Capacity building “Strengthening the Statistical Analysis Capabilities of Vital Statistics”
San Jose, Costa Rica, October 15-19, 2018

A team composed by World Bank (WBG) Staff including Amparo Gordillo-Tobar (Senior Economist Health - TTL), Viviana González (program assistant); WBG consultant Sergio Muñoz; and Pan American Health Organization Antonio Sanhueza (Advisor, Health Analysis and Statistics) and Drs. Patricia Nilda Soliz Sánchez (Health Statistics Specialist), delivered the training Strengthening the Statistical Analysis Capabilities of Vital Statistics in San José Costa Rica between October 15-19, 2018.

Summary and lessons learned:
- This workshop was taught in Spanish and we had participants from five countries in Central America: Nicaragua (5), Guatemala (4), Honduras (4), El Salvador (5), and Costa Rica (5). Participants included technical level officials from the Ministry of Health and National Statistics Institutes from the above-mentioned countries.
- The course was led by the World Bank and co-facilitate by the Pan American Health Organization/World Health Organization (PAHO/WHO).
- The workshop had two objectives: (1) strengthen the statistical analysis capacity of the national teams of the Ministries of Health of the countries of Central America, and (2) encourage the exchange between a group of professionals who are involved managing the statistical information from different perspectives.
- Co-teaching with other development partners is a good approach to reach our goal of strengthening the statistical analysis capacity and leave the training available to future workers at the Ministries of Health and National Statistics Institute as well as other international Organization or NGO’s that could benefit from it.

Background and context of the workshop:
It is estimated that over 110 low- and middle-income countries have poor Vital Statistics and Civil Registry (CRVS) systems. However, the single generation of data does not guarantee its quality, the generation of knowledge or the evidence that may be generated; only its correct analysis allows the fulfillment of the cycle to finally provide evidence for the change. In this context, in 2015 the World Bank prepared a Global project called "Global Civil Registration and Vital Statistics: Scaling up Investment Plan 2015-2024".

In 2017, the Action Plan for the Strengthening of Vital Statistics 2017-2022 (PEV) was approved by the Member States of the Pan American Health Organization (PAHO/WHO). In 2017, the Latin American region of the World Bank prepared the project "Strengthening capacities in Health statistics and preparation of public policy for Latin America and the Caribbean". Within this framework and under this project, the execution of the workshop is proposed: "Strengthening in Statistical Analysis of Vital Statistics", which is part of the action line 3 of the PEV "Strengthening

**Workshop Dynamics:**

The methodology combined expository sessions to integrate the knowledge and basic tools necessary for the development of workshops and practical work in accordance with the topics covered in each of the presentations. At the end of the day, the country teams made a presentation using the Stata software that summarizes what they learned during the event. In order to provide key elements for the workshop, it was started explaining the death certificate processes, the cause, basic concepts of maternal and neonatal mortality and the basic indicators of the quality of mortality information. This also included the construction and interpretation of indicators, database administration and quality analysis, descriptive analysis using Stata statistical package and association studies, contingency tables, hypothesis testing and construction of confidence intervals.

Drs. Patricia Nilda Soliz Sánchez (from PAHO/WHO), Health, Metrics and Evidence Analysis Unit, participated as co-facilitators, who presented the report: "Health in the Americas - Summary: regional panorama and country profiles, year 2017" and Dr. Antonio Sanhueza, PAHO / WHO in Washington who presented "Exploratory Descriptive Analysis of Data" that included the concepts of statistics, the use and classification of variables and tools of descriptive statistics.

The technical facilitation of the event was in charge of Dr. Sergio Muñoz, consultant of the World Bank. During the development of the sessions, he combined conceptual expositions of statistics, association studies, elaboration of contingency tables, hypothesis tests and construction of confidence intervals using stata software, which is a statistical program created by StataCorp in 1985. This program provides Data management tools (databases, data simulation) and statistical analysis, contains multiple work windows. The main ones are: results (Results-1), previous commands (Review-2), variables / properties (Variables / Properties-3) and commands (Command-4). There are other windows that will be studied when required. Among them are: Graph, Viewer, Data Editor, Do-file Editor.

A temporary version of the Stata was installed in each participant’s computer and every student received a USB with the material of the event that also contains conceptual and methodological information to continue deepening the topic. In order to strengthen what has been learned, a task was left to the teams of the countries to carry out an exercise where they made use of data from
each country, generate reports using the stata software and prepare a report with analysis tables and graphs.

Course Sessions evaluation
At the beginning of the training we assessed the statistic technical knowledge of all participants as well as the knowledge of tools used by them when working with data. 76 percentage of the participants has a previous training in database management and statistical analysis but recognized that their knowledge was basic, and only 24% had a basic knowledge on how to develop a database. Regarding the use of statistical packages, only 32% do not use a statistical package, 42% use SPSS, and 5.26 use Stata but their abilities on the use of the packages were basic.

All the sessions taught were highly very relevant for all student. 80% of participants confirmed that that the knowledge learned was important for their work. According to all participant, the three instructors were highly qualified, and the content of their presentations was excellent.

Next steps
• In 2019, will have a follow training at an intermedia level for the participants with the best grades obtained at the end of the workshop in Costa Rica.
• The World Bank will continue working with the technical personnel in Nicaragua, El Salvador, and Honduras to strengthen their capacity on Vital Statistics Data as well as other topics such as nutrition. PAHO/WHO as well will continue working with Guatemala and Costa Rica to strengthen their capacity on the subject.