DEPARTAMENTO DE SALUD

Implementation of Dengue Vaccine in Puerto Rico

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Population under VFC

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AWARDEE POPULATION ESTIMATES

TABLE I - TOTAL POPULATION ESTIMATE FOR FY2020

Population Estimate

	Years of Age				
	0-1	1-2	3-6	7-18	Total
Awardee population estimate for FY2020	27,379	57,373	130,823	485,482	701,057
Awardee approved population estimate for FY2019	30,122	63,135	140,676	509,021	742,954

VFC ELIGIBILITY SUMMARY

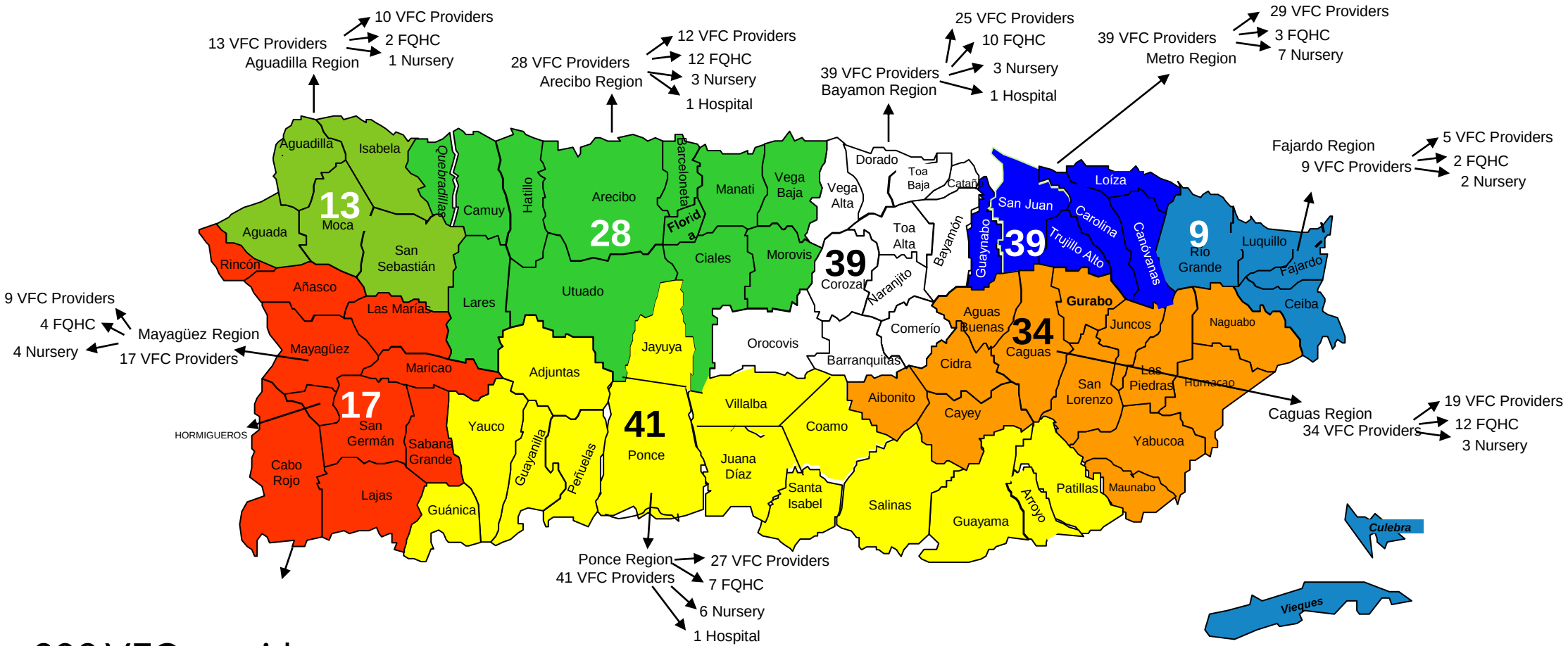
TABLE II - VFC ELIGIBLE FOR FY2020

VFC Eligibility Definitions

	Years of Age				
	0-1	1-2	3-6	7-18	Total
MEDICAID ESTIMATE FOR FY2020	12,559	29,711	63,847	197,882	303,999
THE NUMBER OF AMERICAN INDIANS/ALASKA NATIVES	0	0	0	0	0
THE NUMBER OF CHILDREN WITHOUT HEALTH INSURANCE	834	1,669	2,503	20,022	25,028
FQHC/RHC	53	163	69	[illegible]	757
DELEGATED AUTHORITY (DA)	0	0	0	0	0
DA DATA SOURCE COMMENTS	n/a				
SUB-TOTAL VFC ELIGIBLE	13,446	31,543	66,419	218,376	329,784
NON-VFC ELIGIBLE	13,933	25,830	64,404	267,106	371,273

Children 7-18 years
VFC 45%
Medicaid 41%
Uninsured 4%
Private 55%

Regions and VFC providers



- 209 VFC providers
- 296 Private providers

1000 Aguadilla Region
2000 Arecibo Region
3000 Bayamon Region
4000 Caguas Region
5000 Fajardo Region
7000 Mayaguez Region
8000n Metro Region
9000 Ponce Region

VFC Program

A child is eligible for the VFC Program if he or she is younger than 19 years of age and is one of the following:

- ✔ Medicaid eligible
- ✔ Un-insured
- ✔ Under-insured
- ✔ American Indian or Alaska native

Uninsured and underinsured children are eligible to receive only at Federally Qualified Health Centers (FQHC) or Rural Health Clinics (RHC). An FQHC is a type of provider that meets certain criteria under Medicaid programs.

PRDoH Immunization Program Mission and Vision

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Mission

To prevent the development of vaccine preventable diseases through strategic implementation and intervention facilitating services in accordance with the vaccine schedule for children, adolescents and adults of Puerto Rico.

