Webinar

Digital Transformation for AFP and MR Surveillance: Unveiling VPD-SMART

26th November 2024 | 10:00 a.m. (EST)

PAHO Pan American Health Organization

World Health Organization Americas Region

WELCOME REMARKS

Dr. Daniel Salas
Executive Manager
CIM, PAHO

PAHO

Pan American Health Organization

World Health Organization
REGIONAL OFFICE FOR THE Americas

VPD-SMART

- **Importance and history** of information systems for VPD.
- **MR:** update of variables and relevance in the surveillance system.
- **AFP :** Updated analysis of surveillance data.
- VPD-SMART as a **new information system**.
- **Experiences of Paraguay** as a pilot country.
- **Lessons Learned and Implementation mechanisms** for VPD-SMART.
- Let's Talk: **Q&A** and Discussion.

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INFORMATION SYSTEMS FOR VPD

Claudia Ortíz
Information System Specialist
CIM, PAHO

Importance and history of information systems for Vaccine-preventable diseases (VPD).

PAHO's Role to Collect, Analyze and Disseminate Immunization and VPD Data

*"The collection of immunization and **VPD data for creating indicators** has been instrumental in developing control and elimination strategies for vaccine-preventable diseases in the Americas and in monitoring their progress.*

*This has allowed the Western Hemisphere to be **the first WHO Region to be certified polio-free and the first to have interrupted the endemic transmission of measles and rubella**."*

Adapted from the PAHO EPI Newsletter, Feb 2005

- Necessary data to guide and inform regional immunization strategies
- Assist with estimating the burden of vaccine-preventable diseases and assess the impact of vaccination strategies
- Data used to report progress to partners who fund PAHO in support of countries
- PAHO gives feedback to countries on the immunization and VPD situation in the Americas

The Evolution of PAHO's Surveillance Information Systems

PAHO's VPD Surveillance Data Flow

WHO HQ Office

Global Database

World Health Organization

PAHO Regional Office

Regional Database

Pan American Health Organization

21 countries
1 Sub-region (Caribbean)

Country & Lab Databases

Health facilities and subnational reporting units

Subnational Databases

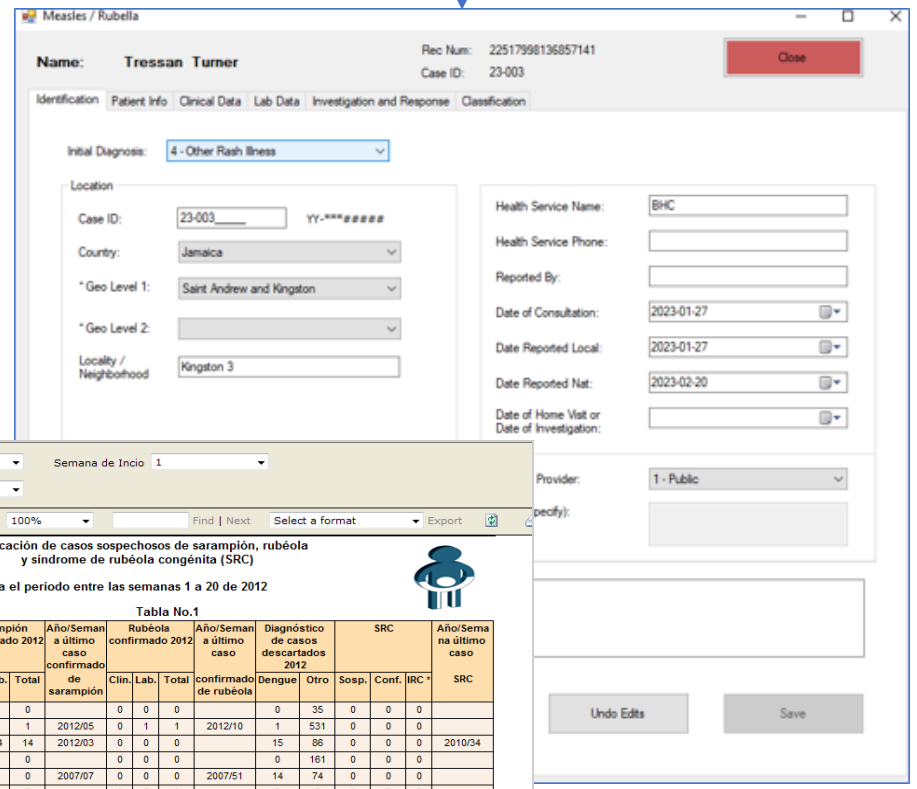
Current VPD Surveillance Reporting Systems in the Americas region

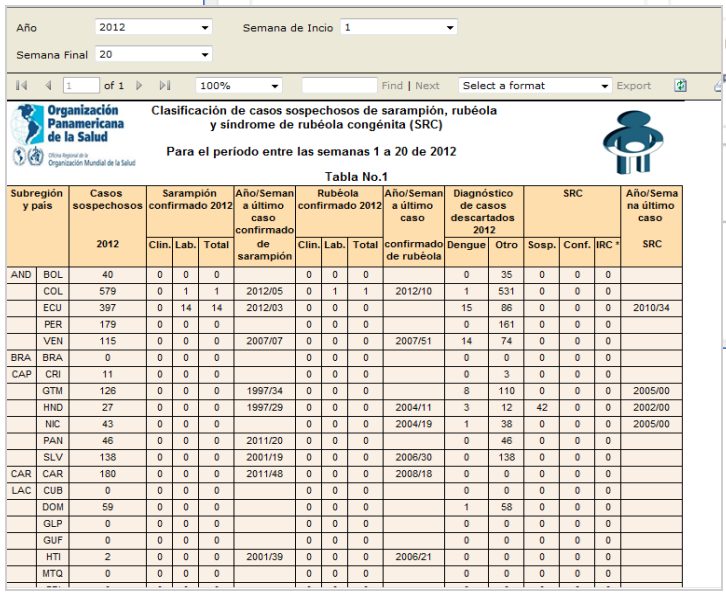
System	No. Countries	Description
VPD-SMART	1	Countries reporting via the new Official PAHO system. VPD-SMART.
ISIS	19	Most countries report via ISIS (Current PAHO System)
Mixed	1	Brazil use ISIS for AFP but no standard format for Measles
Non-ISIS	7	Countries using their own system

Challenges with ISIS

- Based on outdated technology
- Requires local installations
- No web-based capacity for real time data analysis

PAHO chose the Dhis2 platform to replace ISIS for VPD Surveillance in the new system: VPD-Smart





Subregión y país		Casos sospechosos 2012	Sarampión confirmado 2012 Clín.	Lab.	Total	Año/Semana último caso confirmado de sarampión	Rubéola confirmado 2012 Clín.	Lab.	Total	Año/Semana último caso confirmado de rubéola	Diagnóstico de casos descartados 2012 Dengue	Otro	SRC Sosp.	Conf.	IRC *	Año/Semana último caso SRC
AND	BOL	40	0	0	0		0	0	0		0	35	0	0	0	
	COL	579	0	1	1	2012/05	0	1	1	2012/10	1	531	0	0	0	
	ECU	397	0	14	14	2012/03	0	0	0		15	86	0	0	0	2010/34
	PER	179	0	0	0		0	0	0		0	161	0	0	0	
	VEN	115	0	0	0	2007/07	0	0	0	2007/51	14	74	0	0	0	
BRA	BRA	0	0	0	0		0	0	0		0	0	0	0	0	
CAP	CRI	11	0	0	0		0	0	0		0	3	0	0	0	
	GTM	126	0	0	0	1997/34	0	0	0		8	110	0	0	0	2005/00
	HND	27	0	0	0	1997/29	0	0	0	2004/11	3	12	42	0	0	2002/00
	NIC	43	0	0	0		0	0	0	2004/19	1	38	0	0	0	2005/00
	PAN	46	0	0	0	2011/20	0	0	0		0	46	0	0	0	
	SLV	138	0	0	0	2001/19	0	0	0	2006/30	0	138	0	0	0	
CAR	CAR	180	0	0	0	2011/48	0	0	0	2008/18	0	0	0	0	0	
LAC	CUB	0	0	0	0		0	0	0		0	0	0	0	0	
	DOM	59	0	0	0		0	0	0		1	58	0	0	0	
	GLP	0	0	0	0		0	0	0		0	0	0	0	0	
	GUF	0	0	0	0		0	0	0		0	0	0	0	0	
	HTI	2	0	0	0	2001/39	0	0	0	2006/21	0	0	0	0	0	
	MTQ	0	0	0	0		0	0	0		0	0	0	0	0	

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MEASLES AND RUBELLA

Update of variables and relevance in the surveillance system.

Pamela Bravo
Measles & Rubella immunization Specialist
CIM, PAHO

¿Why did we update the MR variables?

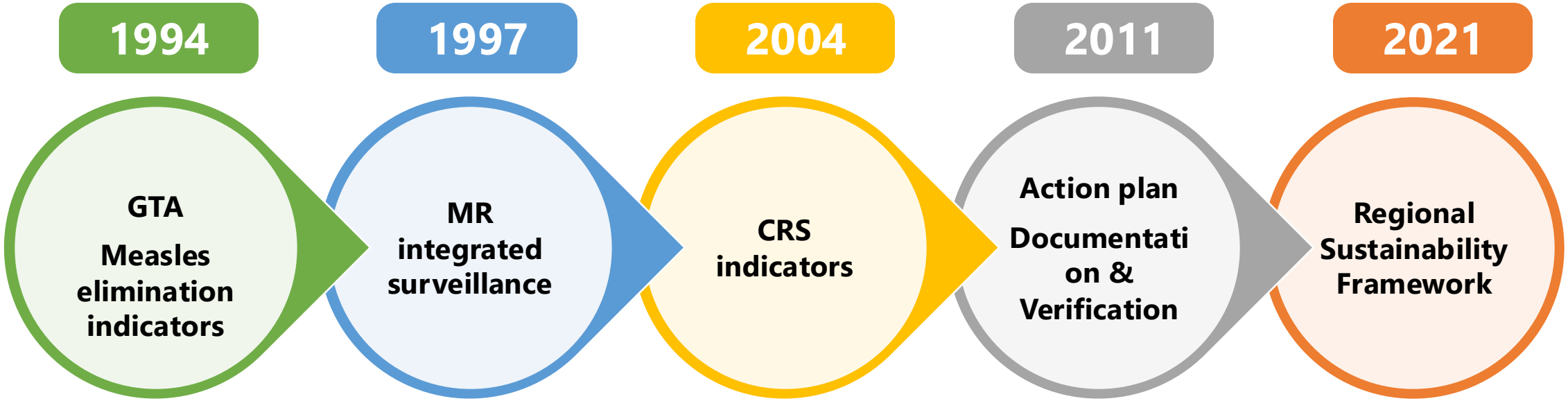
1. **Technological advancements**: enable the integration of interactive tools (dashboards) and automated data analysis workflows (reports), resulting in a more efficient and precise surveillance system.

2. **Epidemiological context**: surveillance variables are being adjusted to allow for a more granular and comprehensive analysis.

3. **Data quality**: refining variables and automating processes to capture necessary data fully and accurately for análisis.

4. **User feedback**: ISIS users highlighted practical difficulties and offered suggestions for improvement, leading to modifications of the variables.

Evolution of surveillance indicators of measles and rubella



- Experience from polio
- Weekly bulletin

- Rubella as a notifyable disease

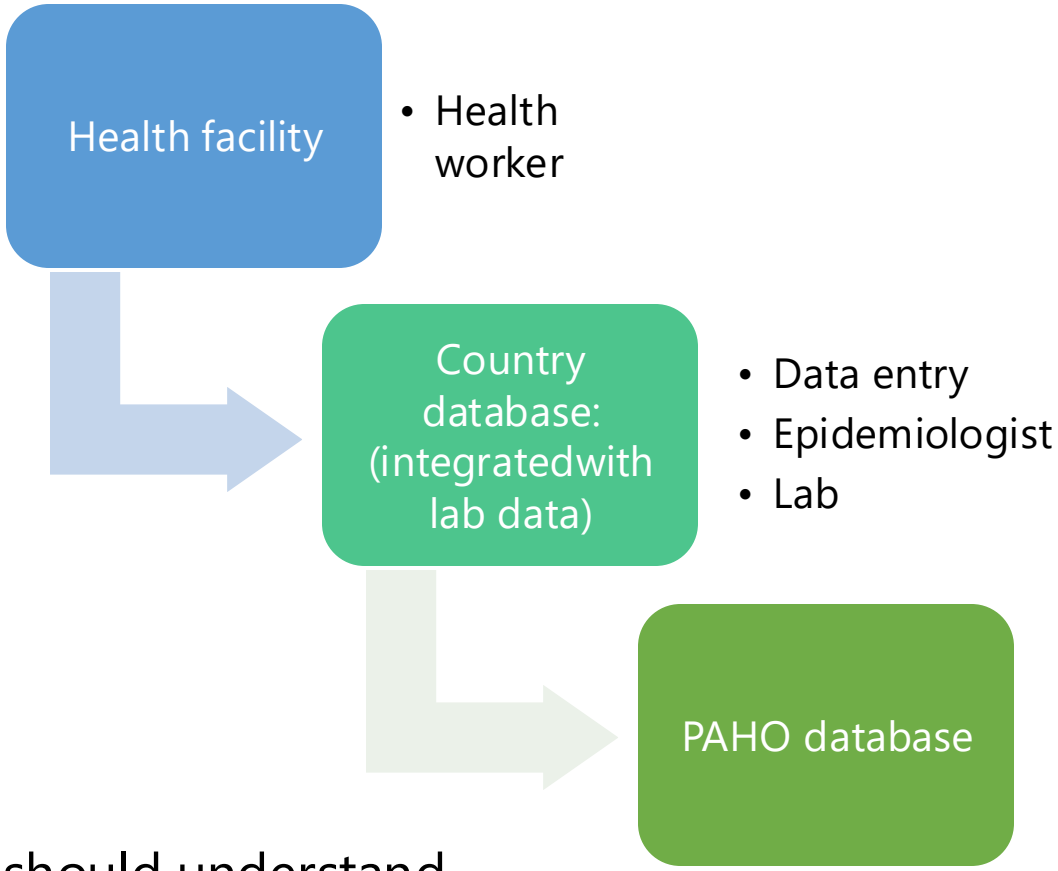
- CRS Definitions and indicators
- MR indicators revision
- Definition of Re-establishment of Elimination

