

# WORKSHOP “PERSISTENT BACKSLIDE: EXPERIENCES IN IMPLEMENTING APPROACHES TO RESTORE COVERAGE AND STRENGTHEN IMMUNIZATION PROGRAMMING FOR THE FUTURE”

EXPERIENCE AND LESSONS LEARNED FROM THE NATIONAL IMMUNIZATION PROGRAM IN REGAINING  
VACCINATION COVERAGES IN BRAZIL

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Ministry of Health - MS

July 3-4, 2024. Istanbul/Turkey

# GEOGRAPHICAL AND POPULATION CHARACTERISTICS OF BRAZIL



**Continental dimensions:** area of 8.5 km<sup>2</sup>

**Border with 10 countries** (157 thousand km<sup>2</sup> in length)

**5 regions 27 states and 5,570 municipalities**

**Population:** 203.1 million (IBGE 2022)

- ✓ 25 million children < 1 year
- ✓ 13 million < 5 years old

**Acquisition of more than 350 million doses of vaccines per year**

# Unified Health System - SUS

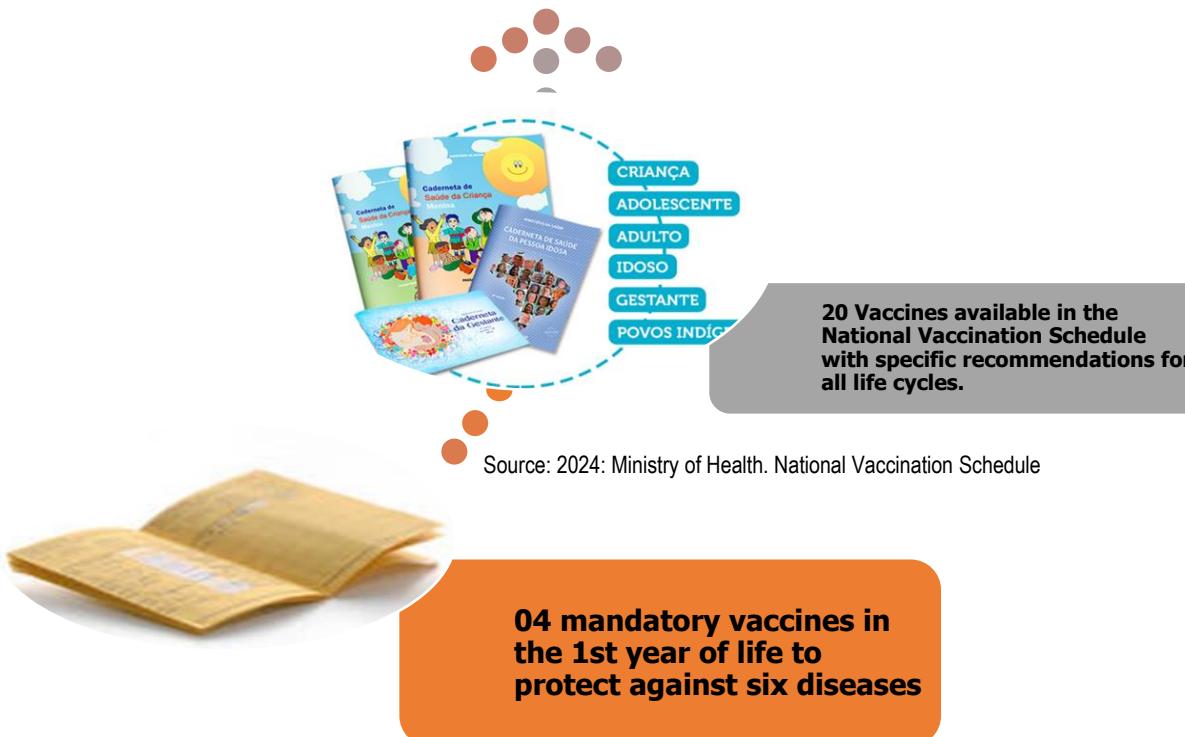
- Created with the 1988 Constitution
- Tripartite management – Federal Government, States, and Municipalities
- Funded by taxes
- Principles of SUS
  - Universality
  - Equity
  - Comprehensiveness

# National Immunization Policy

- Law No. 6,259/1975
  - Provides for the organization of Epidemiological Surveillance actions and the National Immunization Program, establishes norms related to compulsory notification of diseases, and other provisions.
- Decree No. 78,231/1976
  - Regulates Law No. 6,259 of October 30, 1975, establishing the National Epidemiological Surveillance System.