Vision

To maintain a protected population against vaccine preventable diseases thus reducing outbreaks, hospitalizations and deaths.

PRDoH Immunization Program
What we do?

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- Recommend immunization public policy
- Guarantee immunization quality services
- Supply vaccines funded by the federal government to vaccine providers for Medicaid
- Audit vaccine management, storage, handling and administration
- Promote and educate parents on importance and security of vaccines
- Implement the PR Immunization Law (#25)
- Do not offer direct patient care services except during public health emergencies

Puerto Rico Immunization Law

https://adobe.ly/31wTyVv

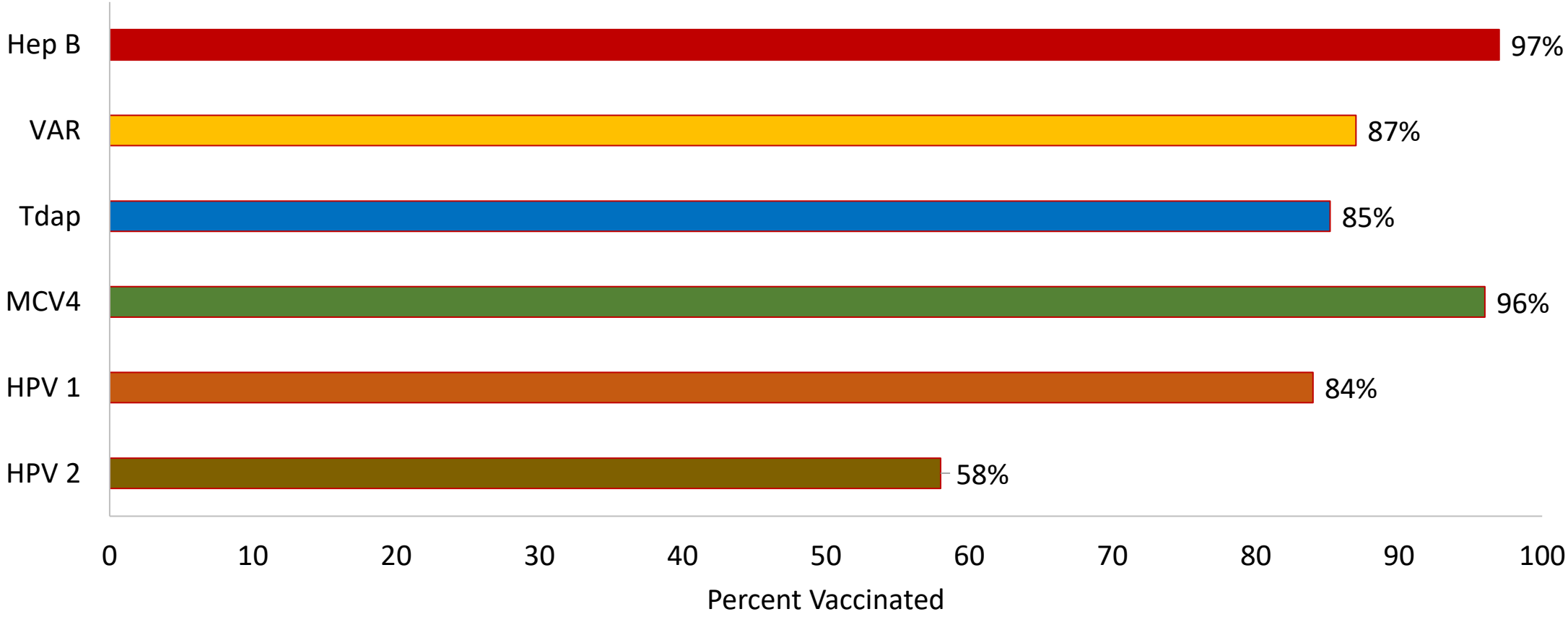
Enacted on September 1983

For all day care centers, schools and universities

Allow for medical and religious exemptions only

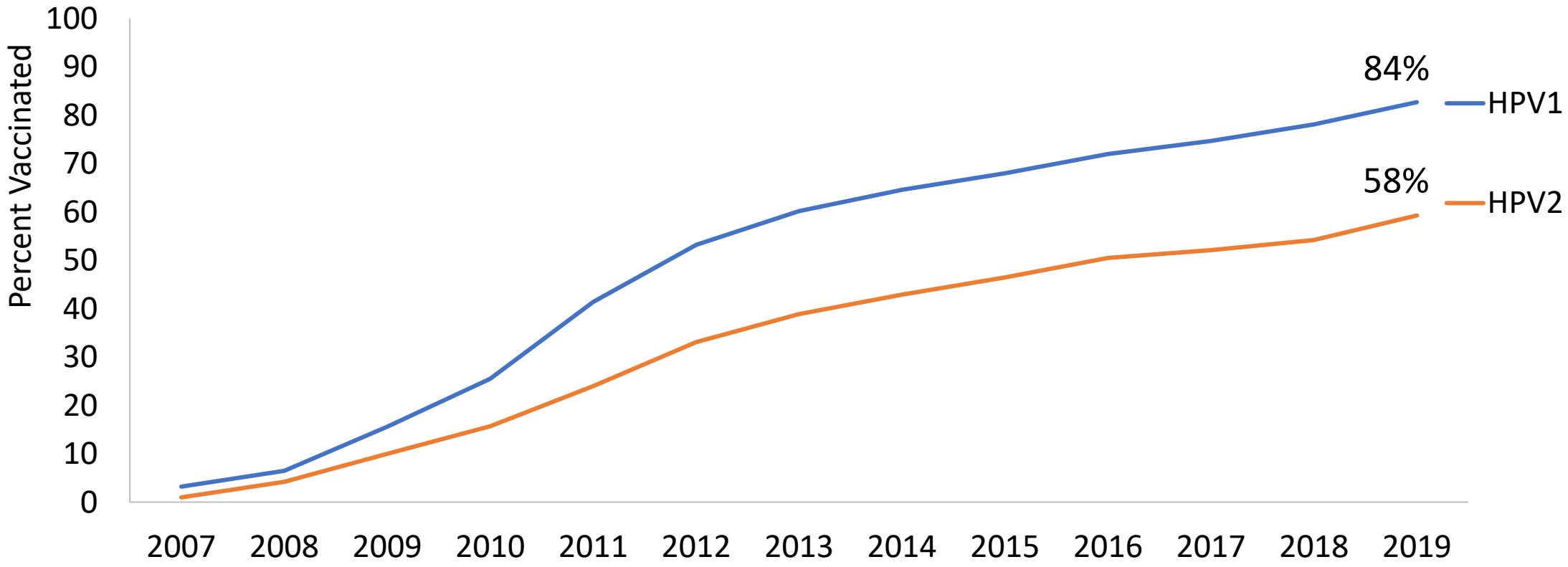
Secretary of Health determines all immunization school requirements adhering to ACIP recommendations