- Indicators to evaluate surveillance data quality
- Contacts follow-up
- Viral detection

- **Data analysis granularity** (municipalities that report cases)
- **Data triangulation** using vaccination, surveillance, and laboratory data

Components of an MR investigation form

1. Notifying health unit
2. Patient information
3. Vaccine history
4. Patient clinical data
5. Lab data
6. Investigation
7. Response measures



Everyone involved in **entering surveillance data** should understand its purpose

MR investigation form

Initial Diagnosis: ☐ **1=Measles, 2=Rubella, 3=Dengue, 4=Zika, 5=Chikungunya, 6=Another febrile-exanthemic disease.**

Otra enfermedad febril exantemática: _____

I IDENTIFICATION OF THE REPORTING INSTITUTION

Case Number: _____	Name of reporting institution: _____
Country: _____	Telephone or email of reporting institution: _____
Subnational level*: _____	Reported by: _____
Municipality: _____	Date of consultation: ____/____/____ (Day Month Year)
	Date Reported, Local: ____/____/____ (Day Month Year)
	Date of investigation or home visit: ____/____/____ (Day Month Year)
	Date Reported, National: ____/____/____ (Day Month Year)
Detected by: ☐ 1=Health Service 2=Laboratory 3=Institutional Search 4=Community Case Search 5=Contact Investigation 6=Cases reported in the community 7=Self-reporting by toll-free number 88=Other 99=Unknown	Type of reporting institution: ☐ 1=Public 2=Private 88=Other, specify: _____

MR investigation form (2)

II PATIENT INFORMATION

Type of identification: ☐ *1=Social Security Number 2=Birth certificate 3= National Identification Number (ID card) 4=Passport 5=Residence Card*

Identification Number: _____

Names: _____ Last names: _____

Sex: ☐ 1=Masculine 2=Feminine 3=Other

Name of mother/father/guardian: _____ Municipality of residence: _____

Address: _____

Landmarks to locate the house: _____

Date of Birth: ____/____/____ (Day Month Year) If date of birth is unknown, age: _____ Year(s) _____ Month(s)

III VACCINATION HISTORY

Is the patient vaccinated against measles and rubella? ☐ 1=Yes 2=No 99=Unknown

If the vaccinating institution is known, please specify: _____

Type of Vaccine *	Number of doses(**)	Date of Last dose	Source of vaccination Information (***)
_____	_____	____/____/____ (Day Month Year)	_____

(*) 1=MMR – Measles Mumps Rubella, 2=MR – Measles Rubella, 3=MMRV – Measle Mumps Rubella Varicella, 4=Other (specify)
(**) 1,2,3, 4= 4 or more, 99 = Unknown
(***) 1=Electronic vaccination record, 2= Vaccination card, 3=Verbal, 4=Unknown

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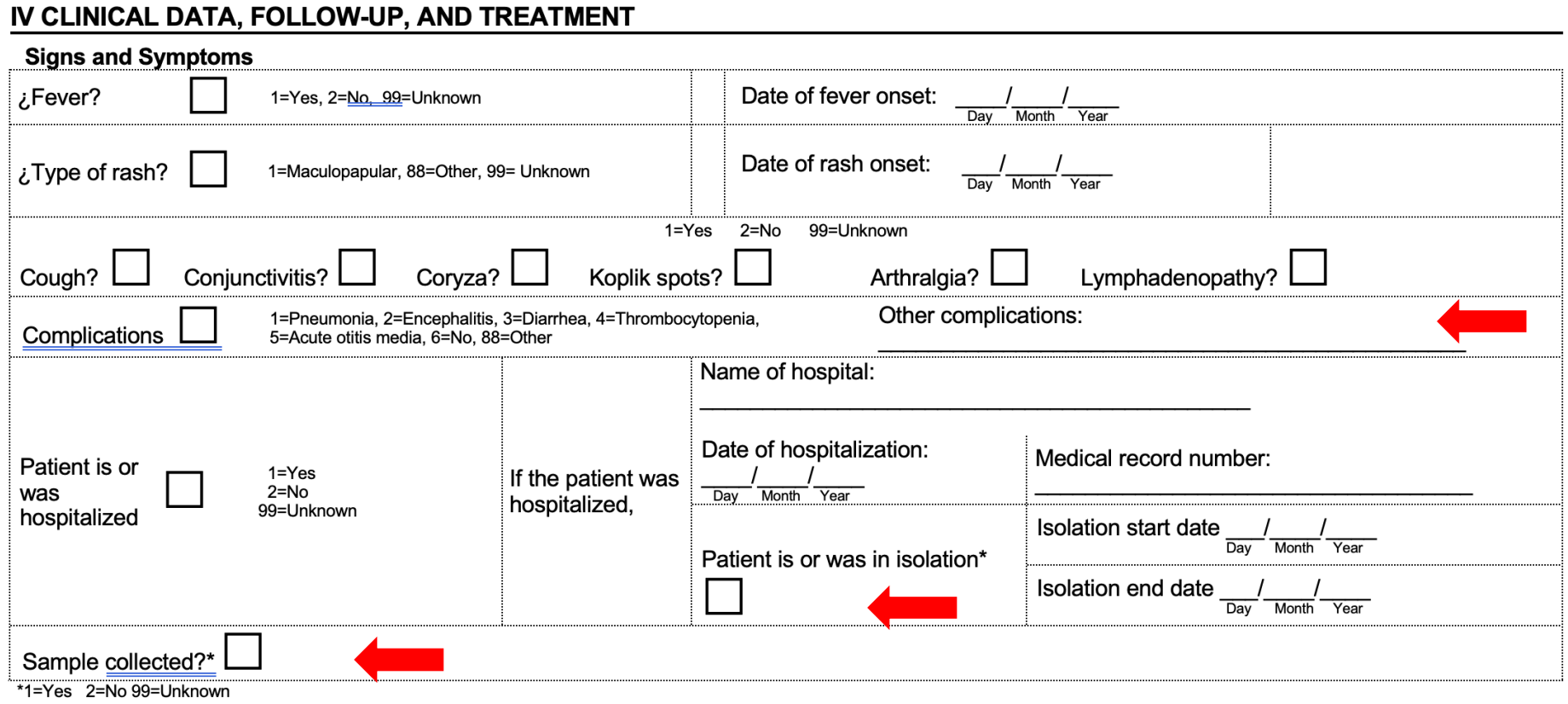
- Type of locality
- Ocupation
- Work/school address

MR investigation form (3)



IV CLINICAL DATA, FOLLOW-UP, AND TREATMENT

Signs and Symptoms

¿Fever? ☐ 1=Yes, 2=No, 99=Unknown — Date of fever onset: ___/___/___ (Day/Month/Year)

¿Type of rash? ☐ 1=Maculopapular, 88=Other, 99= Unknown — Date of rash onset: ___/___/___ (Day/Month/Year)

1=Yes 2=No 99=Unknown

Cough? ☐ Conjunctivitis? ☐ Coryza? ☐ Koplik spots? ☐ Arthralgia? ☐ Lymphadenopathy? ☐

Complications ☐ 1=Pneumonia, 2=Encephalitis, 3=Diarrhea, 4=Thrombocytopenia, 5=Acute otitis media, 6=No, 88=Other — Other complications: _____

Patient is or was hospitalized ☐ 1=Yes 2=No 99=Unknown

If the patient was hospitalized,

Name of hospital: _____

Date of hospitalization: ___/___/___ (Day/Month/Year)

Medical record number: _____

Patient is or was in isolation* ☐

Isolation start date ___/___/___ (Day/Month/Year)

Isolation end date ___/___/___ (Day/Month/Year)

Sample collected?* ☐

*1=Yes 2=No 99=Unknown

Moved

- Death
- Date of death
- Cause of death

MR investigation form (4)

V SPECIMENS AND LABORATORY TESTING

Obtain a serum sample and at least a sample for viral detection, preferably using a throat swab.

Specimen			Laboratory Tests							
Specimen number*	Type of specimen**	Date specimen obtained (Day/Month/Year)	Name of processing laboratory	Date specimen was sent to lab. (Day/Month/Year)	Date specimen was received (Day/Month/Year)	ID number of specimen in the lab.	Antigen †	Test type Δ	Results §	Date of Results (Day/Month/Year)
_____	_____	____/____/____	_____	____/____/____	____/____/____	_____	_____	_____	_____	____/____/____
_____	_____	____/____/____	_____	____/____/____	____/____/____	_____	_____	_____	_____	____/____/____
_____	_____	____/____/____	_____	____/____/____	____/____/____	_____	_____	_____	_____	____/____/____
_____	_____	____/____/____	_____	____/____/____	____/____/____	_____	_____	_____	_____	____/____/____

(*) 1=First sample, 2=Second sample, 3=Third sample (if warranted), 4=Fourth sample (if warranted)
(**) 1=Serum, 2=Nasopharyngeal Swab/Aspirate, 3=Throat Swab, 4=Urine, 5=Cerebrospinal Fluid, 88=Other
(†) 1=Measles, 2=Rubella, 88=Other (e.g., Dengue)
(§) 0=Negative, 1=Positive, 2=Inadequate Sample, 3=Indeterminate, 4=Sample was not processed 99=Unknown (no result available)
(Δ) 1= IgM, 2= IgG, 3= RT-PCR, 4=IgG Avidez, 5= Sequencing. If virus was detected, specify genotype and lineage: **Measles**: A, B1, B2, B3, C1, C2, D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, E, F, G1, G2, G3, H1, H2. **Rubella**: 1a, 1B, 1C, 1D, 1E, 1F, 1g, 2A, 2B, 2c

Comments:

_____

MR investigation form (5)

VI INVESTIGATION

Was institutional active case-finding implemented?	☐	1=Yes 2=No 99=Unknown	Number of suspected cases detected: _____
Was community active case-finding implemented?	☐	1=Yes 2=No 99=Unknown	Number of suspected cases detected: _____
Were there confirmed measles or rubella cases in the municipality of residence?	☐	1=Yes 2=No 99=Unknown	
Did the patient have contact with a pregnant woman?	☐	1=Yes 2=No 99=Unknown	
Did the patient travel outside of his/her state, province, or department of residence 7-23 days before rash onset?	☐	1=Yes 2=No 99=Unknown	If traveled:

Cities/Countries	Date of Arrival (Day/Month/Year)	Date of Departure (Day/Month/Year)
_____	____/____/____	____/____/____
_____		

Source of infection? ☐ 1=Mass public event, 2=Educational institution, 3=International transport, 4=Public space, 5=Contact at home, 6=Community, 7=Health center
99=Unknown, 88=Other _____

MR investigation form (6)

VII RESPONSE MEASURES

Was ring vaccination implemented?	☐ 1=Yes 2=No 99=Unknown	
Was rapid vaccination monitoring implemented?	☐ 1=Yes 2=No 99=Unknown	

Comments:

_____

VIII CLASSIFICATION

FINAL CLASSIFICATION:	☐ 1=Measles 2=Rubella 3=Discarded 4=Did not meet the case definition 77=Pending	Criteria for Confirmation:	☐ 1=Laboratory 2=Epidemiological link 3=Clinical	Criteria for Discarding:	☐ 1=Measles/Rubella IgM-neg 2=Vaccine reaction 3=Dengue 4=Parvovirus B19 5=Herpes 6 6=Allergic reaction 7=Did not meet the case definition 88=Other diagnosis, specify: _____
Contact of another case? ☐ 1=Yes 2=No 99=Unknown		Associated case ID number: _____			
Patient status: ☐ 1=Recovered 2=Transferred 3=Deceased 99=Unknown		If deceased, date of death: ____/____/____ Day Month Year Cause of death: _____			
Classified by: ☐ 1=National Immunization Program, 2= Epidemiological Surveillance Division, 3= Analysis Unit, 4= Expert Committee, 5=Other Date of final classification: ____/____/____ Day Month Year					

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- Date of start/Date of end of blocking vaccination
- % of vaccinated found?
- Contacts follow-up

Indicators for monitoring MR

Indicator	Definition	How to calculate
Notification rate	Annual rate of suspected cases of RH at the national and subnational levels.	*Numerator (N)*: Total number of reported suspected cases of RH. *Denominator (D)*: Total population at national/subnational level; per 100,000 inhabitants.
Appropriate research	>80% of suspected cases adequately investigated within **48 hours of** notification and at least **8 of the 11** endpoints complete.	*N*: 1) Cases having home visit within ≤48 hours of notification; **MORE.** 2) Cases with 8 of the 11 following data: 1. name or identifier, 2. place of residence, 3. sex, 4. age or date of birth, 5. date of notification, 6. date of investigation, 7. date of onset of rash, 8. date blood sample obtained, 9. presence of fever, 10. date of previous measles-rubella vaccination, and 11. travel history. *D*: Total number of suspicious cases reported

Indicators for monitoring MR (2)

Indicator	Definition	How to calculate
Adequate serum sample collection	>80% of cases with serum specimens obtained **within 30** days from the date of onset of exanthema.	*N*: Cases reported with blood sample obtained within 30 days after rash onset. (Date of sample collection – date of rash onset) *D*: Total number of suspicious cases reported
Timely arrival of samples	>80% of serum samples received in the testing laboratory within **<= 5 days** of collection.	*N*: Number of cases reported with sample received <=5 days from the date of sampling (Date on which the sample was received at the lab – date of sample collection) *D*: Total cases reported with at least 1 blood sample.
Timely laboratory results	>80% of serum samples with laboratory results reported in **<= 4 days** after receipt at the testing laboratory.	*N*: Number of cases with results reported within ≤ 4 days of sample receipt. (Date of result – Date on which the sample was received at the lab) *D*: Total number of cases with reported results

Considerations

1. The VPD-SMART automatically calculates surveillance MR indicators fostering ongoing monitoring by policy-decision makers.