# NATIONAL IMMUNIZATION PROGRAM 50 YEARS OF HISTORY: EVOLUTION OF THE NATIONAL VACCINATION SCHEDULE

Increased complexity of vaccination actions



1977: 1st National Vaccination Schedule

1973 Creation of the National Immunization Program - PNI

# IMMUNOBIOLICALS OFFERED - SUS

## VACCINES

- BCG vaccine
- Cholera vaccine (military)
- Yellow fever vaccine – YF
- Typhoid fever vaccine (military)
- Haemophilus influenzae type B vaccine – Hib
- Hepatitis A vaccine (CRIE)
- Hepatitis A vaccine (routine pediatric)
- Hepatitis B vaccine
- Influenza vaccine
- Pneumococcal 23 vaccine
- Inactivated poliomyelitis vaccine – IPV
- Canine rabies vaccine
- Rabies vero cell culture vaccine
- Varicella vaccine
- Adult diphtheria-tetanus vaccine – dT
- Infant diphtheria-tetanus vaccine – DT
- Meningococcal conjugate vaccine group C
- Oral poliomyelitis vaccine – OPV
- Oral human rotavirus vaccine – VORH
- Human papillomavirus vaccine – HPV
- Pentavalent vaccine – DTP-HB/Hib
- 10-valent pneumococcal conjugate vaccine
- Tetraovalent vaccine
- Infant acellular pertussis vaccine – DTPa
- Adult/adolescent acellular pertussis booster vaccine – dTpa
- Diphtheria-tetanus-pertussis vaccine – DTP
- Measles-mumps-rubella vaccine – MMR
- MPOX vaccine
- Covid-19 vaccine
- Hexavalent acellular vaccine DTPa/Hib/HB/IPV
- 13-valent pneumococcal conjugate vaccine
- Acellular pentavalent vaccine – DTPa-HB/Hib
- Meningococcal conjugate vaccine group ACWY
- Dengue vaccine

## SERA

- Antiarachnid serum (Loxosceles Phoneutria and Tityus) – SAA
- Antibotropic serum (pentavalent) – SABr
- Antibotropic serum (pentavalent) and antielapidic – SABL
- Antibotropic serum (pentavalent) and anticrotalic – SABC
- Antibotulinic serum – SAB
- Anticrotalic serum – SAC
- Antidiphtheric serum – SAD
- Antielapidic serum (bivalent) – SAEla
- Antiscorpion serum – SAEsc
- Antilononomic serum – SALon
- Antiloxyoscelic serum (trivalent) – SALox
- Human rabies immune globulin – SARH
- Antitetanic serum – SAT

## IMMUNOBIOLICALS

- Human Anti-Hepatitis B Immunoglobulin
- Human Rabies Immunoglobulin
- Human Tetanus Immunoglobulin
- Human Anti-Varicella Zoster Immunoglobulin

51 Immunobiologials

34 Vaccines

13 Heterologous Sera

04 Homologous Sera

# NATIONAL VACCINATION SCHEDULE

## Child

- 1. BCG
- 2. Hepatitis B
- 3. IPV - Inactivated Poliomyelitis Vaccine 1, 2, and 3
- 4. OPV - Oral Poliomyelitis Vaccine 1 and 3 (attenuated)
- 5. HRV (Human Rotavirus Vaccine)
- 6. Pentavalent (DTP/Hib/Hep B)
- 7. 10-valent Pneumococcal
- 8. Meningococcal C (conjugate)
- 9. Yellow Fever
- 10. MMR (Measles, Mumps, Rubella)
- 11. Tetravalent (Measles, Mumps, Rubella, Varicella)
- 12. Hepatitis A
- 13. DTP (Diphtheria, Tetanus, and Pertussis)
- 14. dT (Diphtheria, Tetanus)
- 15. HPV
- 16. Varicella

## Adolescent

- 1. Hepatitis B
- 2. dT (Diphtheria and Tetanus)
- 3. Yellow Fever
- 4. MMR
- 5. HPV
- 6. Meningococcal ACWY