Estimated vaccination coverage adolescents 13-17 years, Puerto Rico, 2019



Fuente: Registro de Inmunización de PR (PRIR), Programa de Vacunación, Departamento de Salud de PR

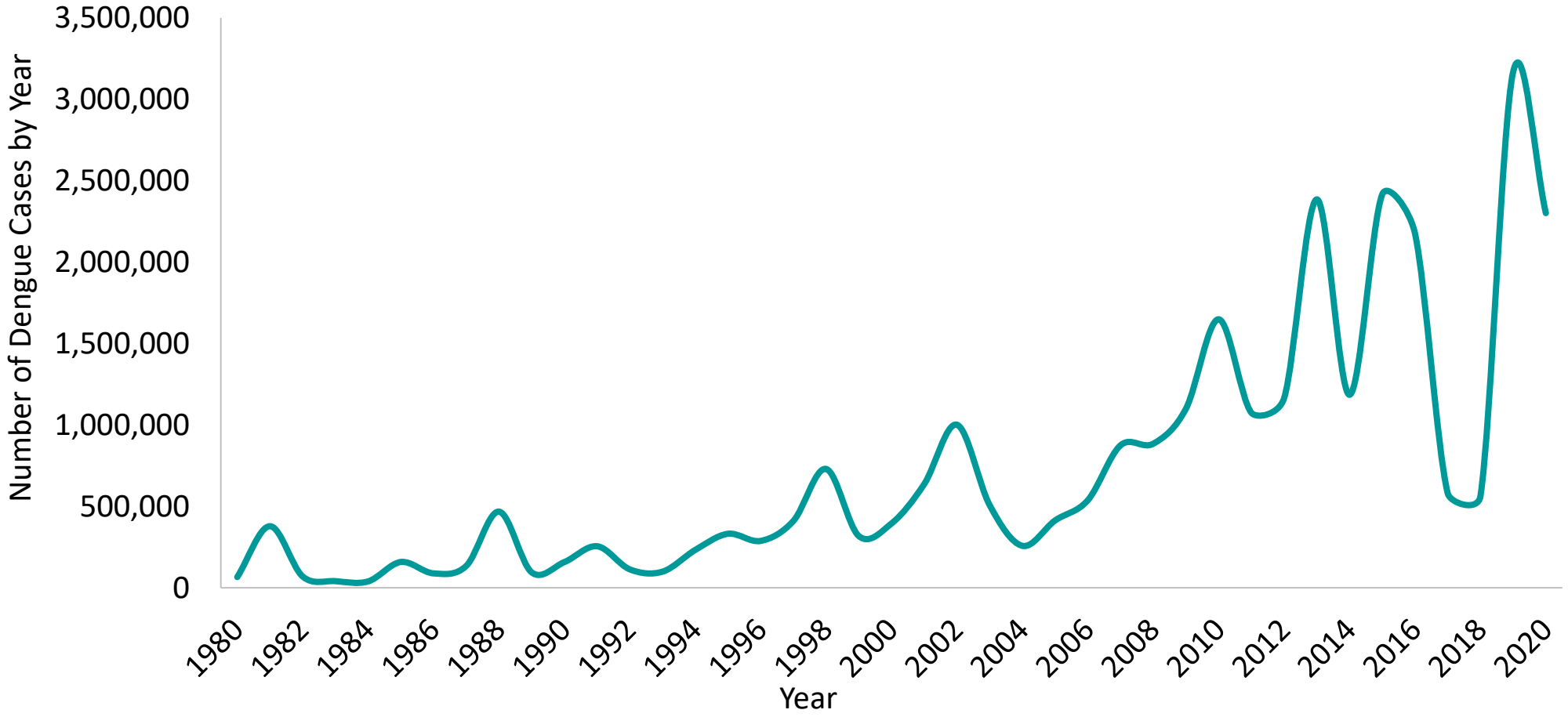
Estimated coverage HPV vaccine adolescents 13-17 years, Puerto Rico, 2007-2019



Fuente: Registro de Inmunización de PR (PRIR), Programa de Vacunación, Departamento de Salud de PR

Dengue vaccine implementation in Puerto Rico

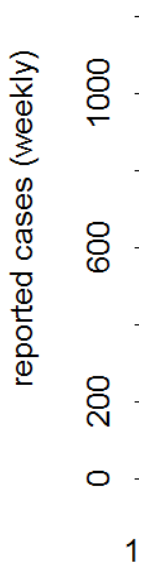
Reported dengue cases in the Americas by year, 1980–2020