2. All actors involved in **entering surveillance data** must understand the use and importance of this data to ensure data quality.

3. The VPD-SMART system provides automated business rules and calculations (such as epidemiological week) to enhance data accuracy. Countries with their own systems should explore implementing similar mechanisms.

4. A variable **dictionary** will be shared with countries using their own systems and submitting data through different mechanisms. This dictionary **will omit** personally identifiable information and country-specific case follow-up variables.

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ACUTE FLACCID PARALYSIS

Dra. Emilia Cain
AFP + RCC Surveillance Specialist
CIM, PAHO

Update of variables and relevance in the surveillance system.

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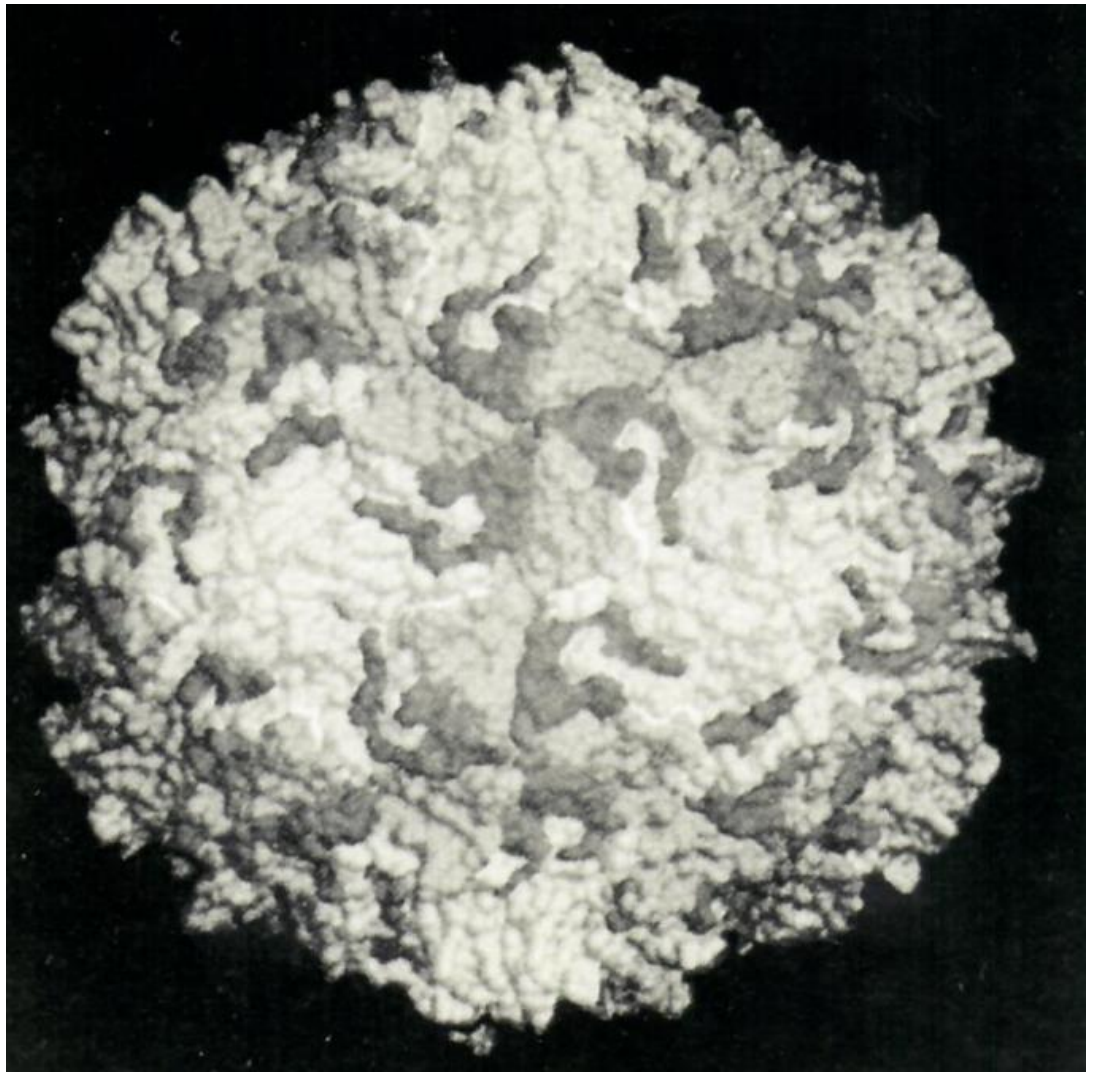
Content

1. Polio: Where We Stand Now
2. Sustaining elimination and reaching eradication
3. Adapting to new challenges: Variable changes



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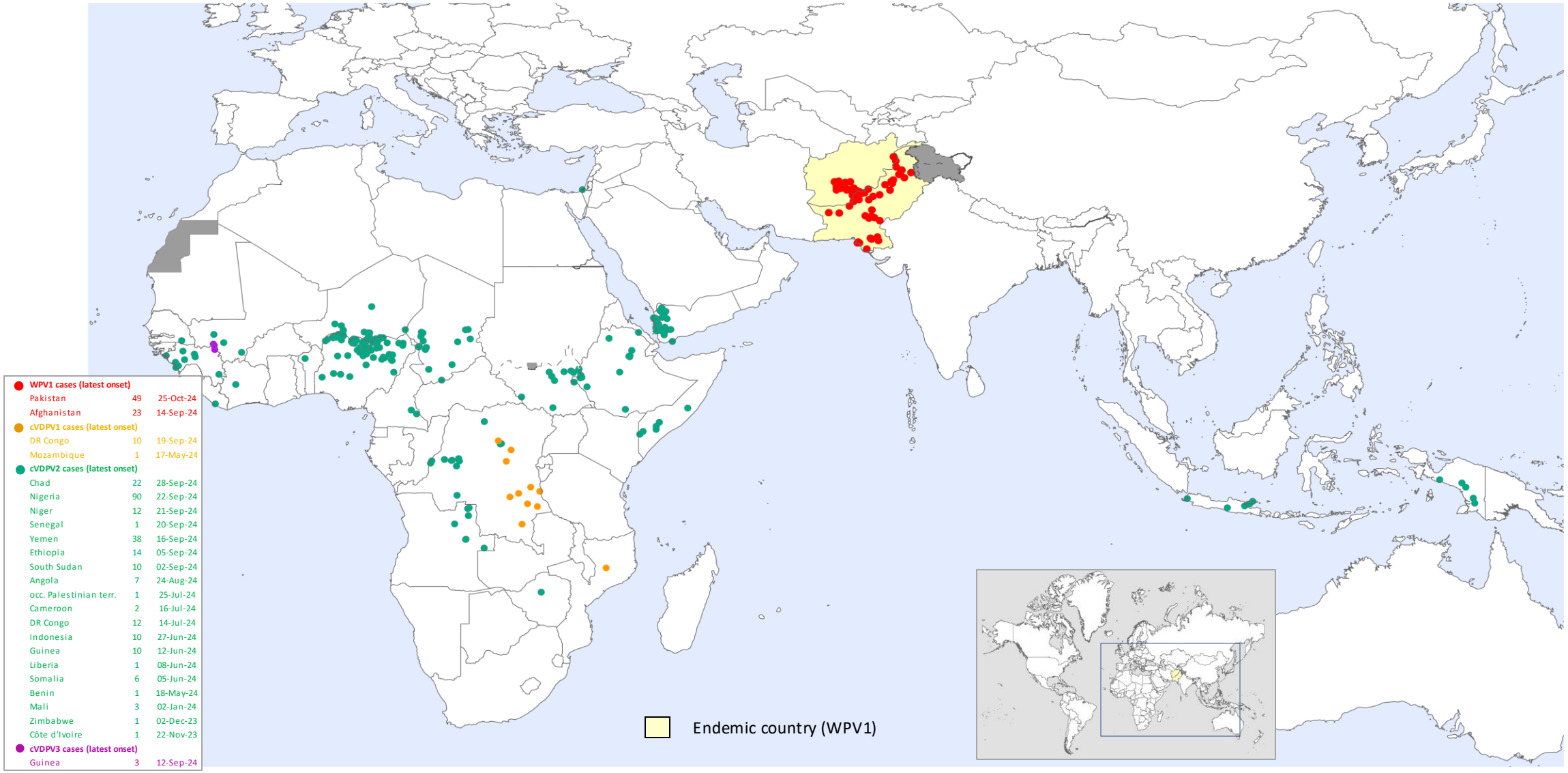
Polio: Where We Stand Now

Global WPV1 & cVDPV Cases[1], Previous 12 Months[2]



[1]Excludes viruses detected from environmental surveillance; [2]Onset of paralysis: 20 Nov. 2023 to 19 Nov. 2024

Data in WHO HQ as of 19 Nov. 2024

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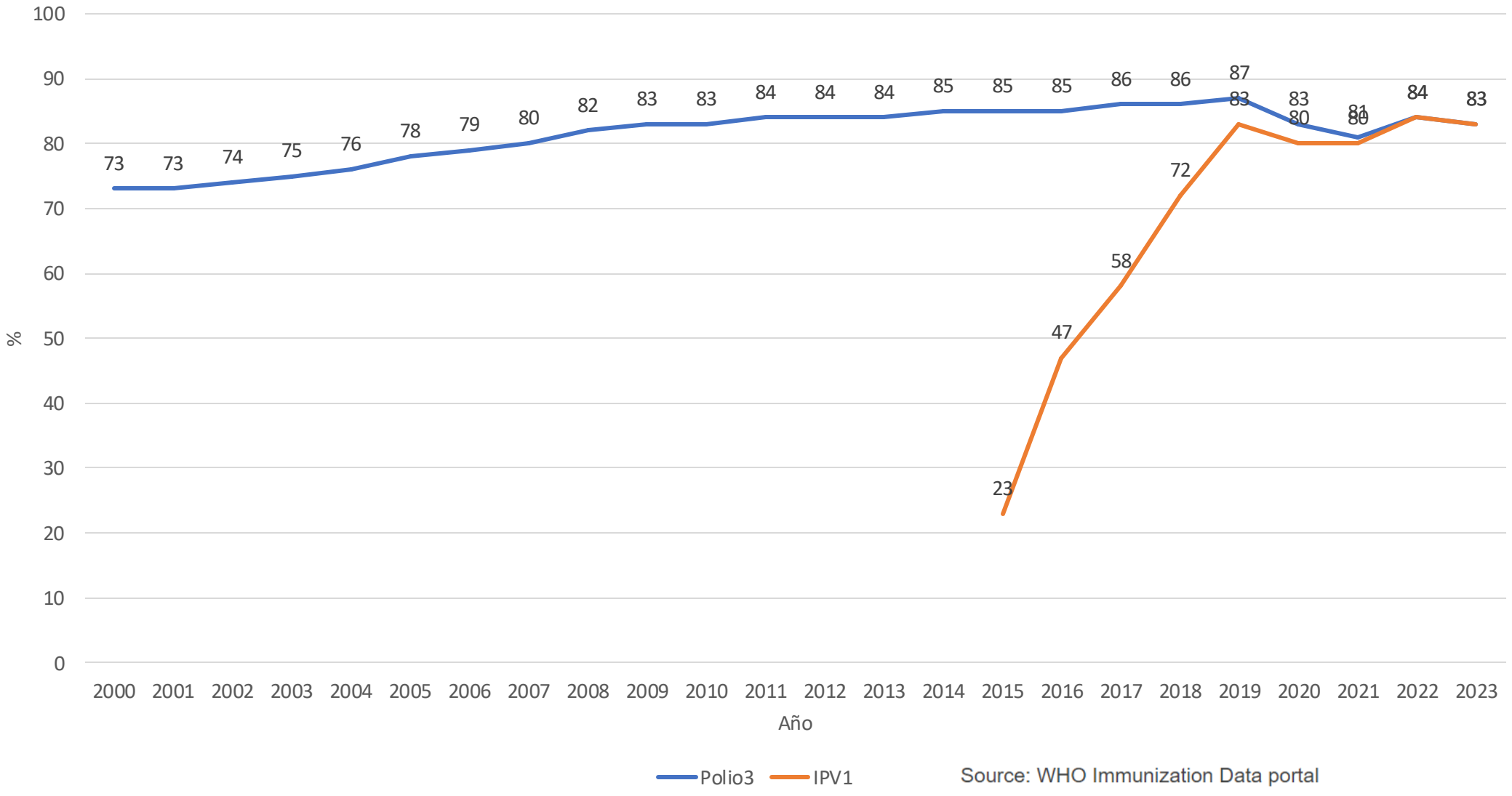
World coverage with IPV1 & Polio3, 2000-2023