## Adult and Elderly

- 1. 23-valent Pneumococcal (bedridden, institutionalized, indigenous)
- 2. dT
- 3. Yellow Fever (to be evaluated with caution)
- 4. Hepatitis B

## Pregnant

- 1. Hepatitis B
- 2. dT
- 3. dTpa

# National Immunization Program

## Objectives

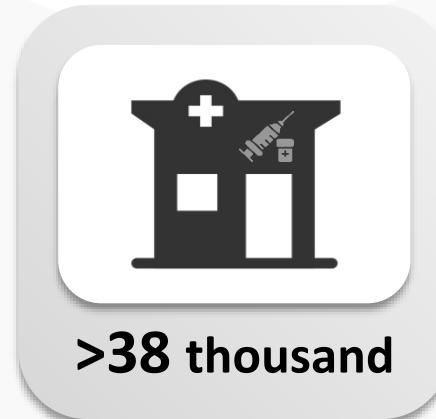
- Define the country's vaccination policy and the National Vaccination Calendar (CNV)
- Acquire and make immunobiologics available in public health vaccination rooms
- Establish norms and guidelines for vaccination indications and recommendations nationwide



>48



18/30



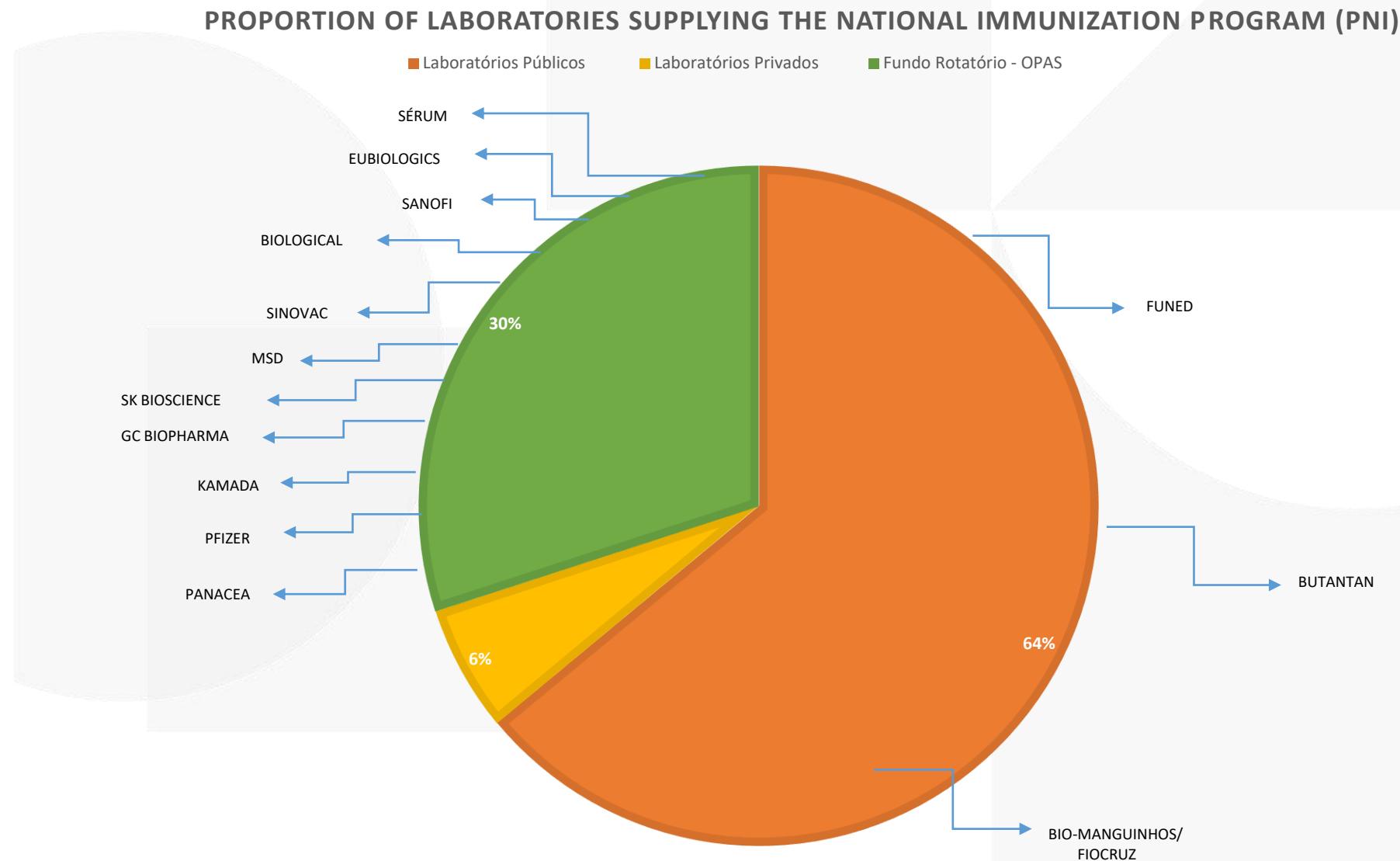
>38 thousand



>100  
million  
doses

Annual