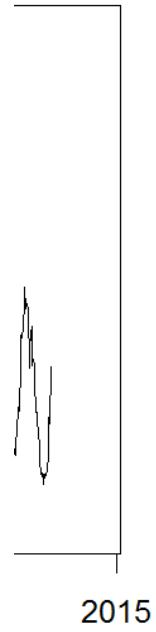


Source: Pan American Health Organization, PLISA Health Information Platform

Suspect Dengue in Puerto Rico, 1986-2013

Dengue epidemics occur every 3-5 years in Puerto Rico





REUTERS

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HEALTHCARE & PHARMA MAY 12, 2020 / 9:05 AM / UPDATED A YEAR AGO

'Dengue kills too' - Latin America faces two epidemics at once

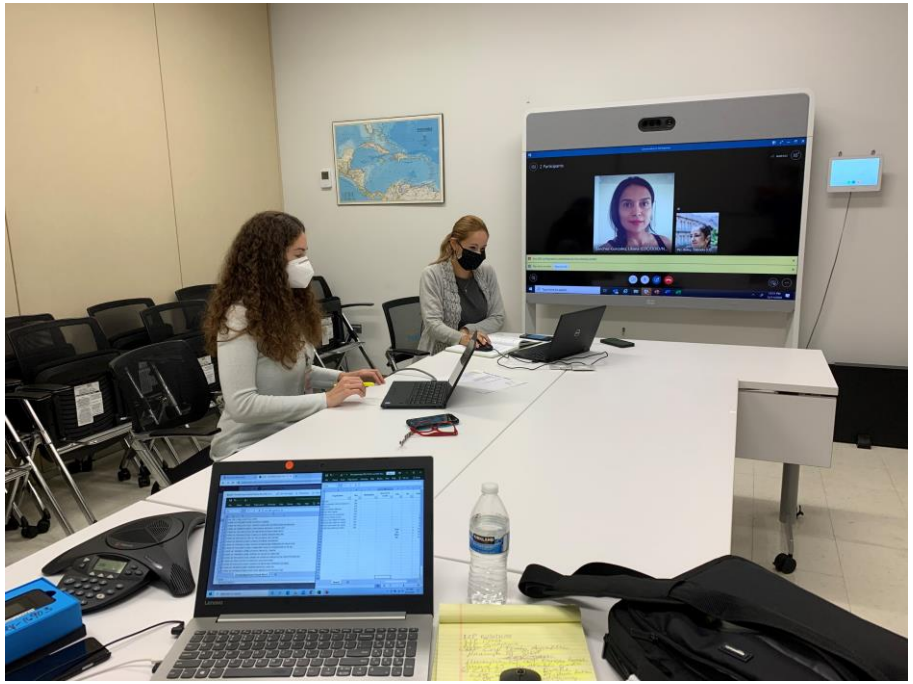
By Oliver Griffin 5 MIN READ

BOGOTA (Reuters) - As the coronavirus kills thousands and dominates government attention across Latin America, another deadly viral infection is quietly stalking the region.

FILE PHOTO: Aedes aegypti mosquitoes are seen inside Oxitec laboratory in Campinas, Brazil, February 2, 2016. REUTERS/Paulo Whitaker

Education of providers and parents

- Assemble education materials for physicians
  - Training sessions
    - Pediatric associations
    - College of physicians
    - College of nurses
- Educational material for parents
  - Post materials for doctor’s office and vaccination clinics
- Media campaign to inform the public



Who will pay?

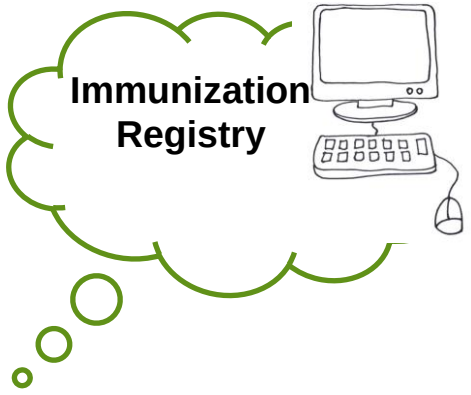
- Vaccine costs covered by VFC and insurance
- Medicaid will cover the cost of the test for Medicaid eligible
- Insurance will cover the cost of the test for those with private insurance
- For those uninsured or underinsured sources of funding will be identified

Pre-vaccination screening serologic testing

- Puerto Rico laboratories have experience using non-FDA approved tests under Clinical Laboratory Improvement Amendments (CLIA)
- The PR health department will consider providing specific guidance on the test approved locally for pre-vaccination
- After FDA approval pediatricians can apply for permission to run the test in their clinics
- Standing orders for dengue IgG pre-vaccination screening tests in immunization clinics will be considered
- Testing orders and results can be received online