Source: WHO Immunization Data portal

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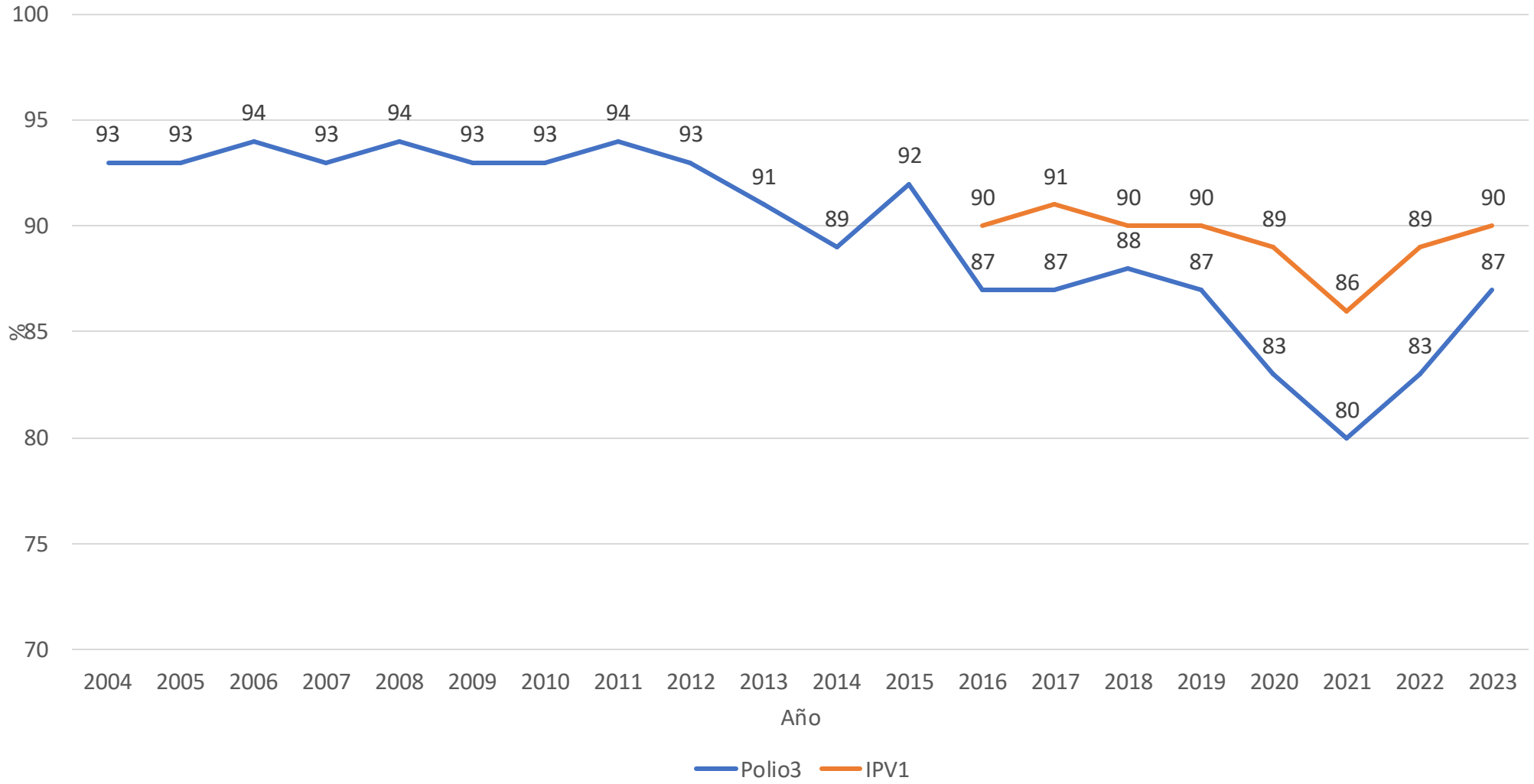
Coverages in the Americas region with IPV1 & Polio3, 2000-2023



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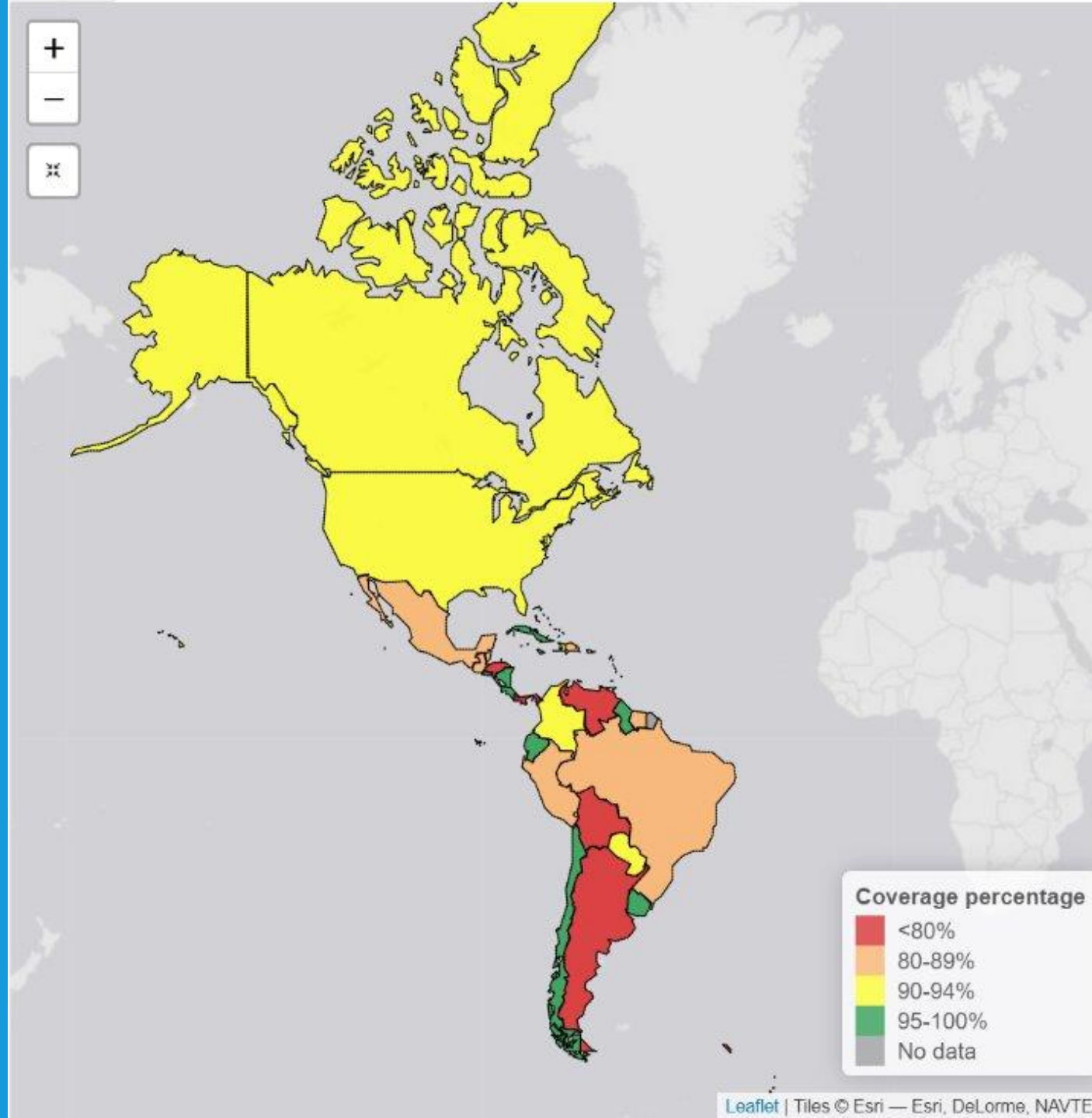
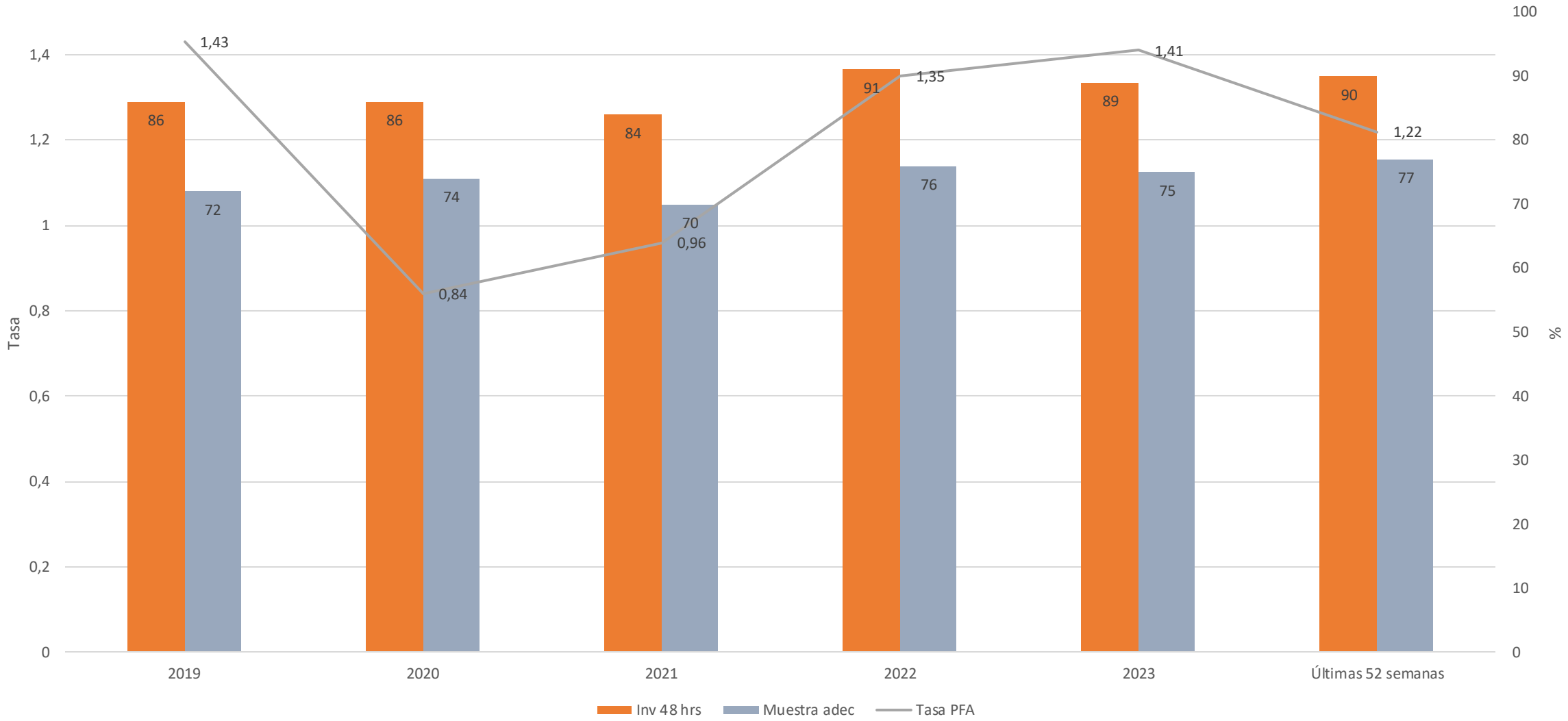
Country coverage for Polio3, 2023



Surveillance indicators in the Americas during 2019-2023 and the last 52 weeks*



* Last 52 weeks: 2023/45-2024/44

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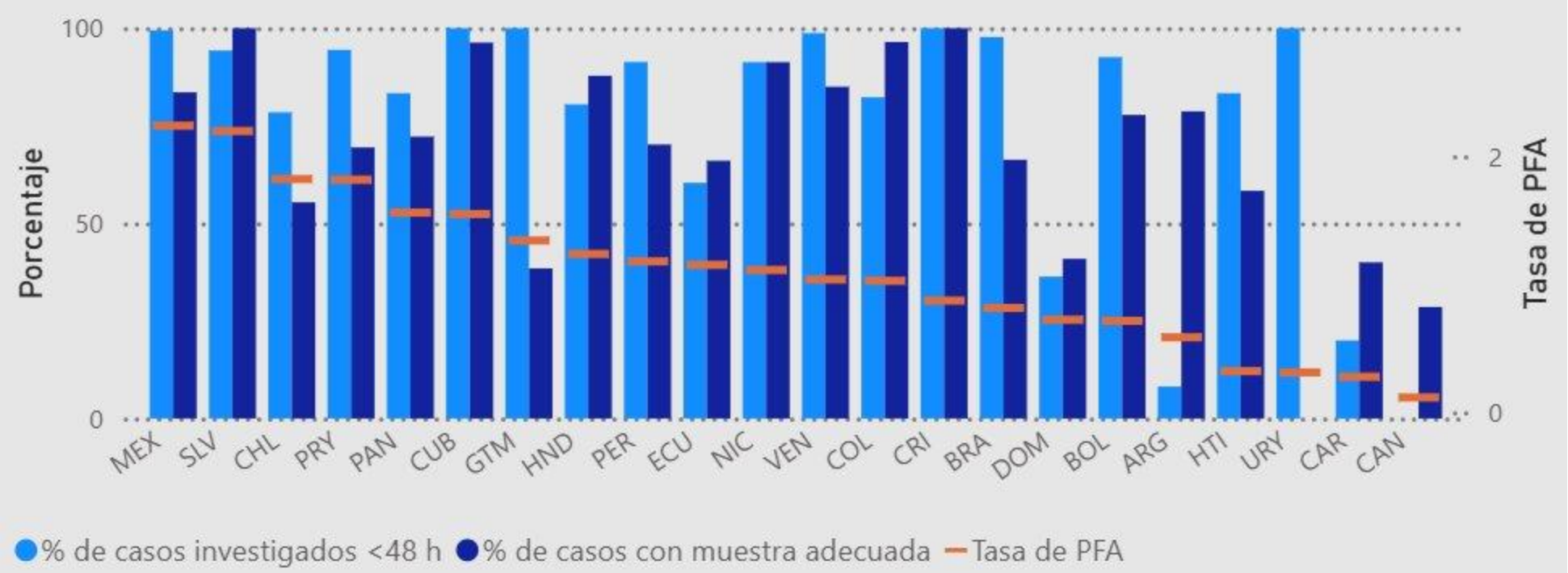
AFP surveillance indicators by country, last 52 weeks*



* Last 52 weeks: 2023/44-2024/43

CURRENT ISSUES of the PAHO polio weekly bulletin can be accessed at:
English:
www.paho.org/immunization/PolioBulletin

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cVDPV3 en muestras ambientales en Guyana Francesa

- Positive samples
  - Saint George, May 15, 16 nt difference
  - Cayenne, Leblond, June 26, 15 nt difference
  - Remire Montjolye, Morne Coco, August 06, 18 nt difference
- No coverage data
- T, solamente hay notificación obligatoria de polio
- Brasil y Surinam fueron clasificados de muy alto riesgo en 2024

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Sustaining elimination and reaching eradication

Importance of AFP surveillance

- Surveillance of acute flaccid paralysis (AFP) and vaccination have been the cornerstones of polio eradication efforts.
- By monitoring AFP cases, we can detect polio and track the spread of the poliovirus.
- Surveillance remains crucial to our goal of eliminating polio and will become even more vital as we get closer to eradicating the disease entirely.
- As eradication approaches, we must ensure that no polio cases or poliovirus circulation exists.