# PUBLIC AND PRIVATE SUPPLIERS



# VACCINATION AS THE MAIN PROTECTION STRATEGY AND THE CHALLENGE OF VACCINATION COVERAGE

Reducing the transmission of vaccine-preventable diseases, occurrence of severe cases and deaths, with the strengthening of integrated health surveillance actions for health promotion, protection, and prevention.

- Diphtheria
- Tetanus
- Pertussis
- Meningitis
- Pneumonia
- Yellow Fever
- COVID-19

**Control**

- Urban Yellow Fever – 1942
- Poliomyelitis – 1994
- Neonatal Tetanus – 2003
- Rubella and CRS (Congenital Rubella Syndrome) – 2015
- Measles - 2016 to 2018

**Elimination**

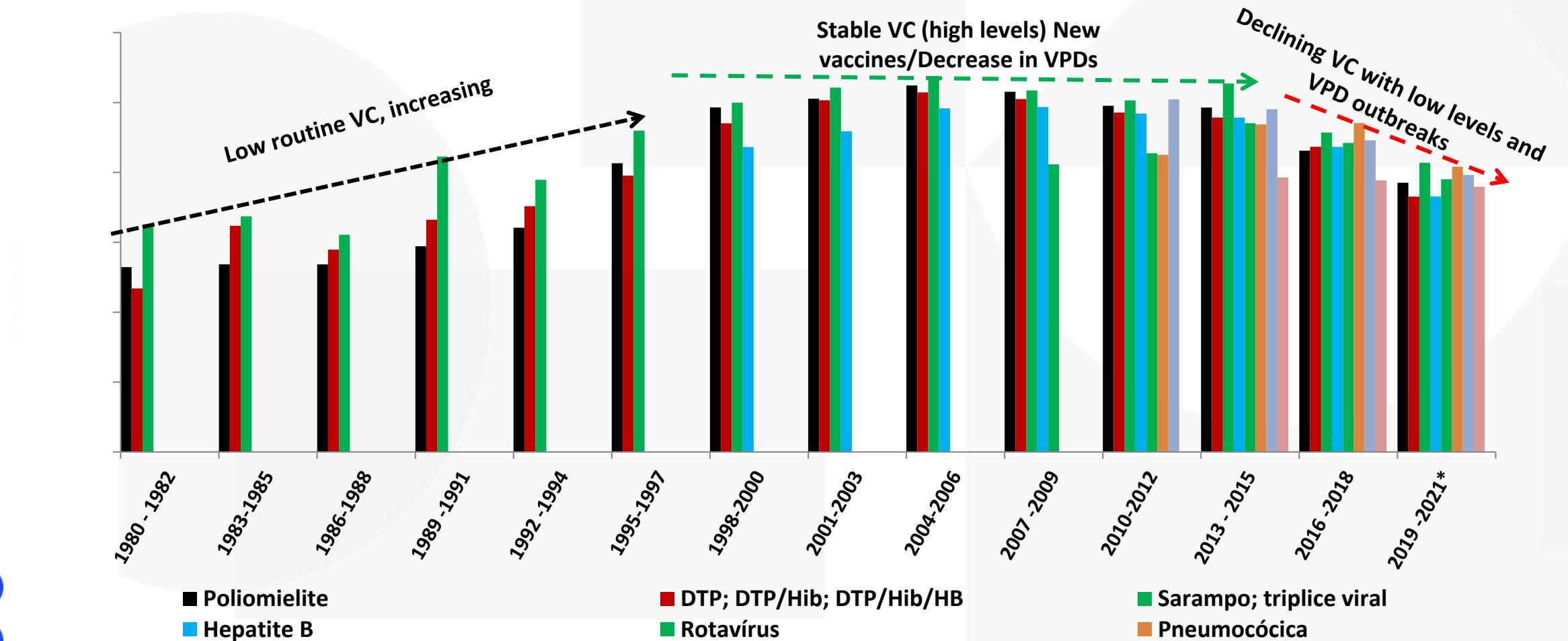
- Smallpox
  - Brazil: 1971
  - World: 1973

