

Immunization Newsletter

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International Evaluation of Paraguay's Expanded Program on Immunization, 2011

An international evaluation of Paraguay's Expanded Program on Immunization (EPI) took place from 13-18 October 2011 in response to a request from Paraguay's Health and Social Wellbeing Ministry (MSPyBS, its initials in Spanish). The evaluation was conducted by a team of 14 international experts from the Pan American Health Organization (PAHO) and Latin American countries, in coordination with 42 national and regional health workers.

The primary objective of this evaluation was to assess the EPI's organization, structure, and operation, particularly compared to the previous international EPI evaluation conducted in 1999. Evaluators visited 13 sanitary regions, 30 municipalities, 98 health care centers, and conducted 869 interviews. Of those interviewed, 75 were from the political sphere, 92 were EPI managers, 611 users, and 15 were managers from other programs, agencies, or institutions. The places visited during the data collection included 129 health units, 29 family health units, 26 hospitals, 5 sentinel surveillance sites, the Institute for Social Security, and UNICEF, among others.

Activities were carried out in 30 municipalities in 13 Sanitary Regions of the country, which included the capital Asunción, Alto Paraná, Amambay, Boquerón, Caaguazú, Canindeyú, Central, Cordillera, Guairá, Itapúa, Misiones, Ñeembucú, and Presidente Hayes. Municipalities were selected based on risk criteria calculated taking into consideration vaccination coverage parameters, epidemiological surveillance indicators, as well as social, demographic and epidemiological risk considerations. Of those municipalities selected, 5 were considered low risk, 7 moderate risk, 10 medium risk, and 8 high risk.



The Minister of Health of Paraguay, Dr. Esperanza Martínez, during the ceremony of the presentation of the evaluation report, Asunción, Paraguay, 28 October 2011.

Regional ProVac Workshop on Cost-Effectiveness of HPV Vaccination and Screening Strategies for the Prevention and Control of Cervical Cancer

Background information

PAHO ProVac Initiative aims at strengthening technical capacity to make evidence-based decisions on the introduction of new vaccines at the national level. Since early 2000, PAHO's Immunization Project has been working closely with PAHO Member States on promoting evidence-based decision making in order to ensure that public health resources are invested in high-priority diseases. In the last three years, the ProVac Initiative has held two regional workshops to train health professionals on different methods to generate and gather the necessary evidence base to inform national immunization policy, with a focus on economic evaluations. The last two workshops focused on the pneumococcal conjugate vaccine (PCV) and rotavirus vaccine in 2008 and 2010, respectively [1]. Since then, the new vaccine against human papilloma virus (HPV) has reached the market to prevent and control cervical cancer both among adolescent girls and adult women. PAHO Member States have requested support to evaluate its introduction in the context of ongoing activities led by national cervical cancer programs.

Purpose of the workshop

The workshop aims to provide national public health experts

PARAGUAY continued from page 1

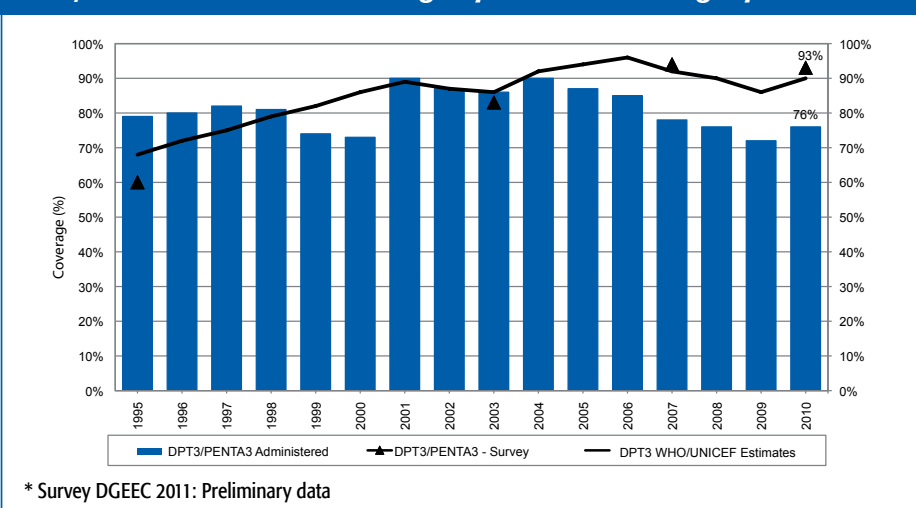
Throughout the evaluation process, many achievements and challenges were identified for each of the individual EPI components. The following are worth noting:

Achievements	<ul style="list-style-type: none"> • Availability of a 2003 Vaccine Law that guarantees the EPI financial sustainability. • Sustained polio eradication; measles, rubella and congenital rubella syndrome (CRS) elimination; and control of other vaccine-preventable diseases (VPDs). • Information system development, including the nominal immunization registry for the entire National Health System • Development of a social awareness campaign to promote vaccination as a right and a disease prevention culture. • Increase in research for evidence-based decision making, such as population studies, data quality assessments, new vaccine introduction cost-effectiveness studies, among others. • Intersectoral and interinstitutional coordination and advances in the decentralization process.
Challenges	<ul style="list-style-type: none"> • Fitting the EPI within the Health Model in the context of a primary healthcare focus. • Coordinating the MSPyBS' internal operations related to family and community health programs and departments. • Defining the EPI's and other units' roles and functions regarding substantive processes for program implementation. • Updating regulations and strengthening the technical and operational VPD surveillance capacities. • Taking advantage of the flagship and social protection programs to guarantee equality and access to vaccination services through spontaneous demand.

In recent years, evidence has shown a lack of consistency between the administrative coverage rates and the coverage rates, consistently higher, obtained through surveys, such as the National Survey of Demography and Sexual and Reproductive Health 2008 (children 12-23 months); a mumps serosurvey 2009 (children 1-4 years); a pentavalent3 coverage survey (children 7-<12 months) conducted by the General Directorate of Statistics, Surveys and Censuses in 2011¹ (Figure 1) These inconsistencies deserve to be analyzed in greater depth and the historical coverage data should be reviewed once the results of the 2012 census have been obtained.

The evaluation culminated with the development of a comprehensive multi-year plan 2012-2016. The plan includes expected outcomes, indicators, a timeline, and a budget for Paraguay's EPI, as well as specific activities that respond to recommendations issued during this evaluation.

DPT3/Penta3 Vaccination Coverage by data source Paraguay, 1995 - 2010



1. The data are preliminary, but they exceed 90% for DTP3 and MMR, among others.

Data Quality Assessment

In order to compare the results with those of a data quality self-assessment (DQS) conducted in 2009, the data quality component of the evaluation was done using the same questionnaires and forms used in 2009. The objectives of this DQS were to evaluate quality aspects of the information system*, the timeliness of the reporting and the accuracy of the information produced by the EPI coverage monitoring system at different levels.

The team took the opportunity to assess the development of the new EPI information system (SIMSPA), which is a sub-system of Paraguay's MSPyBS Health Information System. The SIMSPA is a nominal information system that integrates three modules: 1) a nominal registry of doses administered to calculate vaccination coverage; 2) a vaccine

inventory and stock management; and 3) epidemiological surveillance of vaccine-preventable diseases.

As in 2009, the DQS results showed differences in the different places evaluated regarding the compliance with the norms and good practices, and in data agreement when comparing data from one level to the next in the data flow (accuracy). Reporting completeness and timeliness were not quantified due to limitations in the use of date stamps when receiving reports. In general, the 2011 results suggest improvements in the quality and accuracy of numerators when compared with the 2009 DQS.

The SIMSPA is a sub-system of the Web-based nominal information system, which is developed by the MSPyBS General Bureau of

Strategic Health Information. At the time of the assessment, the system was in a period of testing and its introduction is expected for 2012. Given the technology used for its development, this application has an enormous potential to help manage the EPI at all levels, provided that data entry is done as close as possible to the vaccination in time and place. The SIMSPA can interoperate with other modules and subsystems of the Health Information System and other information systems such as the civil registry. It can also link to mobile technologies for data collection and for sending alerts. It will be important to maintain the use of the current information system "EPI visual" until the SIMSPA can produce data of quality at least comparable with the data produced by the current system. ■

* A system of information defined as the people involved in the collection and processing of data, practices of registration, the flow of data, and the activities conducted to process and add this data and information, including the software if it exists.

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with tools and methods to gather the necessary data and information to guide decision-makers in developing evidence-based policies for cervical cancer prevention and control.

Objectives of the workshop

1. To review scientific evidence on new technologies for cervical cancer prevention and control, including the HPV vaccine for adolescent girls and secondary prevention strategies for adult women.
2. To explore the use of economic evaluations to inform evidence-based cervical cancer prevention and control policies.
3. To build national capacity using ProVac's CERVIVAC Model to address the following two policy questions:
 - What is the investment value of introducing the HPV vaccine in my country?
 - Which cervical cancer screening strategy has the greatest investment value in my country?
4. To discuss and develop a plan for assessing the HPV vaccine and cervical cancer screening strategies in order to strengthen the national cervical cancer prevention and control program.