Data is essential

- Epidemiological surveillance relies on a network of polio laboratories and a robust information system.
- The shift to VPD SMART will ensure timely access to critical data, enabling better interpretation, presentation, and use of information to guide decision-making.

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Adapting to new challenges: Variable changes

Why it was necessary to make changes?

- The ISIS was developed to meet the specific needs of its time
- However, evolving surveillance practices, particularly within laboratories, necessitated system updates
- It became clear that the system needed to accommodate new variables, both current and future, as we move closer to eradicating polio
- This system will provide the flexibility required to adapt to the dynamic nature of polio eradication efforts

Purpose of the changes

- Include variables for which data existed but were previously excluded due to system constraints
- Add variables to strengthen the surveillance system
- Incorporate variables for more accurate case classification

Overall description of the changes

- Vaccine history
  - Recording of all polio vaccinations
  - Information on all vaccine doses received
- Paralysis description
  - Assessment of muscle strength
- History of primary immunodeficiencies
  - Occurrence/non-occurrence
  - Type

Overall description of the changes

- Samples/lab
  - Including fields for sample status and date received
  - Adding fields for variables of each laboratory test
  - Allow result dissagregation
- Section to record information about samples from contacts of AFP cases
- Implementation of blocking measures

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VPD-SMART

As a new information system for the surveillance of MR and AFP

Christian Atavillos
Int. Consultant
CIM, PAHO

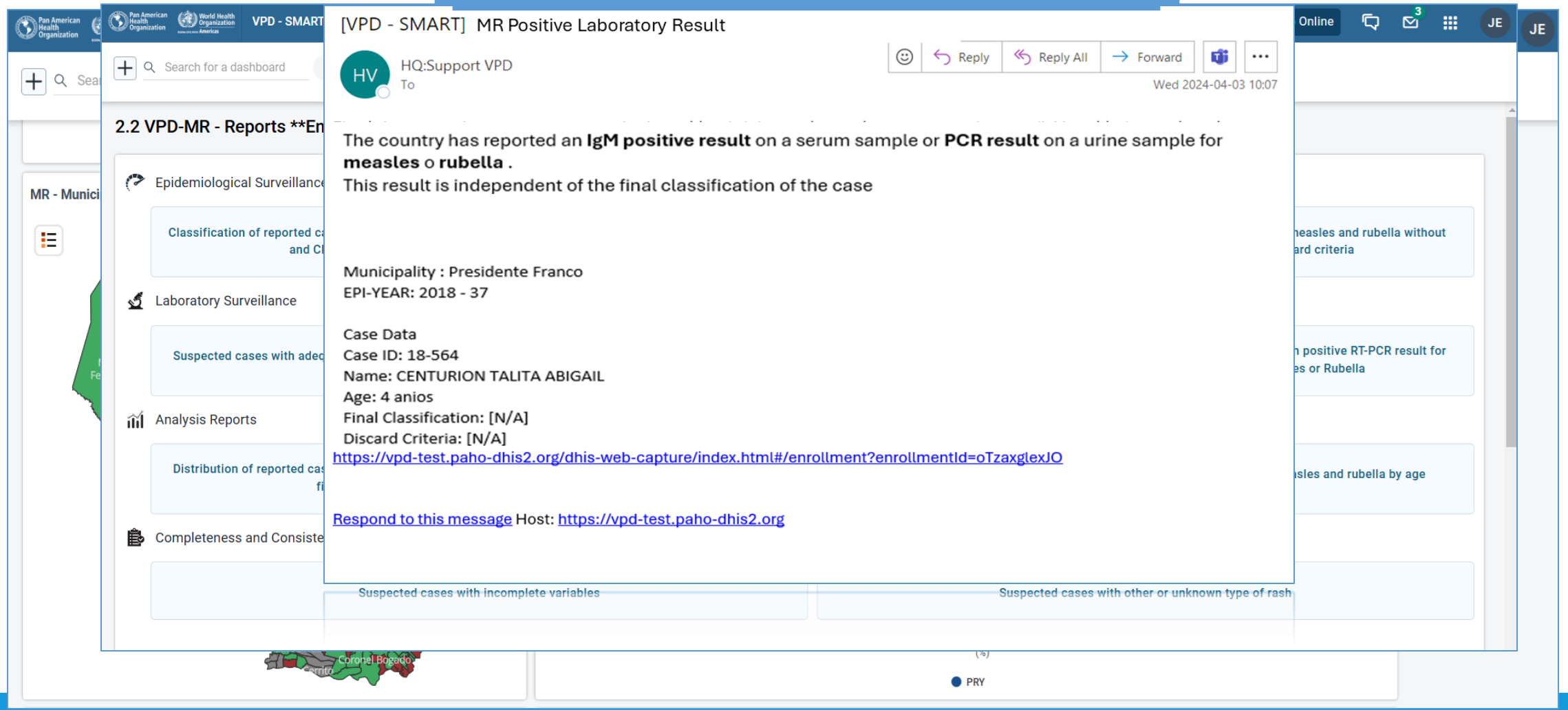
Juan Pablo Espinoza
Int. Consultant
CIM, PAHO

Benefits of using VPD-SMART (DHIS2)

DATA VALIDATION		The Central Level can validate and complete each case entered by lower reporting levels
DASHBOARDS		Monitoring data quality and the performance of key epidemiological surveillance indicators.
INTEROPERABILITY		Interoperability functions with other systems
REPORTS FOR ANALYSIS		+25 reports containing bulletin indicators, filtered line listing, analysis reports and maps
DATA FOR ACTION AND ALERTS		Alerts to take action. Example: confirmed cases

Benefits of using VPD-SMART (DHIS2)

ALERTS



VPD-SMART: Data Entry

MR

ENROLLMENT | VACCINATION AND CLINICAL DATA | LABORATORY | INVESTIGATION | CONTROL MEASURES | FINAL CLASSIFICATION

AFP

ENROLLMENT | VACCINATION AND CLINICAL DATA | LABORATORY | CONTACT SAMPLES | FOLLOW-UP 60 DAYS | CONTROL MEASURES | FINAL CLASSIFICATION

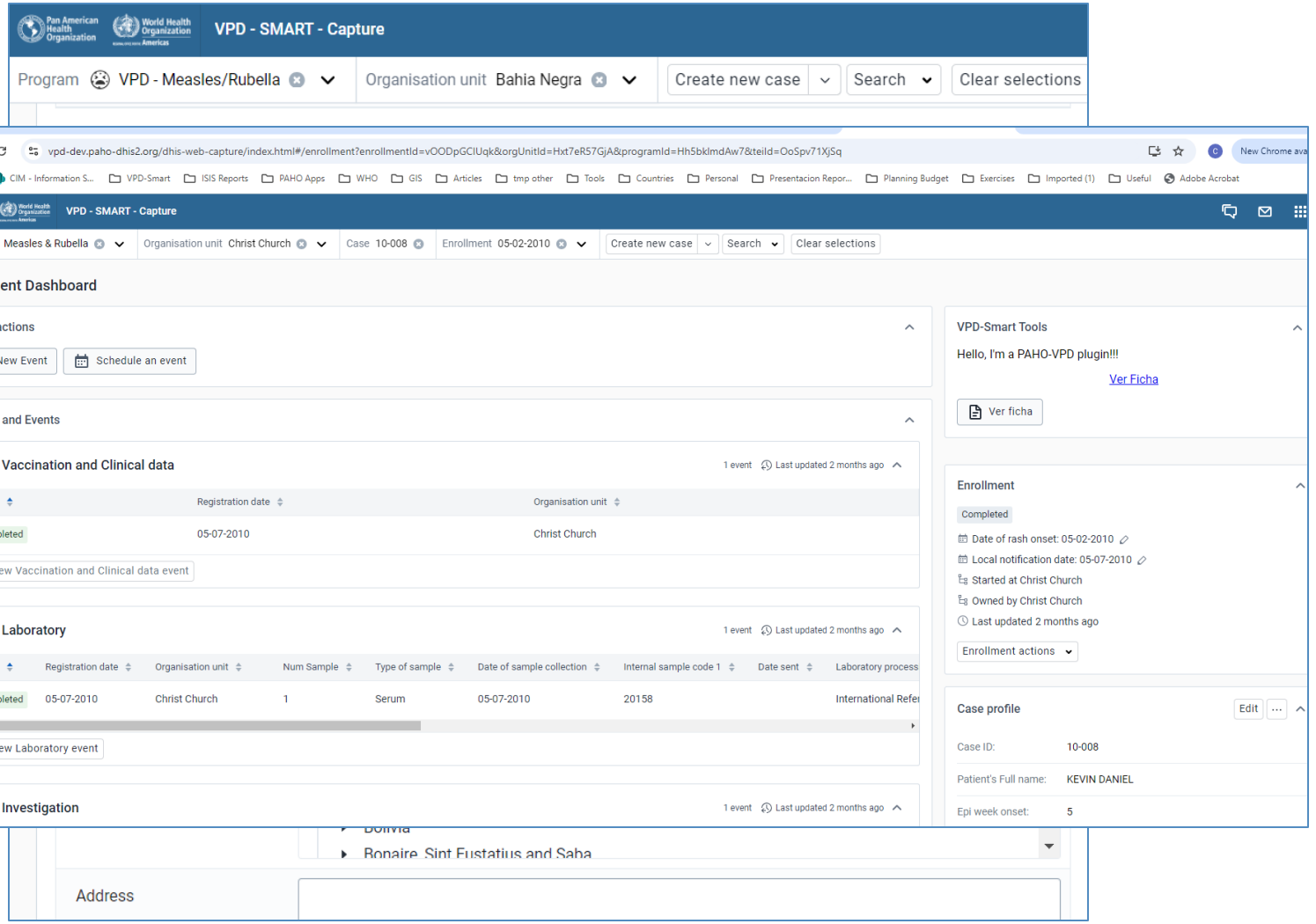
VPD-SMART: Data Entry Case-by-case

SUSPECTED CASE OF MEASLES AND RUBELLA

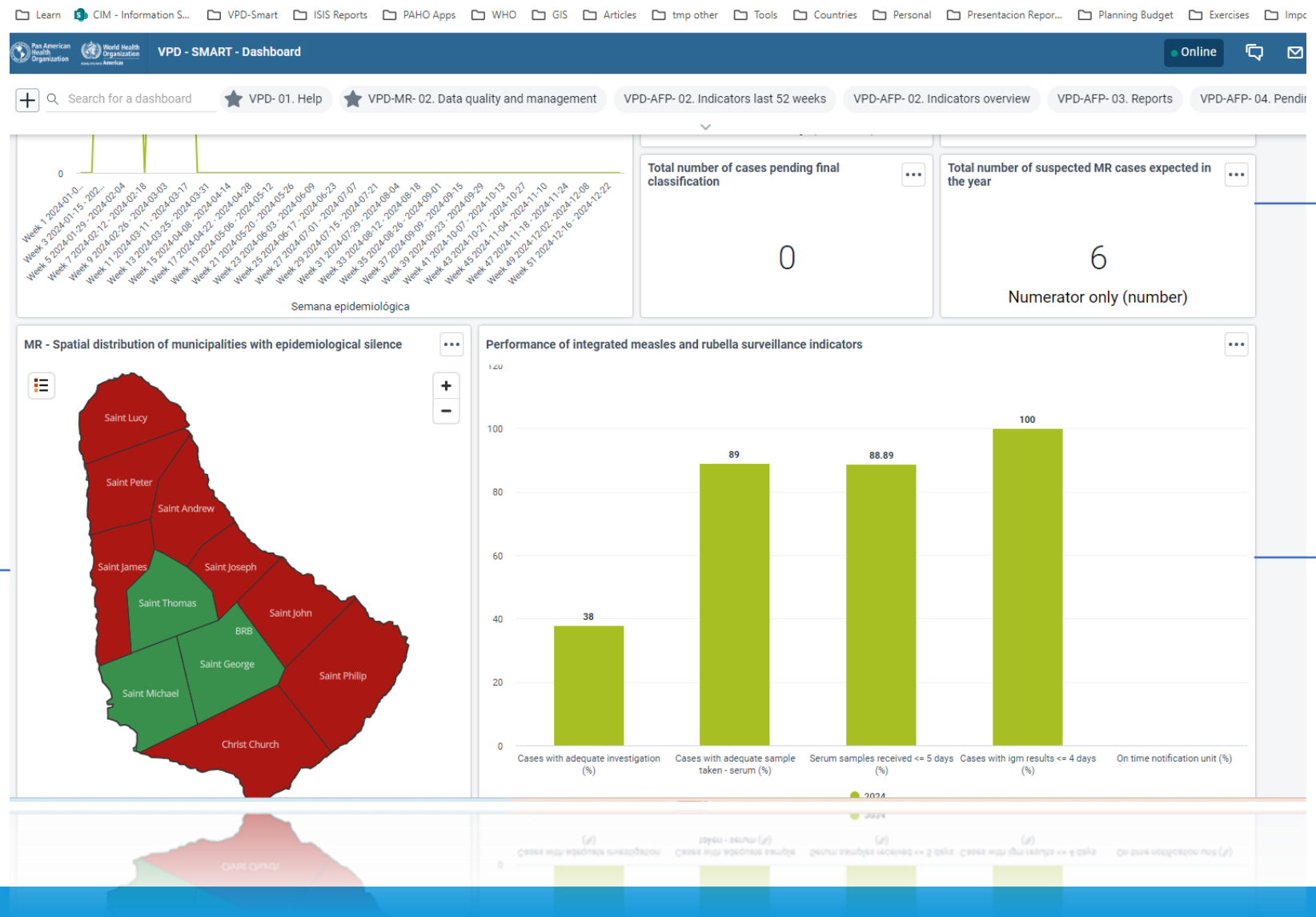
PROBABLE CASE OF POLIOMYELITIS

DATA ENTRY ORGANIZED BY STAGES

EDITION AND FOLLOW-UP OF SUSPECTED AND CONFIRMED CASES



VPD-SMART: Data Analysis (Dashboards)