**Eradication**

The National Immunization Policy is one of the priorities in public health, reflected by increasing financial investment, ensuring the sustainability of the National Immunization Program (PNI).

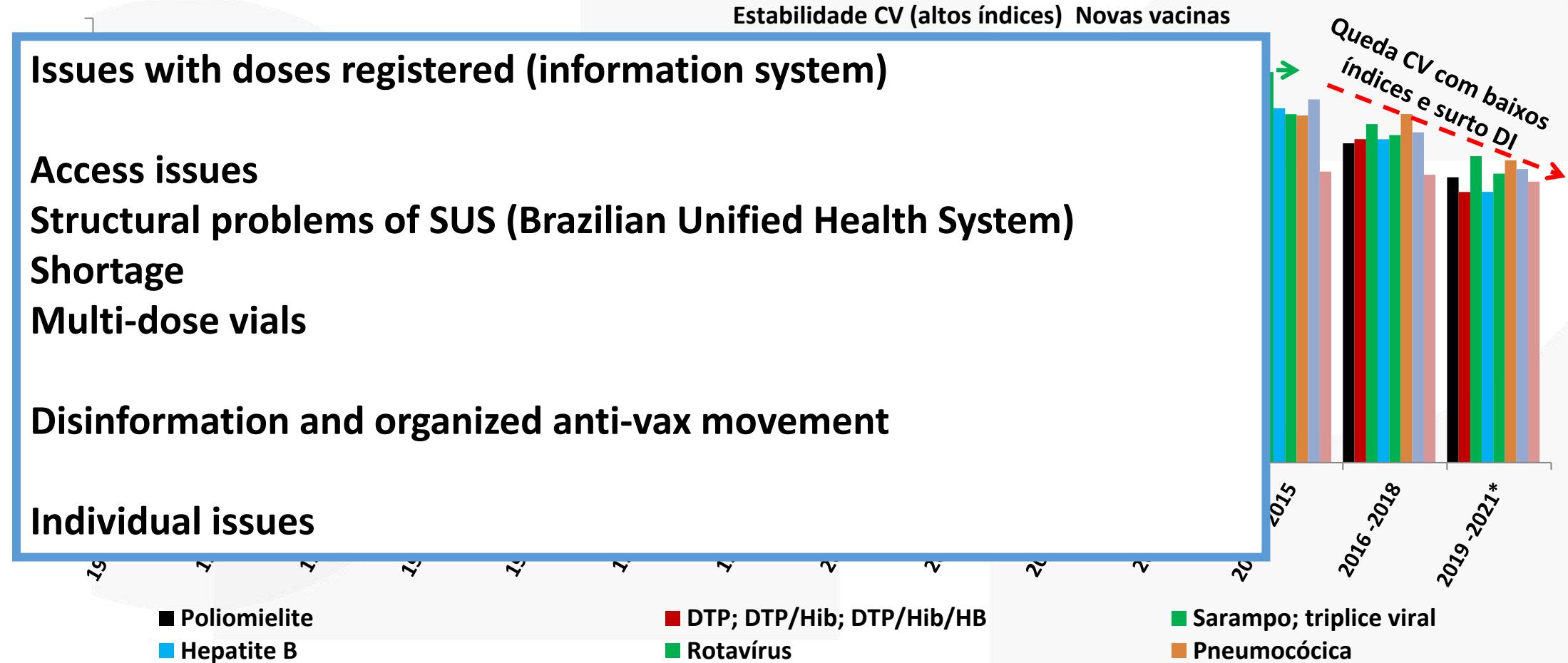


## Average Vaccination Coverage by Triennium, Childhood Vaccines, Brazil, 1980 to 2021\*



Source: SES and <http://sipni.datasus.gov.br> since 1994. Measles/MMR corresponds to the first dose. Pentavalent corresponds to vaccines with DTP components. Hepatitis B is considered the average VC of pentavalent since 2012.\*Preliminary data for 2021 as of 12/07/2022.