Summary of the workshop

The workshop had 140 participants representing professionals from 26 countries of the Region and from several international organizations and academic institutions. Among the international participants were experts from the World Health Organization, the ProVac Centers of Excellence, Harvard University, the London School of Hygiene and Tropical Medicine, the Sabin Vaccine Institute, the Supporting National Independent Immunization and Vaccine Advisory Committees Initiative, the Program for Appropriate Technology in Health (PATH), the International Planned

Parenthood Federation, and the International Union against Cancer (IICC, its initials in French). Each country was represented by an average of 4 participants, which included the EPI manager, the cervical cancer program manager, a health economist, and the PAHO focal point on immunization.

The meeting gave participants the opportunity to:

1. review the scientific evidence concerning new technologies for the prevention and control of cervical cancer including the HPV vaccination of adolescent girls and secondary prevention strategies for adult women;
2. explore how economic evaluations can be used in order to prepare evidence-based policies for the control of this disease;
3. understand the conceptual base and the components of the ProVac CERVIVAC model as well as the policy questions that the model can help answer; and
4. discuss and develop a strategic plan for strengthening the evidence base necessary to make informed decisions regarding the HPV vaccine and cervical cancer screening strategies.

PAHO/WHO recommends considering the introduction of the HPV vaccine as part of an integrated package of interventions for the prevention and control of cervical cancer and other health services. These interventions will provide greater protection against cervical cancer to adolescent girls (through vaccination) and to adult women (through a strengthened cervical cancer screening program). As such, it was emphasized that it is preferable to develop a program that increases protection against cervical cancer for every woman today. Finally, the workshop emphasized the important role of the national immunization and cervical cancer professionals in evaluating the introduction of the HPV vaccine and

implementing strategies to strengthen cervical cancer screening in any given country.

The first day of the workshop featured renowned subject-matter experts, who presented on the following: technical update on immunization and cervical cancer control activities in the Americas; the natural history of HPV infection and of cervical cancer disease; scientific evidence on new technologies for the prevention and control of this disease; and an introduction to basic concepts on economic analyses and to the conceptual basis of the CERVIVAC model.

During the second and third day of the meeting, the participants had the opportunity to better understand the model through six practical exercises. Trained facilitators, many of whom are currently leading studies using the CERVIVAC model in their countries, supported participants. The hands-on exercises not only allowed participants to become familiar with the structure and assumptions of the model but each exercise aimed to facilitate discussion among the multidisciplinary country teams. The teams discussed the cervical cancer control strategies their countries would like to evaluate, as well as the relevant local sources of information available in their countries. Each exercise was introduced by a country where the model was piloted prior to the workshop (Argentina, Bolivia, Jamaica, and Paraguay). After the completion of each exercise, there was an opportunity to review the results, comments, and observations of each team. In the end, the participants developed a strategic plan for strengthening the scientific evidence base that will serve to guide the next steps in the process.

Participant feedback of the workshop:

- The participants provided positive feedback concerning the model and there was general acceptance of the methodology.
- The involvement of both the immunization program and the cervical cancer control program was considered very important since the two programs will have to work together to form evidence-based policies on cervical cancer control.
- The attendees recognized that the promotion of interprogrammatic, multidisciplinary teams will serve to support decision-making and the process of planning and implementing the program.
- The participants appreciated the quality of the presentations and logical content flow of the workshop.
- The participants who attended previous ProVac workshops appreciated the noticeable shift in focus from providing training only on economic evaluation tools to providing training on developing a strategic plan to gather all relevant evidence to inform policymaking.
- The attendance of facilitators from countries that had piloted the tool was regarded as a key factor for the success of the workshop.

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Participant suggestions for future workshops and the CERVIVAC model:

- Devote more time for model exercises.
- Continue sharing digital versions of all the materials.
- Consider making an adjustment to the model so that the users can compare the bivalent and quadrivalent HPV vaccines.
- Consider the possibility of including a composite model result that represents the cost-effectiveness of combining strategies, such as vaccinating girls and screening adult women not eligible for vaccination.
- Add to the model definitions on “confusing” or “easily misinterpreted” concepts (e.g. “follow up”, “coverage of the current screening”).
- It was suggested that PAHO facilitate exchange of information and data among countries.