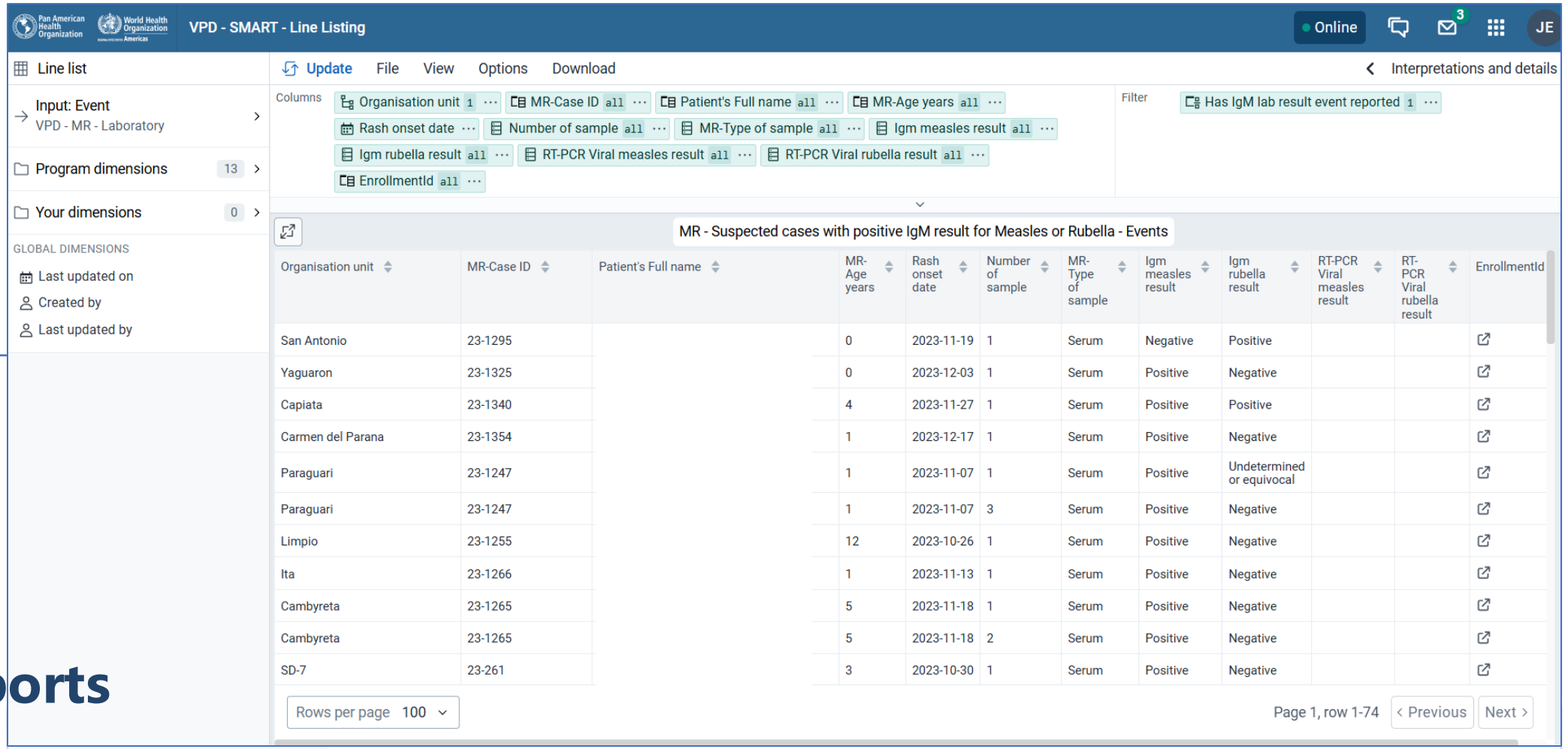


Indicators

Graphs

Maps

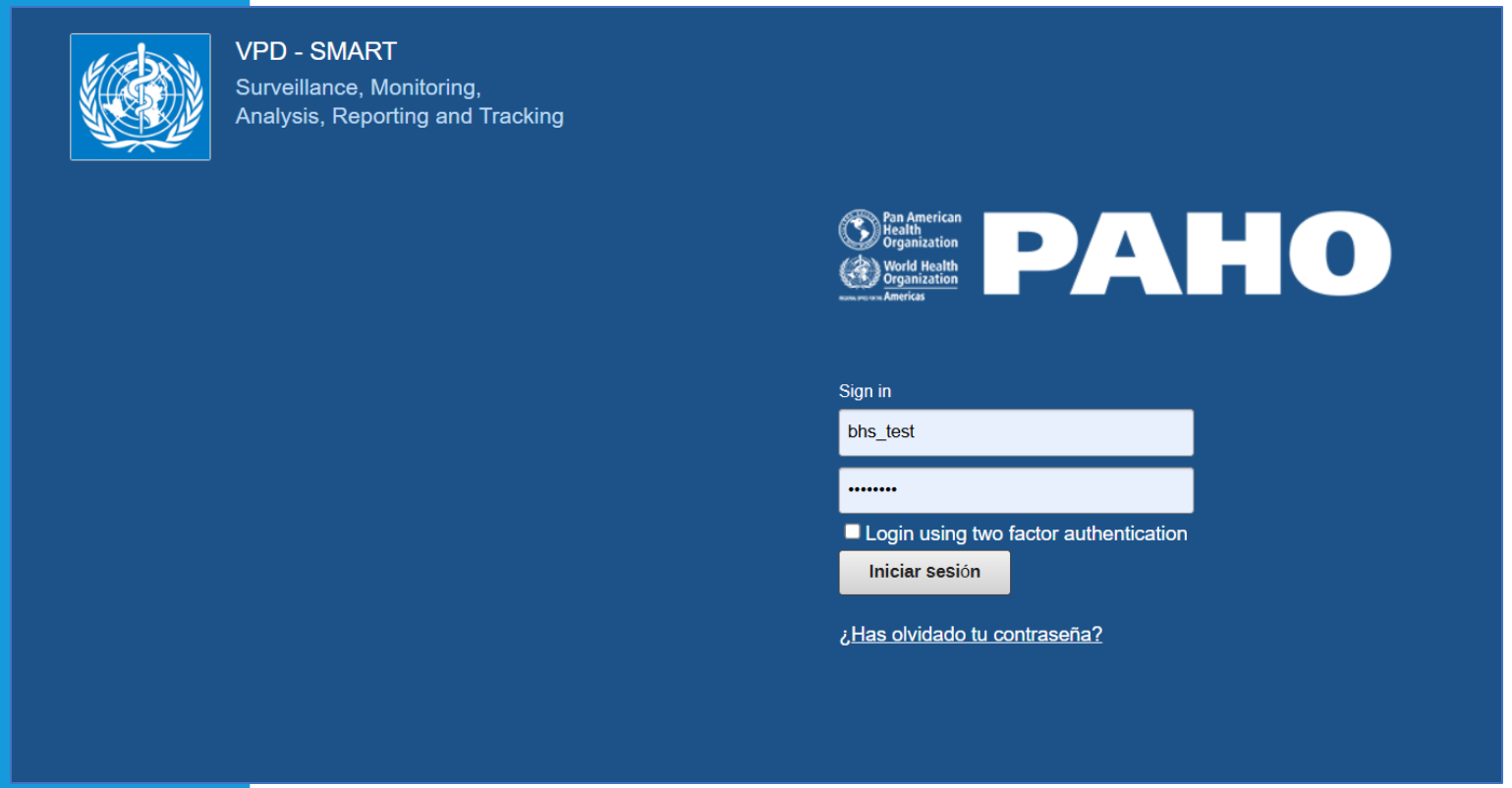
VPD-SMART: Data Analysis (Reports)



+25 Reports

VPD-SMART

Video demonstration




VPD - SMART
Surveillance, Monitoring,
Analysis, Reporting and Tracking
Pan American Health Organization
World Health Organization
Americas
PAHO
Sign in
Username
Password
Login using two factor authentication
Sign in
Forgot password?
Powered by DHIS 2 PAHO
[Change language]

GOBIERNO DEL PARAGUAY | PARAGUÁI REKUÁI

MINISTERIO DE SALUD PÚBLICA Y BIENESTAR SOCIAL PARAGUAY | PARAGUÁI TESÃI HA TEKO PORÃVE MOTENONDEHA

PROGRAMA AMPLIADO DE INMUNIZACIONES PARAGUAY

PARAGUAY AS A PILOT COUNTRY

Insights from Paraguay's VPD-SMART Pilot

Luis Cousirat
Director
Programa Ampliado de Inmunización
MSPBS, Paraguay

Content

Evolution of information systems for vaccine-preventable diseases (VPD) in Paraguay

1980

PROGRAMA AMPLIADO DE INMUNIZACIONES PARAGUAY
MINISTERIO DE SALUD PÚBLICA Y BIENESTAR SOCIAL

1989

Polio Elimination Surveillance System (FoxPro Database)

1996

Measles Elimination Information System
FoxPro Database

2012

Integrated Surveillance System
VB .net

2024

Migration from ISIS to VPD-SMART

1980 1990 2000 2010 2020

MINISTERIO DE SALUD PÚBLICA Y BIENESTAR SOCIAL PARAGUAY | PARAGUÁI TESÃI HA TEKO PORÃVE MOTENONDEHA

PROGRAMA AMPLIADO DE INMUNIZACIONES PARAGUAY

Content

Why changing from ISIS to VPD-SMART?

Need to modernize the VPD information system without relying on a client/server installation

Standardization of each part of the process

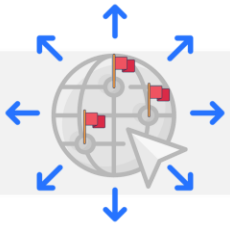
Web-based data entry that enables real-time case registration and ensures an adequate alert and response capacity upon the detection of outbreaks

Content

Goals

Migrate the country's ISIS-based epidemiological surveillance of measles, rubella, and acute flaccid paralysis to a robust, scalable, open-source digital platform based on DHIS

Enhance the staff's ability to manage and analyze data for decision-making



Decentralize the data entry workload for measles, rubella, and acute flaccid paralysis cases by implementing the VPD-SMART system in a phased manner across all 18 health regions of the country

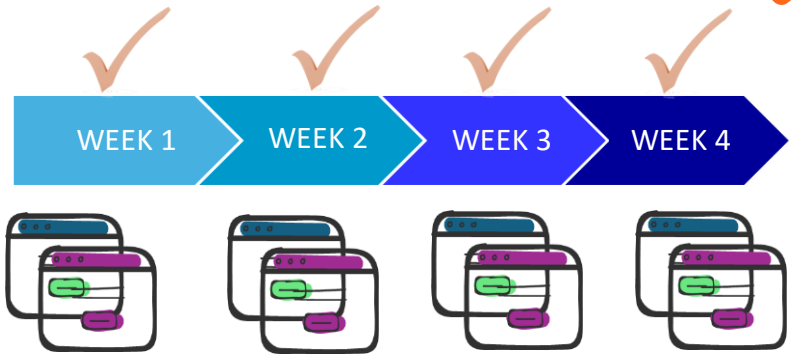
Document the lessons learned and best practices that can be shared with other countries to support the implementation and expansion of the VPD-SMART system

Content

THREE-DAY TRAINING WORKSHOP

Data entry into VPD-SMART/DHIS2

Weekly audit to review data concordance between ISIS and VPD-SMART (PAHO/EPI)



Data entry at Central Level (EPI and CPHL)

Data entry at Subnational Level (Central Region)

Data entry at local level (San Lorenzo District)

Data quality indicators

Completeness + **Duplicity** + **Consistency** = **CONCORDANCE**

Level of complete information about a dataset that is collected in ISIS and VPD-SMART

$$\frac{\text{Cases entered into VPD-SMART}}{\text{Cases entered into ISIS}} \times 100$$

100%

No case or sample is registered more than once in ISIS and VPD-SMART

$$\frac{\text{Duplicated cases and/or samples in ISIS and VPD-SMART}}{\text{Cases and/or samples reported}} \times 100$$

0%

Absence of differences when comparing the variables for each case entered into ISIS and VPD-SMART

$$\frac{\text{Number of key and non-key variables consistent in VPD-SMART}}{\text{Number of key and non-key variables consistent in ISIS}} \times 100$$

100%

The American Society of Immunization Registries (AIRA) definitions were adapted for the three proposed indicators.

