and their likely contribution to feedback and drive such implementation.
- The Project has provided an important support to the District, the Circuit and the population for the application of the MAIS promotion component: positioning health promotion, training the sanitary resources and invigorating social participation and mobilization (community in general and patients).
- The execution of the project shows the path to and potential of promotion, specifically, the community and social component for prevention (dengue, chikungunya, TB).
- The execution of the Project shows the relevance of promotion in the APS Model, the need to allocate resources for health promotion and the convenience of executing these Projects to strengthen the Model, ensure evidence, have work methodologies and materials for its application.
- The Ministry of Health has a very important presence and is possibly the only health service for poor and middle class population. The integration of the national, zonal and district levels of the MSP is quite relevant as a basic condition for the implementation of health promotion policies, not only at the local level but at the national level.

- Complement the execution of the second phase of the Project to consolidate the outcomes of the first phase and specially to initiate the actions that will allow the achievement of complementary results on health promotion within the MAIS framework.

Annexes

(Annex 1) Analysis of social determinants and social networks.

(Annex 2) ACIC and methodology transfer to health professionals

(Annex 3) Course on Chronic Care Model

(Annex 4) Training on diabetes education addressed to sanitary professionals.

(Annex 5) Observational visit to the 3rd Zone (Puyo) related to the implementation of Chronic Care Model components.

(Annex 6) PACIC assessment implementation.

(Annex 7) CAP (knowledge, attitudes and practices, for its initials in Spanish) survey on dengue prevention.

(Annex 8) STEP (STEP with approach to surveillance; survey planning to measure behavioral and biologic NCD risk factors.

(Annex 9) Implementation of diabetes education program for committees of patients with diabetes and NCD RF.

(Annex 10) Implementation of the peer support program for tuberculosis patients in order to prevent abandonment.

(Annex 11) TB situational analysis

(Annex 12) Technical report on educative & communicational tools for Zika, Dengue and Chikungunya prevention

(Annex 13) Baseline assessment for an strategy to promote healthy food and physical activity among the education community.

(Annex 14) Strategy for providing safe water into schools