Results and conclusions

The workshop helped empower participants to promote evidence-based decision making at the local level as their countries look towards making changes to current cervical cancer control policies. In addition, participants increased their general knowledge on five key topics:

1. evidence-based decisions;
 2. economic evaluations;
 3. strategies for cervical cancer prevention and control;
 4. the use of scenario analysis; and
 5. the interpretation of cost-effectiveness analyses.
- The increase in knowledge among participants was clearly evident by results from a participant survey administered pre and post workshop. The survey included questions about participants' level of knowledge and attitudes with respect to the five aforementioned key topics.
 - The proportion of participants that reported high or very high knowledge levels for the five topics post-workshop almost doubled:
 - Proportion of participants who reported high or very high knowledge of economic evaluations increased from 33% pre-workshop to 67% post-workshop;
 - Proportion of participants who reported high or very high knowledge of cervical cancer control strategies increased from 45% pre-workshop to 74% post-workshop;
 - Proportion of participants who reported high or very high knowledge of evidence-based decisions increased from 50% pre-workshop to 82% post-workshop;
 - Proportion of participants who reported high or very high knowledge of the interpretation of cost-effectiveness studies increased from 54% pre-workshop to 74% post-workshop;
 - Proportion of participants who reported high or very high knowledge of sensitivity analysis increased from 23% to 82% post-workshop. ■

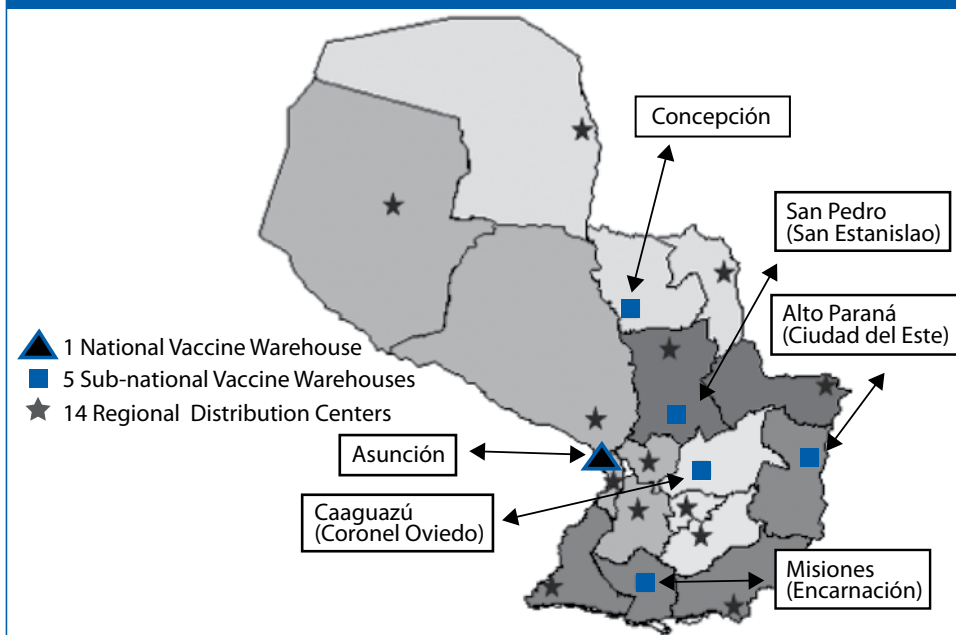
1. *Immunization Newsletter*, April 2010: Vol. XXXII, No. 2: ProVac: Essential Components of a Cost-effectiveness Analysis for Rotavirus Vaccine.

Paraguay's Evaluation of the Vaccination Supplies Stock Management (VSSM) Software

In January 2010, the Pan American Health Organization (PAHO) began piloting a software to manage and control vaccines, syringes and other supply inventories (Vaccine Supplies Stock Management - VSSM)¹ in Member States' National Immunization Programs. The VSSM was developed by the World Health Organization (WHO) and is based on a Microsoft Access platform. It can be implemented at any level, from local to national. The introduction of new vaccines in recent years, many of which can be expensive, justifies the implementation of effective and easy to use tools for stock management.

Bolivia, Honduras, Nicaragua, Paraguay, and Venezuela were selected to carry out pilot programs using this software. During 2010, four workshops were held to train vaccine warehouse management and cold chain management personnel, as well as the Expanded Program on Immunization (EPI) managers on how to use this new software.

Map of Warehouses for Storage and Distribution of Vaccines, Paraguay, 2011



1. *Immunization Newsletter*, December 2010, Vol. XXXII, No.6: Vaccination Supplies Stock Management [VSSM]. Available at: <http://new.paho.org/inb/>.