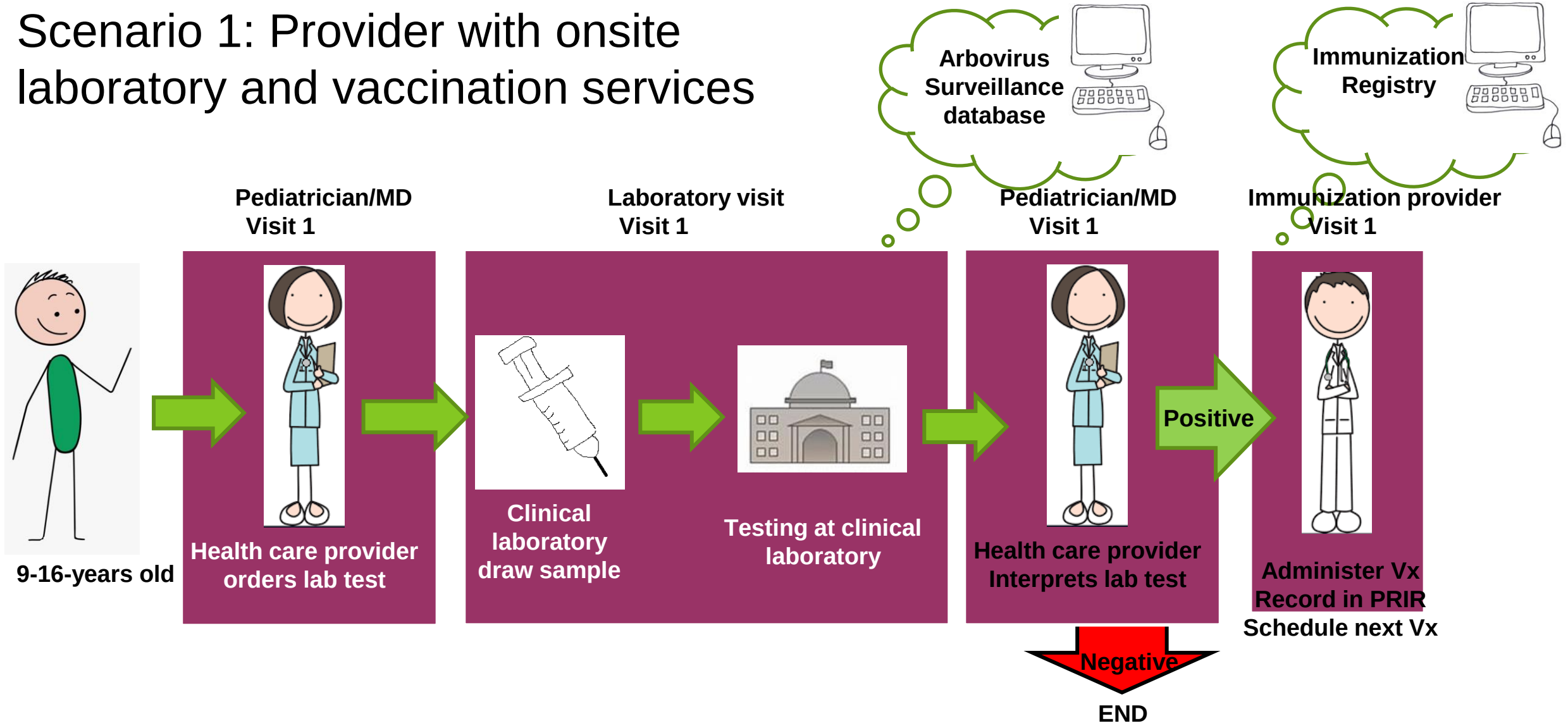
Arbovirus surveillance system

- Dengue testing is currently centralized
- Arbovirus surveillance system will be updated to receive reports from private laboratories
- Test results will be linked to data from the immunization registry



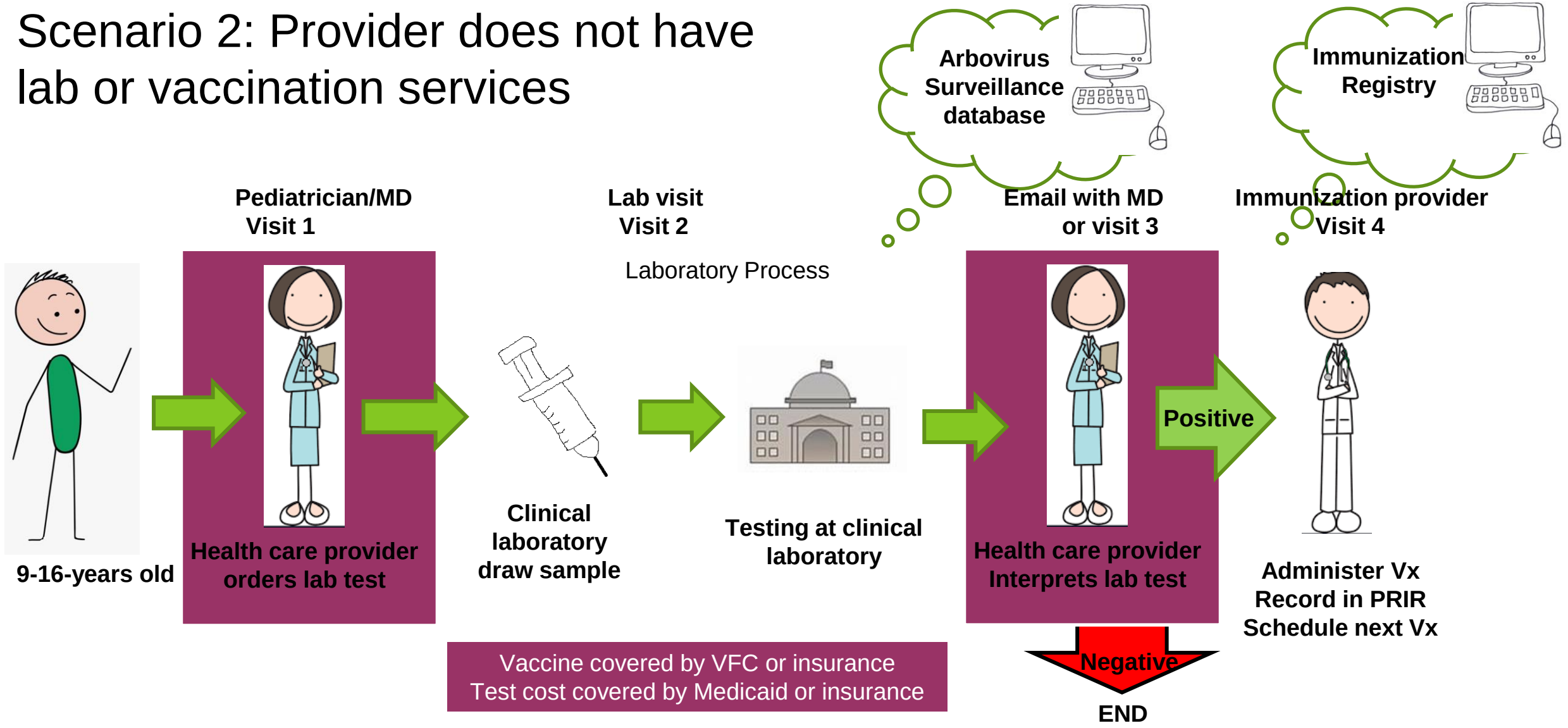
Logistics of dengue vaccination in Puerto Rico