PRY PILOT

- Coordination meetings and compliance with pre-pilot requirements
- **VIRTUAL** Training by PAHO WDC Data Team to the National PAI
- **IN-PERSON** training by PAHO WDC Data Team to the National PAI
- Data entered by the National PAI, Central region, and Hospital General de San Lorenzo into ISIS and VPD-SMART/DHIS2
- Data entry by the Central Public Health Laboratory
- Four consecutive weeks of concordance between the data entered into ISIS and VPD-SMART/DHIS2 at the three administrative levels

Deployment of VPD-SMART/DHIS2 in Paraguay

PARTICIPATION IN THE VPD-SMART USER ACCEPTANCE WORKSHOP

SEPTEMBER 2023

MARCH 2024

TRAINING
PRE-PILOT

Simultaneous data entry into ISIS and VPD-SMART:
-Central level: National PAI and LCSP
-Subnational level: Central Region
-Local level: San Lorenzo District

PILOT KICKOFF

APRIL 2024

SEPTIEMBRE 2024

EVALUATION

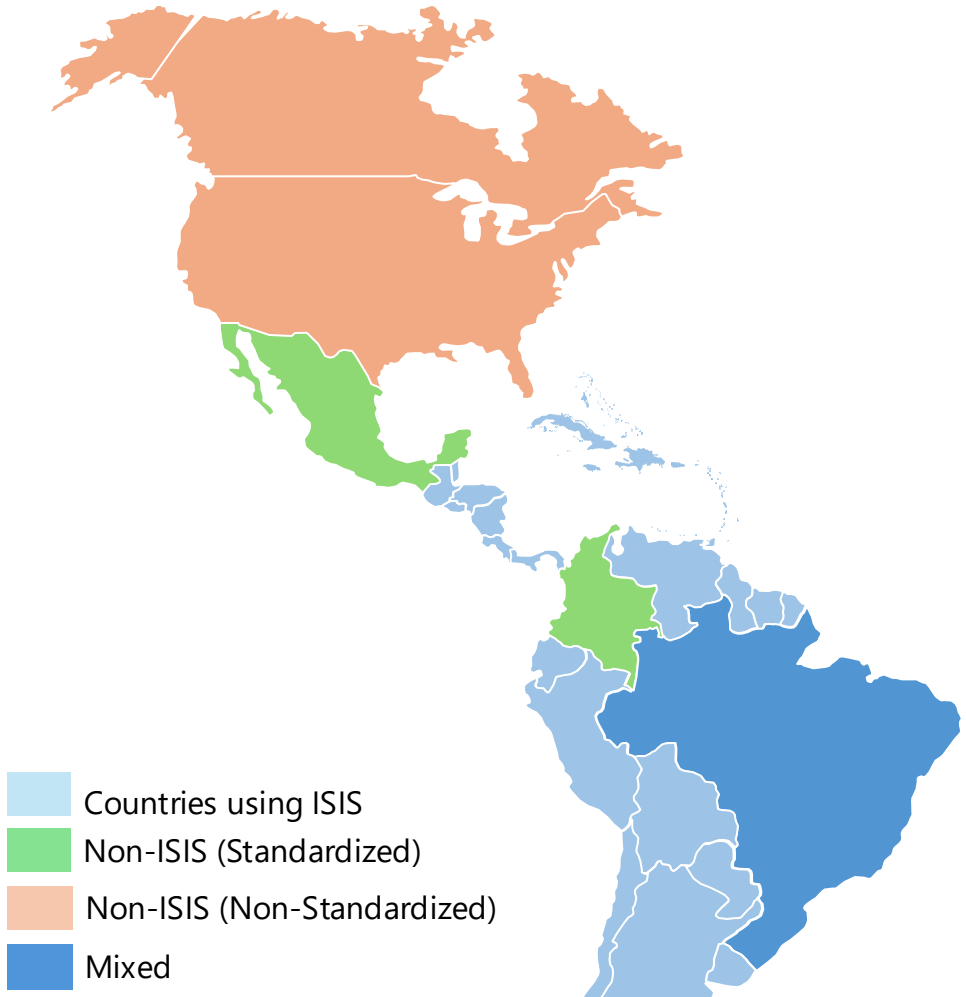
Paraguay migrates AFP and MR surveillance from ISIS to VPD-SMART/DHIS2

OFFICIALIZATION

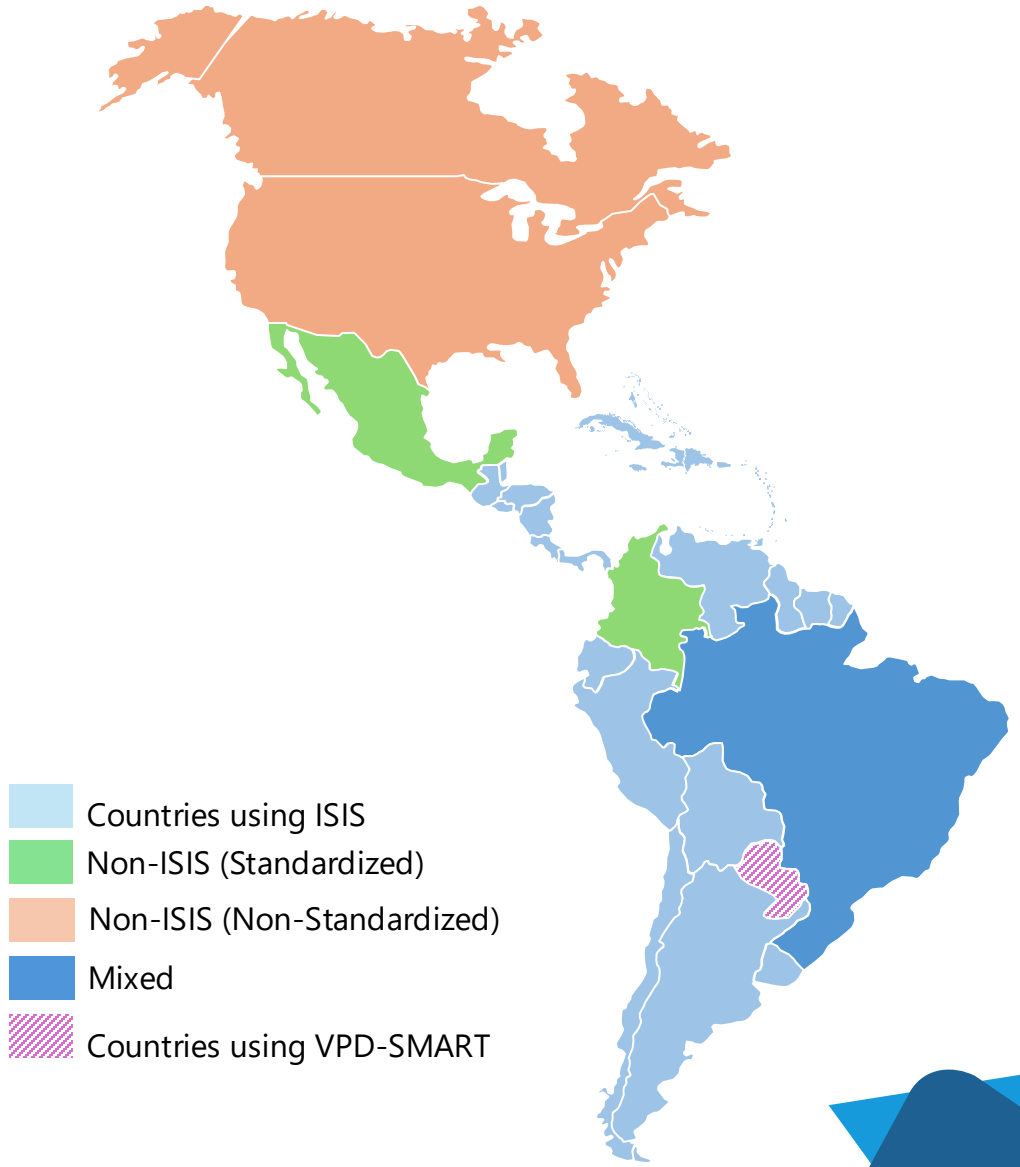
OCTOBER 2024

PAHO Pan American Health Organization World Health Organization Americas

VPD Surveillance System, Americas Region, January 2024



VPD Surveillance System, Americas Region, October 2024



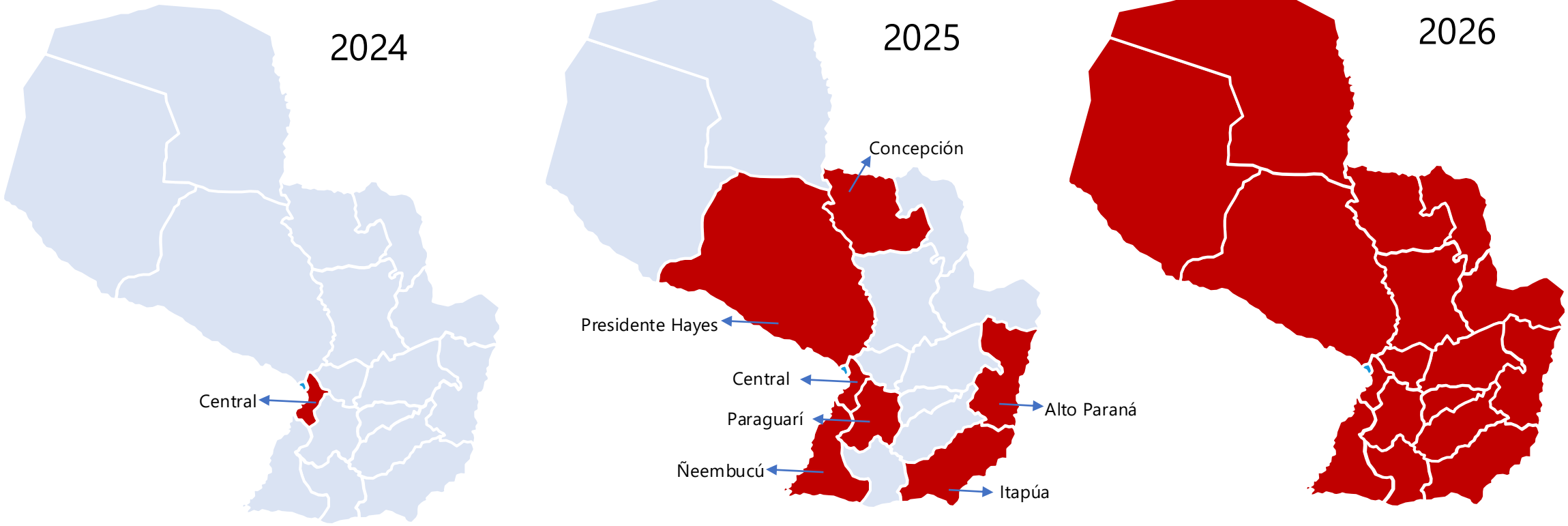
PAHO Pan American Health Organization World Health Organization Americas

Content

Special Considerations for Implementation Success

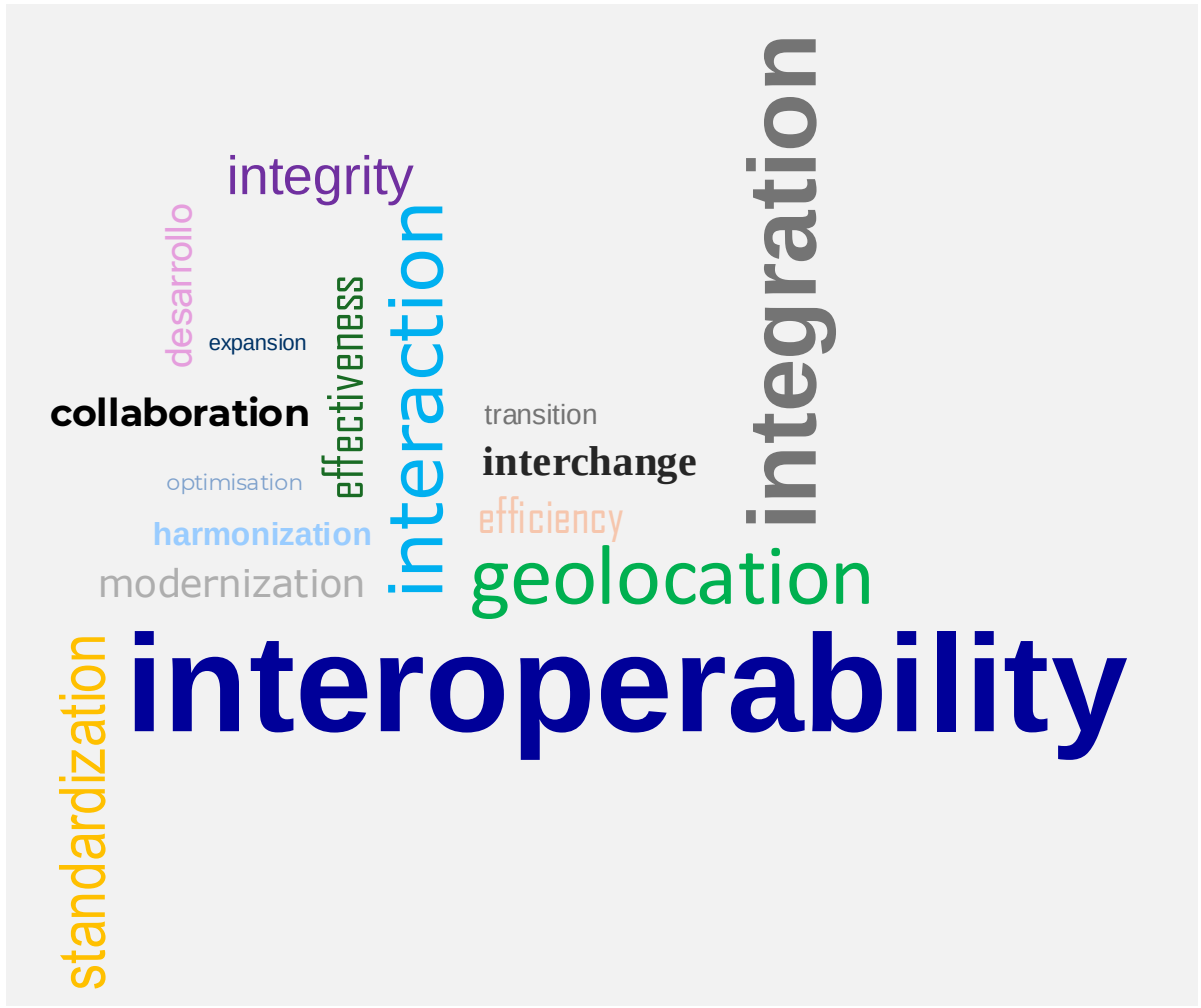
- Ongoing technical collaboration with PAHO and coordination of a new help desk for user inquiries
- Focusing on accurate and high-quality data entry as part of the migration from the ISIS system to VPD-SMART/DHIS2
- Taking advantage of the data visualization capabilities through VPD-SMART/DHIS2 dashboards and reports
- Standardized feedback provided through a PAHO-distributed format
- Data migration will proceed after ensuring the quality and completeness of key variables