See **VSSM** on page 5

VSSM continued from page 4

Paraguay was selected to evaluate and document the VSSM's usefulness and effectiveness. Paraguay's population consists of 6,451,122 inhabitants. It is divided into 18 departments and 236 municipalities. The EPI has a national vaccine warehouse located in the capital, Asunción. Five regional vaccine warehouses are located in the following health regions: Caaguazú, Concepción, Misiones, Alto Paraná, and San Pedro. Paraguay implemented the VSSM at the national vaccine warehouse in May of 2010. Subsequently, the implementation was expanded to the 5 regional warehouses in July 2010. In January 2011, the training on the installation and use of the VSSM to information technology personnel was expanded to the other 14 health regions (see map on previous page).

Objectives of the evaluation:

- Evaluate and document:
 - The usefulness, applicability, efficiency and operability of the VSSM Software for:
 - Decision-making on the logistics for receipt, storage and distribution of vaccines and supplies used by the EPI.
 - Improvement in the operations related to the management of immunobiologicals and supplies in warehouses.
 - Experiences and difficulties in the management of the VSSM:
 - Data entry
 - Use of the reports
 - User-friendliness of the VSSM
 - Improving the use of the VSSM
 - Suggestions and recommendations
 - Suggestion for improved training

Methods:

- PAHO's Comprehensive Family Immunization Project, in the Area of Family and Community Health (FCH/IM), developed an instrument/guide to be used in the evaluation of the VSSM's management, usefulness and effectiveness. This instrument consists of two types of questions: open-ended and "yes"/"no".
- Observation and interview visits were conducted and the instrument was applied to EPI authorities and VSSM users at the National Center of EPI Vaccines as well as in four regional vaccine warehouses: Alto Paraná, Caaguazú, Concepción, and San Pedro.

Main findings:

- Management of VSSM
 - Interviewed personnel demonstrated both knowledge and use of VSSM.
 - Interviewed personnel stated that the VSSM is reliable and user-friendly.