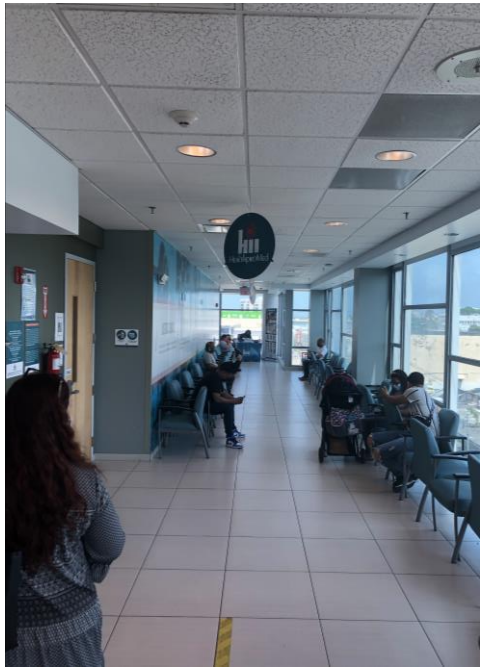
Scenario 1: Provider with onsite laboratory and vaccination services



Logistics of dengue vaccination in Puerto Rico

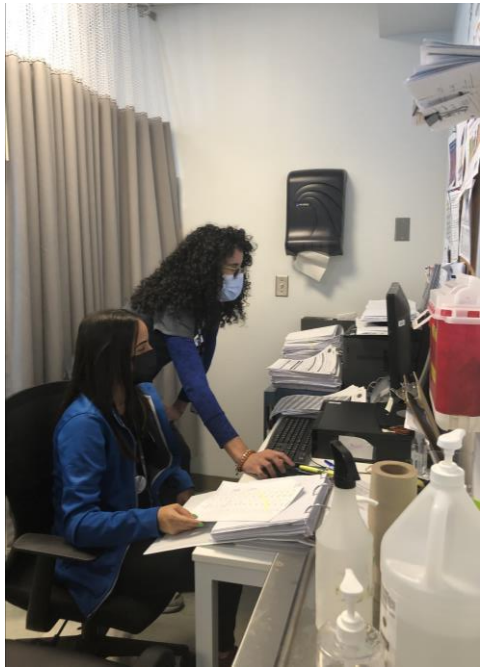
Scenario 2: Provider does not have lab or vaccination services