Next steps (short and medium term)

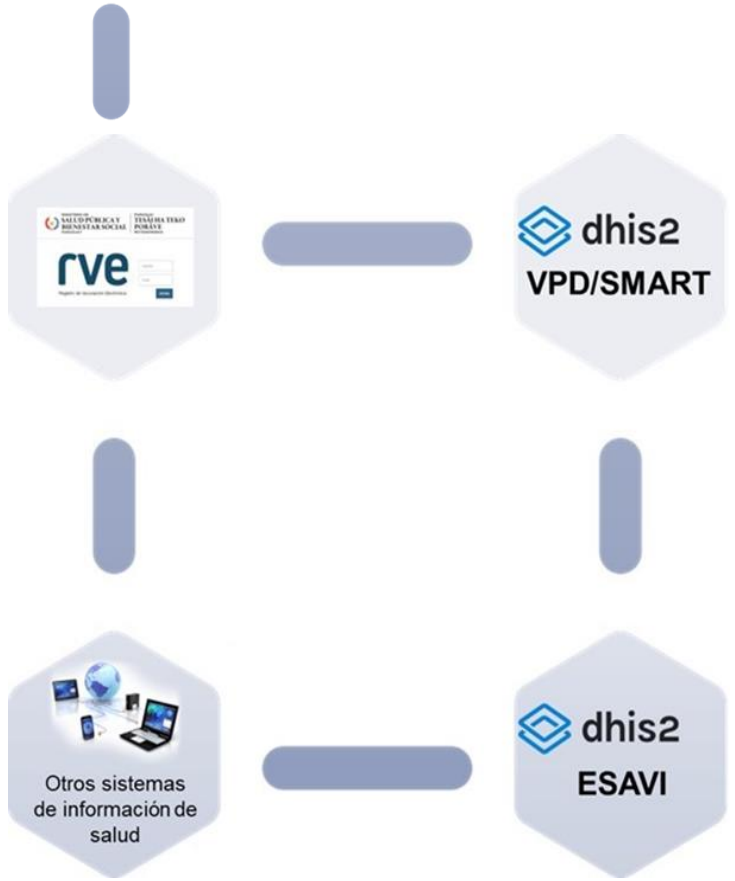


Distributing the data management workload for measles, rubella, and AFP by implementing VPD-SMART in Health Regions

Next steps (medium and long term)



HIS | Health Information System moves forward to national level



PAHO Pan American Health Organization World Health Organization Americas

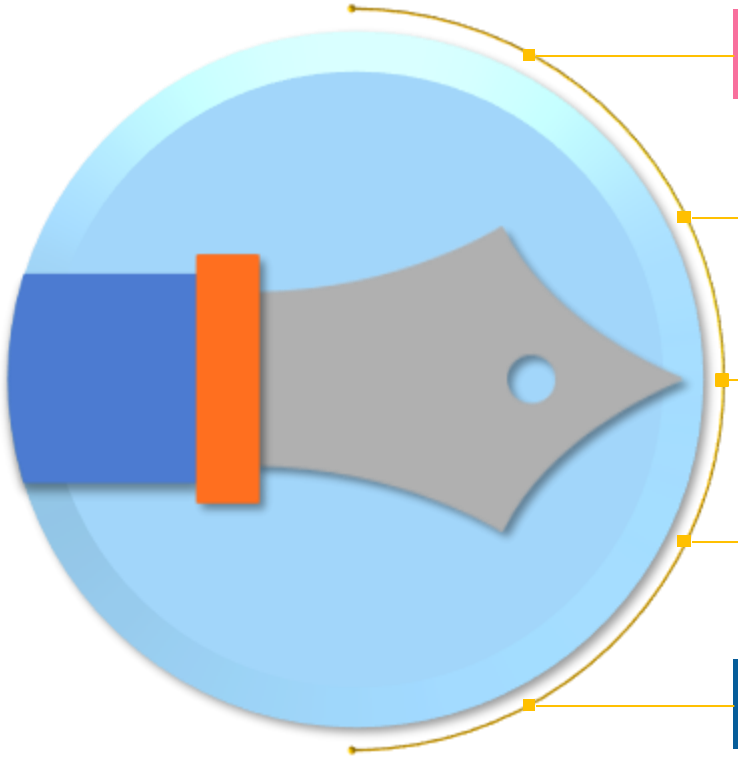
PAHO Pan American Health Organization World Health Organization Americas Region

LESSONS LEARNED

Carolina Baeza
International Consultant
CIM, PAHO

Lessons learned from the implementation of the VPD-SMART pilot in Paraguay

Process Analysis



A Determine the evaluation criteria for the VPD-SMART pilot project in Paraguay

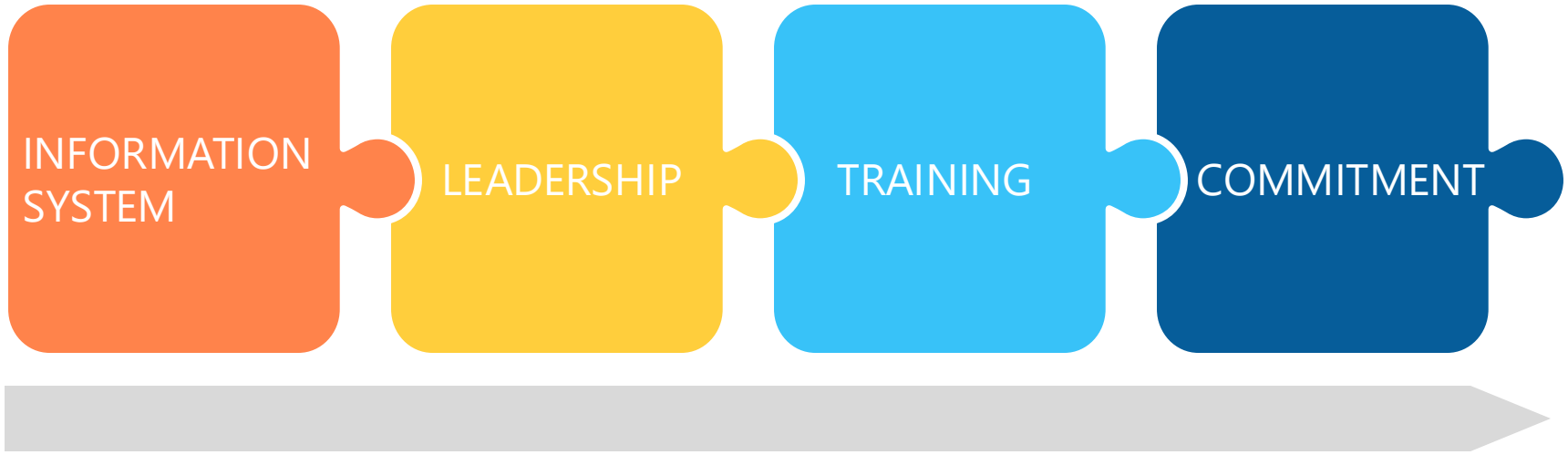
B Establish critical success factors

C Design a questionnaire to guide **interviews** with key stakeholders

D Discussion and analysis of results

E Sharing of findings

Enabling Factors



VPD-SMART System Design and Adaptability

Strong leadership and effective communication

Training and Support

Shared institutional commitment

Minimal Requirements for VPD-SMART implementation

Institutional compromise	Obtain commitment from national health authorities.
Training personnel	Ensure key personnel is well trained in the use of VPD-SMART
Technological infrastructure in place	Availability of computers and good connectivity necessary to operate the system
Data availability	Ensure availability of quality data for migration

OPS Organización Panamericana de la Salud Organización Mundial de la Salud OFICINA REGIONAL PARA LAS Américas

DEPLOYMENT ALTERNATIVES

Felipe Aguilera Millacura
International Consultant
CIM, PAHO

Diverse deployment methods for the VPD-SMART system

VPD-SMART FIVE PHASES ACTION (WORK) PLAN

01

INITIATE

Meetings with key stakeholders

02

COMMIT

Official request and commitment

03

ANALYSE

Collaborative diagnose and decision-making

04

IMPLEMENT

Training, Testing and Validation

05

LAUNCH

Official use of VPD-SMART

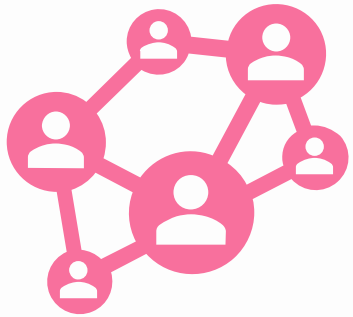
VPD-SMART FIVE PHASES ACTION (WORK) PLAN

01

INITIATE

Meetings with key stakeholders

- PAHO Country office
- MoH Expanded Programme on Immunization
- MoH Laboratory team
- MoH Information Technology team
- Any other MoH team involved in Surveillance



VPD-SMART FIVE PHASES ACTION (WORK) PLAN

02

COMMIT

Official request and commitment

- An official letter is send to PAHO WDC via the PAHO Country office

VPD-SMART FIVE PHASES ACTION (WORK) PLAN

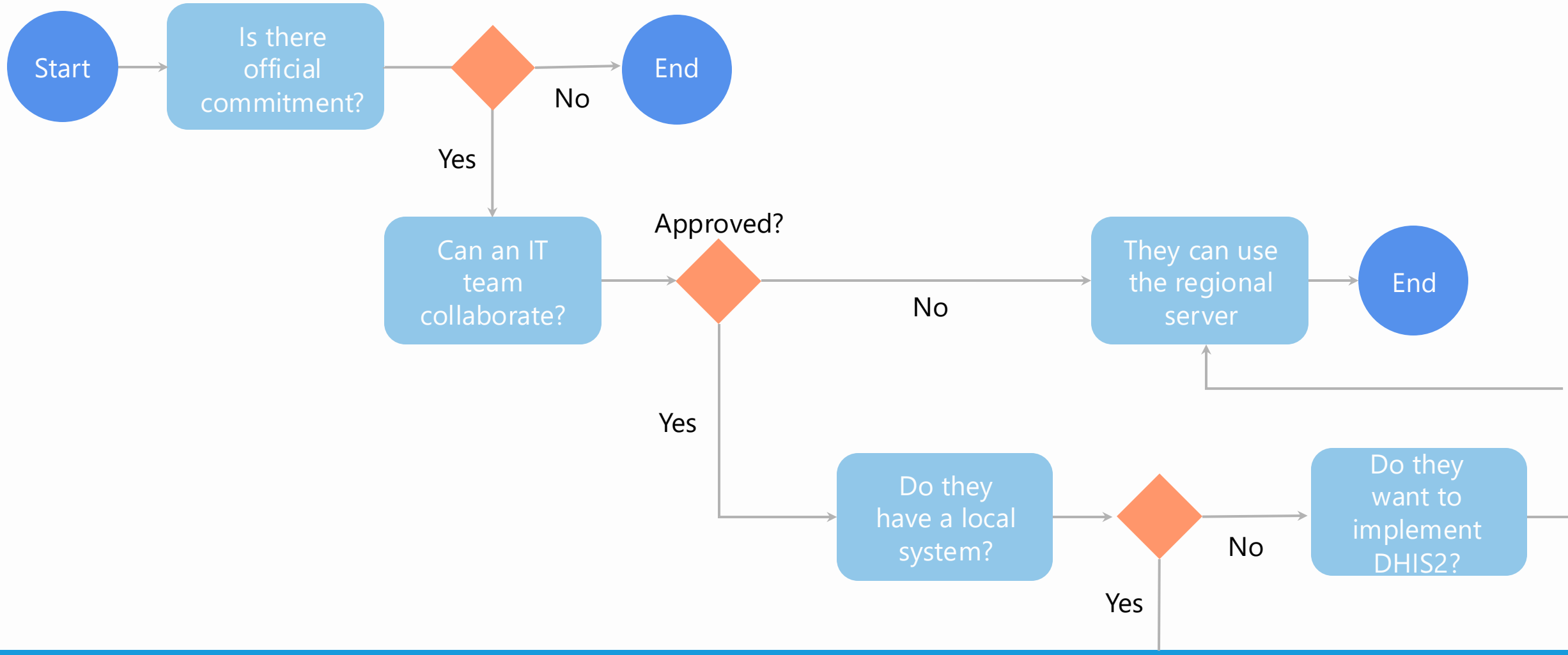
03

ANALYSE

Collaborative diagnose and decision-making

- The country explains the surveillance data flow
- Analysis of the current Health Information System
- Agreement on the level of implementation/decentralization
- Definition of implementation type

VPD-SMART IMPLEMENTATION TYPE DECISSION TREE



IMPLEMENTATION TYPES

OPTION 3

Using its own local information system of the country; **interoperability** with **VPD-SMART**

OPTION 2

VPD-SMART Deployment on **Local Country Server**

OPTION 4

Using its own local information system of the country, **integration** with **PAHO's IMDW2.0**

OPTION 1

VPD-SMART Deployment using **PAHO's Regional Server**

VPD-SMART FIVE PHASES ACTION (WORK) PLAN

04

IMPLEMENT

Training, Testing and Validation

- PAHO WDC trains key personnel both online and in person
- Migration and correction of historical data
- System testing and data entry
- Validation of Shapefiles (maps) and Indicators

VPD-SMART FIVE PHASES ACTION (WORK) PLAN

05

LAUNCH

Official use of VPD-SMART

- Use of VPD-SMART as the official system for reporting AFP cases and MR suspected cases to PAHO

AKNOWLEDGEMENTS

PAHO, Comprehensive Immunization Program

Programa Ampliado de Inmunizaciones, Paraguay

Centers for Disease Control and Prevention

University of Oslo – HISP Colombia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PAHO

PAHO Pan American Health Organization World Health Organization Americas Region

Q & A SESSION

Let's Talk: Q&A and Discussion.

PAHO Pan American Health Organization World Health Organization Americas Region

MERCI
THANK YOU
GRACIAS
OBRIGADO/A