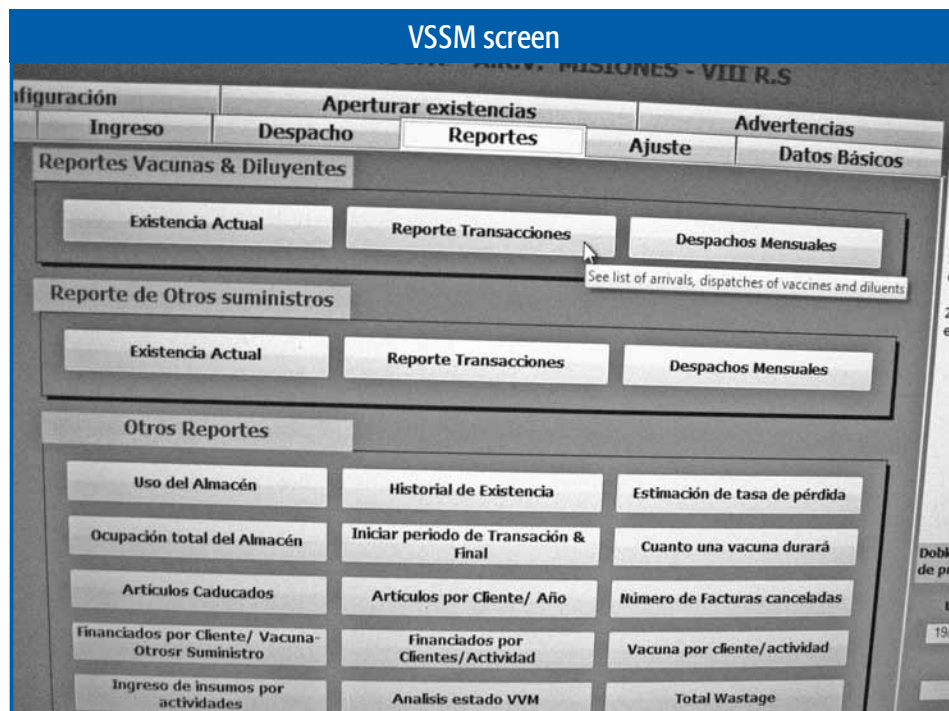


VSSM Evaluation team, Paraguay, 2011

- A crossed-referenced control between the physical vaccine supplies available and the "in existence" report generated by the VSSM was carried out in each vaccine warehouse. This is done in order to confirm that the amount of vaccines in existence in the cold storage rooms were represented by the quantity provided in the VSSM. It is worth noting that the physical count coincided with the VSSM report in all cases.
- The invoicing system has been used to identify lot number, expiration date, supplier, and the location in the warehouse of vaccines, syringes and other supplies to be distributed.
- Seven reports are primarily used: receipt of supplies, dispatches, current existence, storage space available, supplies by client, current stock and invoices.
- The EPI manager receives the following reports monthly: receipt of supplies, dispatches, and current stock.
- The following reports are sent quarterly to the Department of Financing: receipt of supplies and deliveries.
- VSSM triggers the following alerts:
 - Expiration date: 6 months/< less than.
 - Maximum and minimum stock in existence: 3 months
- Each of the five regions sends the "data file" to the chief of the national vaccine warehouse monthly.
- Report usefulness
 - Interviewed personnel stated that the VSSM generates reports that contain the required information immediately, reliably, and in a way that facilitates inventory management processes.
- System operators at all levels reported that the use of the VSSM had a positive impact on their daily work, in addition to the usefulness of the reports generated by the VSSM. These reports meet the needs within the management processes for the administration of vaccines and supplies.
- Reports generated by the VSSM on "warehouse use" provide useful and accurate information on the current storage capacity available in the refrigerated and air-conditioned environments (diluent, syringes, safety boxes and general supplies).
- The VSSM generates a report facilitate the immediate location of vaccines and supplies by class, lot, expiration date, supplier. Interviewed personnel indicated that this information is of great value.
- Warehouse management: what processes changed after the installation of the VSSM?
 - Before the implementation of the VSSM, a traditional inventory management system using Excel tables and paper files was used. Although well organized, this approach was time consuming and challenging for obtaining reliable data. The implementation of the VSSM has made it possible to integrate these multiple manual processes into a single database and reduce errors.
 - With the introduction of the VSSM, the processes and information of the inventory management and control were facilitated.

VSSM continued from page 5

- The VSSM has provided the necessary alerts for preventing shortages and over-stocking vaccines and supplies. It has also generated alerts on the expiration dates, which have been useful in minimizing vaccine wastage.
- General observations
 - In general, the VSSM was regarded as a very useful and efficient tool at the national level. The EPI manager based the decision to expand the VSSM to the five regional vaccine warehouses and subsequently, to the remaining 14 health regions.
- Training and supervision
 - A training program was developed and implemented by the chief of the national vaccine warehouse and the EPI information system specialist. They had been previously trained in a workshop carried out by PAHO and the Bolivian Ministry of Health. The training program was implemented in two phases under the coordination of the EPI manager.
 - Five staff members responsible for the regional warehouses were trained in July 2010. Personnel responsible for the information systems in the 14 remaining health regions were trained in January 2011.
 - A supervisory visit was carried out after the implementation of the VSSM in the five regional warehouses



Main conclusions:

- The implementation of the VSSM has resulted in improvements of the management inventory processes related to the handling of vaccines and other supplies used by the immunization program.
- The VSSM is a useful, effective and reliable tool that integrates all management information from inventory management processes into a single database.
- Staff is knowledgeable on the use of the VSSM and how to generate and access reports on receipts and dispatches of vaccine and other supplies.
- The introduction of the VSSM supports better management and planning of inventories. ■

Regional Meeting on Rotavirus and Bacterial Pneumonia/ Meningitis Surveillance – Montevideo, Uruguay, 16-17 November 2011

On 16-17 November, a Regional meeting on rotavirus and bacterial pneumonias/ meningitides surveillance took place in Montevideo, Uruguay. The event was inaugurated by the Uruguayan Minister of Health, Dr. Jorge Venegas, PAHO's representative in Uruguay, and PAHO's Immunization Project Coordinator. The meeting included the participation of 102 professionals from 20 Latin American and Caribbean (LAC) countries; professionals from the Centers for Disease Control and Prevention of the United States (CDC), and from the Fiocruz Foundation of Brazil. Each country was represented by the national rotavirus and bacterial pneumonia/meningococcal surveillance focal points; a central rotavirus laboratory representative; a SIREVA II¹ representative, and PAHO's in-country immunization focal point. This meeting provided the opportunity to review evidence

concerning the importance and usefulness of surveillance data in assessing the impact of new vaccines.

The main conclusions and key messages highlighted by the speakers are listed below:

- Sentinel surveillance can be used as a platform to conduct vaccine impact assessments, including effectiveness studies.
- Improving the quality of the data being sent to PAHO and WHO is critical. Currently, it is clear that data is being sent without a preliminary analysis at the country level.
- It is preferable to have just one sentinel site with good technical quality, sending reliable and timely information, laboratory and epidemiological capabilities, rather than having several sites suffering in any or all of these areas.