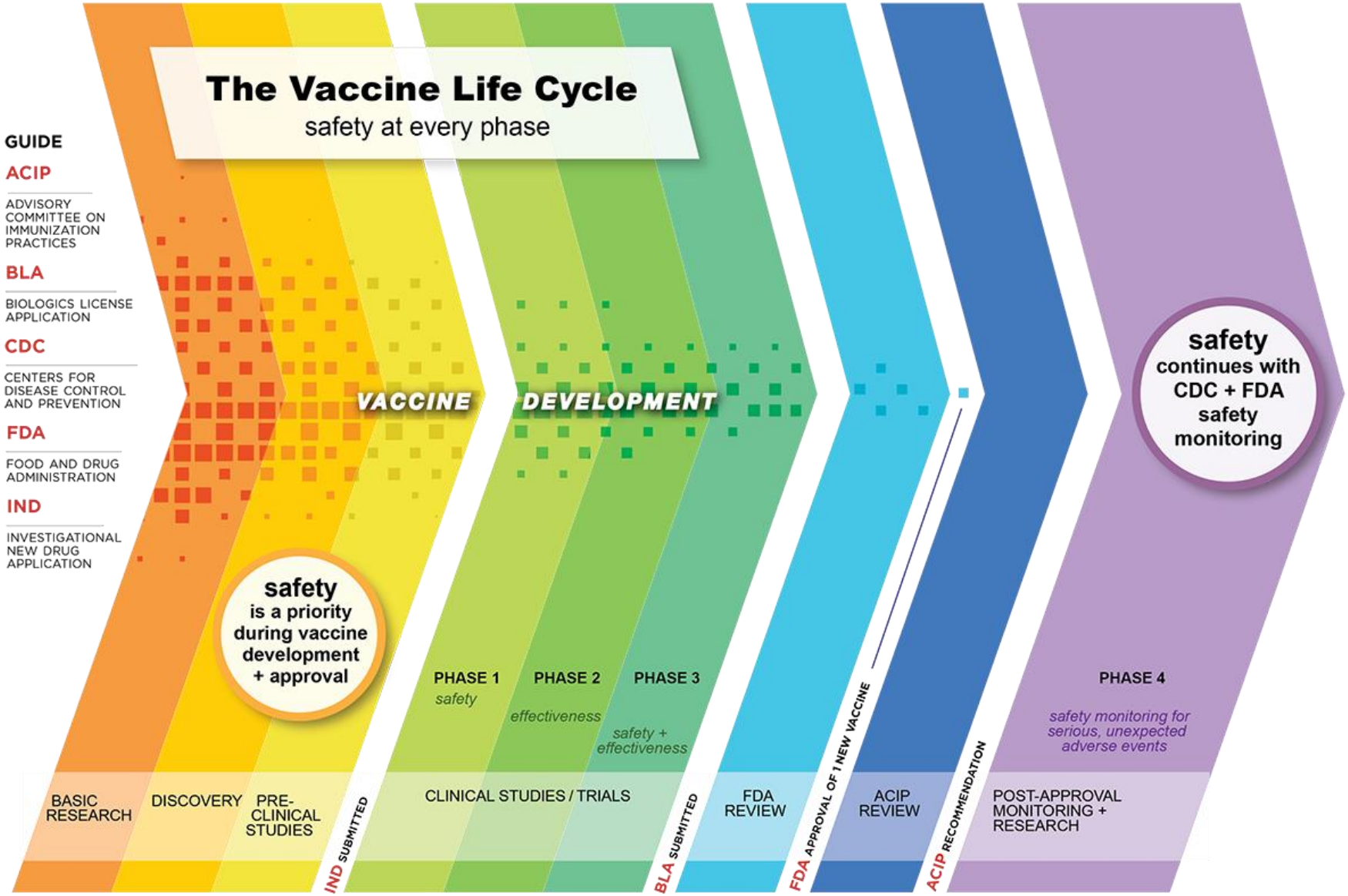
Pediatrician

Laboratory



Vaccination

FQHC and CDT have all services Phased-in implementation can start at these sites



How will we monitor for vaccine safety events post-approval?

Detection through VAERS

- Puerto Rico has an appointed and experienced VAERS coordinator
- Events regularly reported to VAERS
  - 817 events reported in 2021 as of 5/22 (CDC WONDER)
- Likely to detect events immediately after vaccination

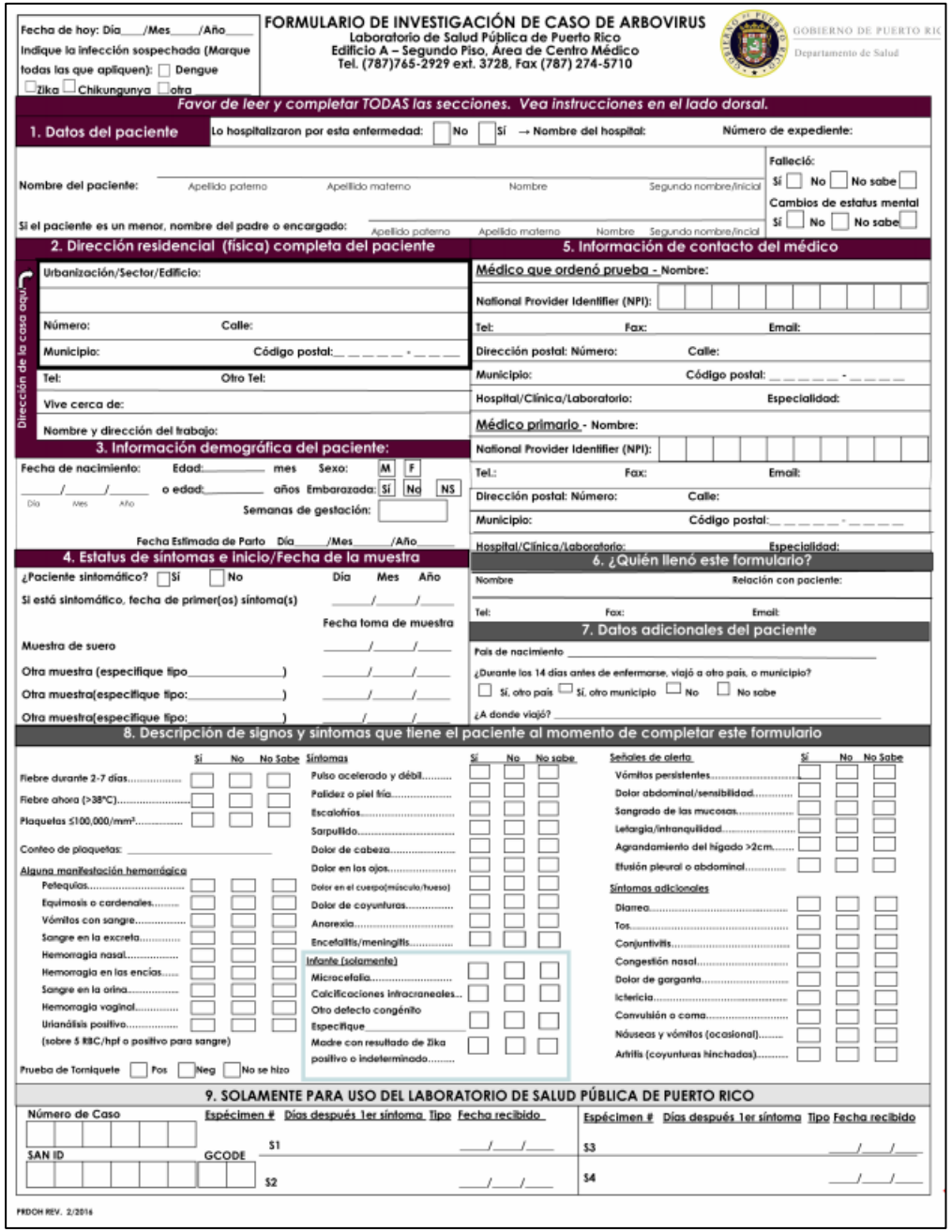
VAERS Vaccine Adverse Event Reporting System
www.vaers.hhs.gov

Long term vaccine safety

- Hospitalizations and severe dengue
- Will likely happen several years after vaccination
- Reported through the existing passive dengue surveillance system

DENV case surveillance in Puerto Rico

- All DENV testing centralized at Puerto Rico Department of Health Laboratory
  - Biological and Chemical Emergency Laboratory (BCEL)
- Specimens submitted with case investigation form
- All cases captured in Arboviral Database
- Under-reporting exists, ratio of 1 reported for every 5–9 hospitalized (Shankar, 2018)



Fecha de hoy: Día____/Mes____/Año____
Indique la infección sospechada (Marque todas las que apliquen): ☐ Dengue ☐ Zika ☐ Chikungunya ☐ otra

FORMULARIO DE INVESTIGACIÓN DE CASO DE ARBOVIRUS
Laboratorio de Salud Pública de Puerto Rico
Edificio A – Segundo Piso, Área de Centro Médico
Tel. (787)765-2929 ext. 3728, Fax (787) 274-5710

GOBIERNO DE PUERTO RICO
Departamento de Salud

Favor de leer y completar TODAS las secciones. Vea instrucciones en el lado dorsal.