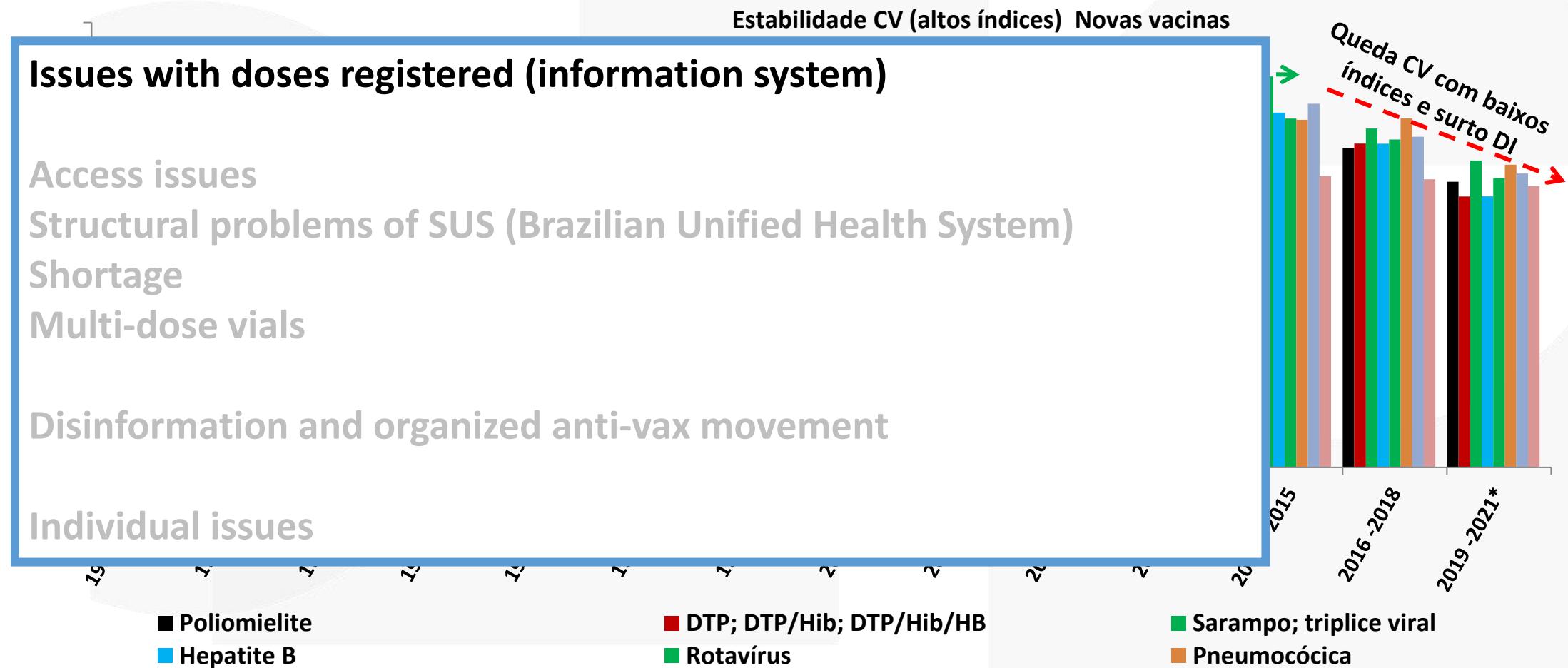
# Average vaccination coverage per three-year period, vaccines from the childhood immunization schedule, Brazil, 1980 to 2021\*



Fonte: SES e <http://sipni.datasus.gov.br> a partir de 1994.. Sarampo /tríplice viral corresponde a primeira dose. Penta corresponde a vacinas com componentes DTP. A Hepatite B, considerada a média da CV de penta a partir de 2012.