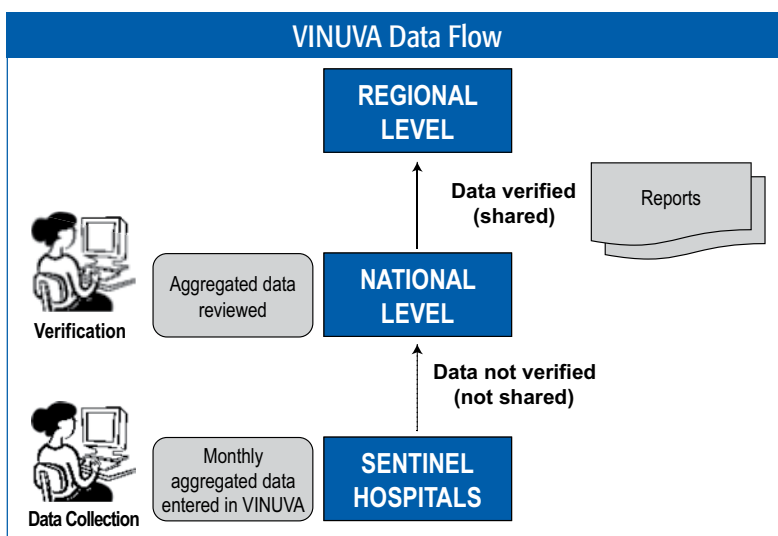
- Surveillance is the cornerstone for the introduction of new vaccines. Laboratory surveillance should go hand-in-hand with epidemiological surveillance.
- Before introducing a new vaccine, countries should plan how they will measure its impact. There are several methods to evaluate the impact of a vaccine, all with different weaknesses and strengths. However, the most important aspect is having reliable data to feed the model. In fact, several methods for evaluating vaccine impact can be used, depending on the data available in each country.
- The use of the new VINUVA tool for data reporting to PAHO will help countries improve surveillance data quality. Countries should begin using VINUVA as soon as possible. ■

1 SIREVA II is the Regional laboratory network for bacterial invasive diseases. *Immunization Newsletter*, August 2010, Vol. XXXII, No. 4: What's new about new vaccine surveillance?

VINUVA – New Tool for the Monthly Reporting of Data from Sentinel Surveillance of Rotavirus, Pneumonia and Meningitis

VINUVA (from “New Vaccine Surveillance” in Spanish), a web-based computer platform, was developed by the Pan American Health Organization (PAHO) to facilitate the monthly reporting of aggregated data from both the sentinel hospital surveillance of rotavirus diarrhea as well as invasive bacterial diseases, particularly pneumonia and meningitis in children aged <5 years. This platform comes to replace the Excel files and MS Access database that countries were using to report their data since the implementation of both surveillance networks in the Region of the Americas. As it is web-based, VINUVA simplifies the monthly sending of data to PAHO as well as maintaining the regional database. The system also facilitates the quality control of data and the generation of standardized reports. The countries can enter their data directly to VINUVA; however, data are sent to PAHO only after they have been validated by the surveillance officer in the country.

V I N U V A includes the following variables: country, sentinel hospital, and the month, year, and number of hospitalizations in children aged <5 years. In the case of rotavirus, the specific variables included in the system are: the number of diarrhea admissions in children aged <5 years; number of children aged <5 years meeting the case definition; number of stool samples from children aged <5



number of children aged <5 years; number of probable cases with a blood specimen; number of probable cases with a specimen of pleural fluid; number of confirmed cases by etiological agent [*Haemophilus influenzae* type b (Hib), Hi (no b), *Streptococcus pneumoniae* (pneumococcus) and other bacteria or contamination]; and the number of cases that died of pneumonia. For bacterial meningitis, data is entered for the number of suspected meningitis cases in children aged <5 years; number of suspected meningitis cases with cerebrospinal fluid and study form completed; number of probable cases of meningitis by age group and total; number of confirmed cases by age groups and isolated agent; and the number of cases that died of bacterial meningitis. A challenge for the pneumonia and meningitis surveillance is to separate the cases by age group and vaccination status, and linking VINUVA to the information system for reporting the laboratory data from the SIREVA network.

bacterial pneumonia; number of probable cases with a blood specimen; number of probable cases with a specimen of pleural fluid; number of confirmed cases by etiological agent [*Haemophilus influenzae* type b (Hib), Hi (no b), *Streptococcus pneumoniae* (pneumococcus) and other bacteria or contamination]; and the number of cases that died of pneumonia. For bacterial meningitis, data is entered for the number of suspected meningitis cases in children aged <5 years; number of suspected meningitis cases with cerebrospinal fluid and study form completed; number of probable cases of meningitis by age group and total; number of confirmed cases by age groups and isolated agent; and the number of cases that died of bacterial meningitis. A challenge for the pneumonia and meningitis surveillance is to separate the cases by age group and vaccination status, and linking VINUVA to the information system for reporting the laboratory data from the SIREVA network.