1. Datos del paciente
Lo hospitalizaron por esta enfermedad: ☐ No ☐ Sí → Nombre del hospital: Número de expediente:
Nombre del paciente: Apellido paterno Apellido materno Nombre Segundo nombre/inicial
Falleció: Sí ☐ No ☐ No sabe ☐
Cambios de estatus mental Sí ☐ No ☐ No sabe ☐
Si el paciente es un menor, nombre del padre o encargado: Apellido paterno Apellido materno Nombre Segundo nombre/inicial

2. Dirección residencial (física) completa del paciente
Dirección de la casa aquí
Urbanización/Sector/Edificio:
Número: Calle:
Municipio: Código postal:
Tel: Otro Tel:
Vive cerca de:
Nombre y dirección del trabajo:

5. Información de contacto del médico
Médico que ordenó prueba - Nombre:
National Provider Identifier (NPI):
Tel: Fax: Email:
Dirección postal: Número: Calle:
Municipio: Código postal:
Hospital/Clínica/Laboratorio: Especialidad:
Médico primario - Nombre:
National Provider Identifier (NPI):
Tel.: Fax: Email:
Dirección postal: Número: Calle:
Municipio: Código postal:
Hospital/Clínica/Laboratorio: Especialidad:

3. Información demográfica del paciente:
Fecha de nacimiento: Día Mes Año
Edad: mes o edad: años Sexo: M F
Embarazada: Sí No NS
Semanas de gestación:
Fecha Estimada de Parto Día____/Mes____/Año____

4. Estatus de síntomas e inicio/Fecha de la muestra
¿Paciente sintomático? ☐ Sí ☐ No
Si está sintomático, fecha de primer(os) síntoma(s) Día Mes Año
Fecha toma de muestra
Muestra de suero
Otra muestra (especifique tipo_____)
Otra muestra(especifique tipo:_____)
Otra muestra(especifique tipo:_____)

6. ¿Quién llenó este formulario?
Nombre Relación con paciente:
Tel: Fax: Email:

7. Datos adicionales del paciente
País de nacimiento
¿Durante los 14 días antes de enfermarse, viajó a otro país, o municipio?
☐ Sí, otro país ☐ Sí, otro municipio ☐ No ☐ No sabe
¿A donde viajó?

8. Descripción de signos y síntomas que tiene el paciente al momento de completar este formulario

	Sí	No	No Sabe
Fiebre durante 2-7 días			
Fiebre ahora (>38°C)			
Plaquetas ≤100,000/mm³			
Conteo de plaquetas:			
Alguna manifestación hemorrágica			
Petequias			
Equimosis o cardenales			
Vómitos con sangre			
Sangre en la excreta			
Hemorragia nasal			
Hemorragia en las encías			
Sangre en la orina			
Hemorragia vaginal			
Urianálisis positivo (sobre 5 RBC/hpf o positivo para sangre)			
Prueba de Torniquete: Pos ☐ Neg ☐ No se hizo ☐			

Síntomas	Sí	No	No sabe
Pulso acelerado y débil			
Palidez o piel fría			
Escalofríos			
Sarpullido			
Dolor de cabeza			
Dolor en los ojos			
Dolor en el cuerpo(músculo/hueso)			
Dolor de coyunturas			
Anorexia			
Encefalitis/meningitis			
Infante (solamente)			
Microcefalia			
Calcificaciones intracraneales			
Otro defecto congénito			
Especifique			
Madre con resultado de Zika positivo o indeterminado			

Señales de alerta	Sí	No	No Sabe
Vómitos persistentes			
Dolor abdominal/sensibilidad			
Sangrado de las mucosas			
Letargia/intranquilidad			
Agrandamiento del hígado >2cm			
Efusión pleural o abdominal			
Síntomas adicionales			
Diarrea			
Tos			
Conjuntivitis			
Congestión nasal			
Dolor de garganta			
Ictericia			
Convulsión o coma			
Náuseas y vómitos (ocasional)			
Artritis (coyunturas hinchadas)			

9. SOLAMENTE PARA USO DEL LABORATORIO DE SALUD PÚBLICA DE PUERTO RICO
Número de Caso
SAN ID GCODE

Espécimen #	Días después 1er síntoma	Tipo	Fecha recibido
S1			___/___/___
S2			___/___/___
S3			___/___/___
S4			___/___/___

PRDOH REV. 2/2016

Enhancing surveillance for dengue cases after vaccination

- Conduct outreach to hospitals to educate about the dengue vaccine
- Retrain doctors on clinical suspicion of dengue
- Streamline and reinforce reporting of hospitalizations for suspected dengue cases
- Consider enhanced surveillance at children's hospitals

Ascertaining vaccination information for hospitalized cases

- Add dengue vaccine history to arboviral case investigation form
- Confirm status with vaccine registry
- Monitor reported numbers of hospitalizations among vaccinated children to identify potential safety signals

Summary

- PRDoH adopts ACIP recommendations for local vaccine schedule- reviewed annually
- Immunization registry reporting is mandatory by administrative order
- Population 9-10 years old receive limited vaccines as no routine vaccines recommended
- Dengue testing can be incorporated to annual wellness visit
- About 25% of VFC providers have lab capability in house (FQHCs & CDTs), can start pilot dengue vaccination at these sites
- Vaccine series completion in age cohort is lower for 2nd and 3rd dose

Summary

- VAERS in place to detect adverse events short-term after vaccination
- Existing DENV surveillance system can capture cases years after vaccination
  - Need to prepare and strengthen infrastructure
- Can monitor overall numbers and use modeling to assess expected numbers

Questions?