\*Dados preliminares 2021 em 07/12/2022

# Average vaccination coverage per three-year period, vaccines from the childhood immunization schedule, Brazil, 1980 to 2021\*



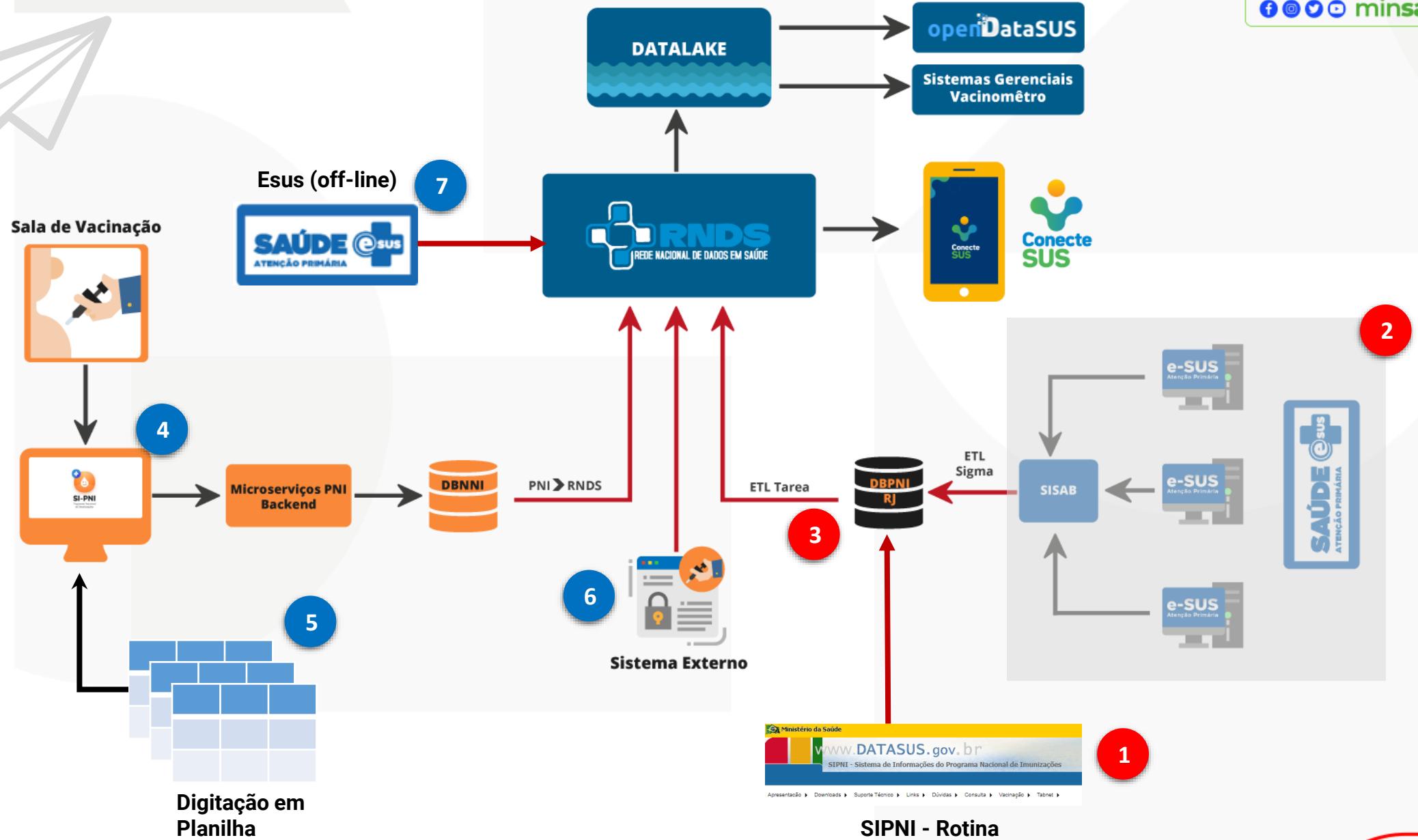
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\*Dados preliminares 2021 em 07/12/2022