VINUVA screen

País: 340 - HONDURAS
 Hospital: 29 - H. OCCIDENTE, STA. ROSA COPÁN
 Mes: JULIO - 2011

Atrás Limpiar Grabar

1. Núm. hospitalizaciones en menores de 5 años: 370

2. Núm. de hospitalizaciones con diarrea en menores de 5 años: 41

3. Núm. de niños menores de 5 años que cumplen con el criterio de sospechosos: 32

4. Núm. de niños con fichas y muestras de heces colectadas

Menor de 12 meses	12 - 23 meses	24 - 59 meses	Total < 5 años
13	12	7	32

5. Núm. de muestras de heces positivas para rotavirus con fichas

Menor de 12 meses	12 - 23 meses	24 - 59 meses	Total < 5 años
Vacunado: 3	Vacunado: 4	Vacunado: 0	Vacunado: 7
No vacunado: 1	No vacunado: 0	No vacunado: 2	No vacunado: 3
Sin información: 0	Sin información: 1	Sin información: 0	Sin información: 1

6. Núm. de defunciones

Menor de 12 meses	12 - 23 meses	24 - 59 meses	Total < 5 años
Vacunado:	Vacunado:	Vacunado:	Vacunado:
No vacunado:	No vacunado:	No vacunado:	No vacunado:

<p>VINUVA - Advantages</p>	<ul style="list-style-type: none"> • Via Web, does not require installing programs. It is accessible from any location/time with an Internet connection. • Captures in real-time aggregated data of new vaccines by hospital per month. • Enables users of accredited health ministries and regional offices (PAHO and WHO) access to verified data reports.
<p>VINUVA – Next steps</p>	<ul style="list-style-type: none"> • Each country should identify for each hospital: <ul style="list-style-type: none"> ⇒ Person responsible for data logging (collector). ⇒ Person responsible for verifying the data (checker). • Each one of these individuals should: <ul style="list-style-type: none"> ⇒ Register and train in the DEMO: www.paho.org/vinuva/demo. ⇒ Register and enter the data on the actual VINUVA: www.paho.org/vinuva. ■

The *Immunization Newsletter* is published every two months, in English, Spanish, and French by the Comprehensive Family Immunization Project of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization (WHO). The purpose of the *Immunization Newsletter* is to facilitate the exchange of ideas and information concerning immunization programs in the Region, in order to promote greater knowledge of the problems faced and possible solutions to those problems.

An electronic compilation of the *Newsletter*, "Thirty years of *Immunization Newsletter*: the History of the EPI in the Americas", is now available at: www.paho.org/inb.

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Remembering Dr. Eugenia Sacerdote de Lustig

It is with great sadness that I received the news of the passing of Dr. Eugenia Sacerdote de Lustig, a renowned researcher at the National Council for Scientific and Technical Research (CONICET) in Argentina and head of the Carlos G Malbrán National Institute of Virology.

Dr. Sacerdote de Lustig, who was 101 when she died on Nov. 27, dedicated her life to the study of living cells, and her research made key contributions to the control of poliomyelitis.

On behalf of the Pan American Health Organization/World Health Organization (PAHO/WHO) and for myself, I would like to express my deepest sympathy to her family, friends and colleagues.

Born in Italy in 1910, Dr. Sacerdote de Lustig was one of the first women to become a doctor in her country. In 1939, she fled to Argentina to escape fascism. At the University of Buenos Aires, she worked diligently and passionately in the area of in-vitro cell culture, facilitating research on a wide range of viruses and tumors.

In 1954, as head of virology at the Malbrán Institute, she was asked by the Ministry of Public Health to study poliovirus, which put her at constant risk of contagion. Thanks to a WHO fellowship, she was able to visit a number of centers in the United States and Canada to study the preparation of the Salk and Sabin vaccines.

She joined CONICET in 1960 and continued there as a researcher until 2000. She also taught, for example, as a biology professor in the Faculty of Exact and Natural Sciences, where she developed dozens of followers.

In her capacity as president of the Albert Einstein Institute for Medical Research and director of research at the Angel Roffo Institute, Dr. Sacerdote de Lustig authored or co-authored more than 180 scientific publications.

Among her many awards and honors were Illustrious Citizen of the City of Buenos Aires and the Bicentennial Medal, presented by the Argentine Senate. At 95, she published an autobiography, *From the Alps to Rio de la Plata*.



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Far beyond the age when most researchers retire, she continued investigating Alzheimer's disease, genetics, and experimental oncology. She was truly a model investigator whose work and commitment will long be admired by those of us who knew her and her work. ■

Mirta Roses
Director, PAHO