# Vaccination Process

GOV.BR/SAUDE

 minsaudé



# Information systems for recording administered doses:

GOV.BR/SAUDE

 minsaud

Previously:

Computers in every vaccination room

Nominal registration of administered doses

Lack of standardization of rules

Multiple systems

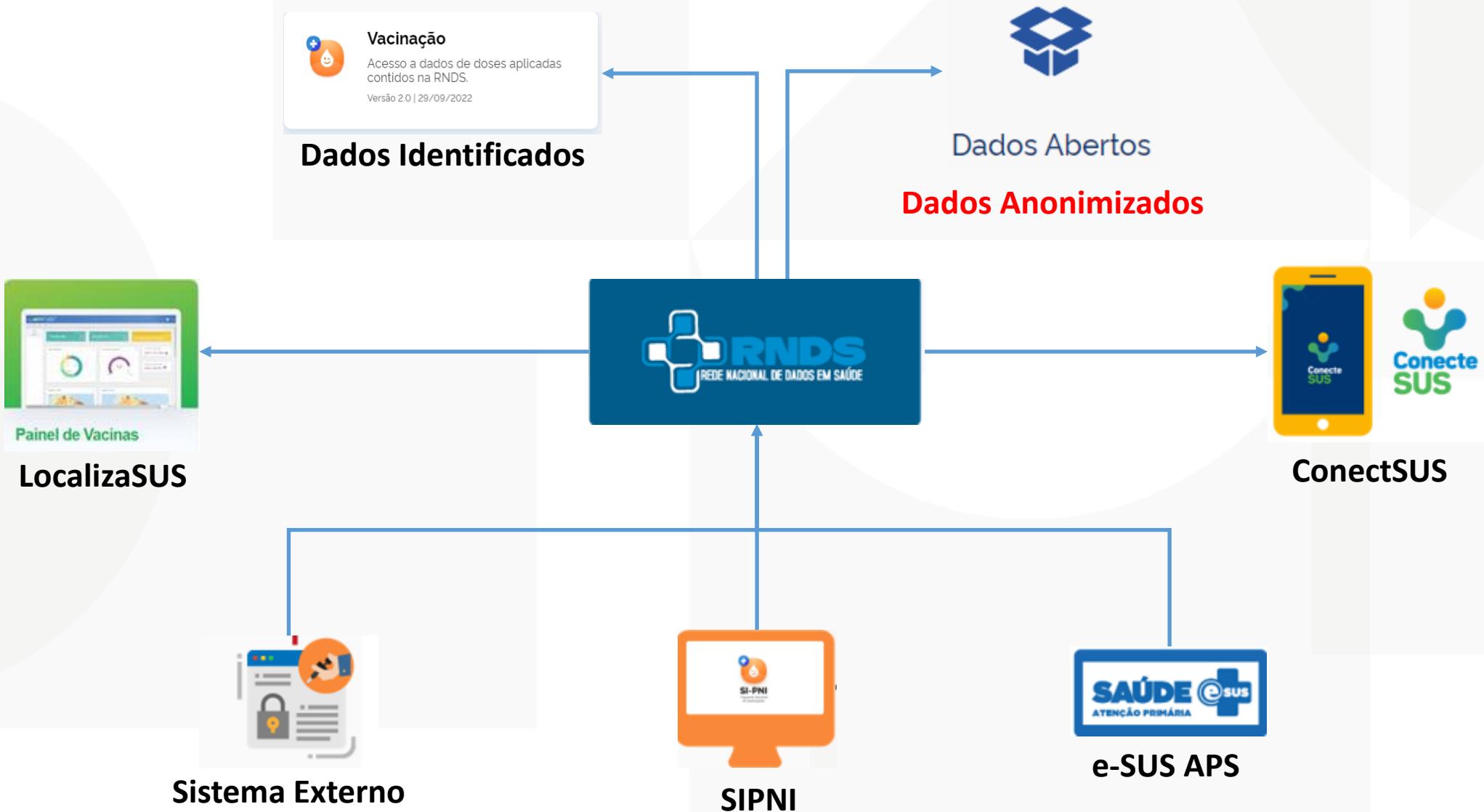
Dissemination of consolidated information only



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# Ideal vaccination flow



# Information systems for recording administered doses:

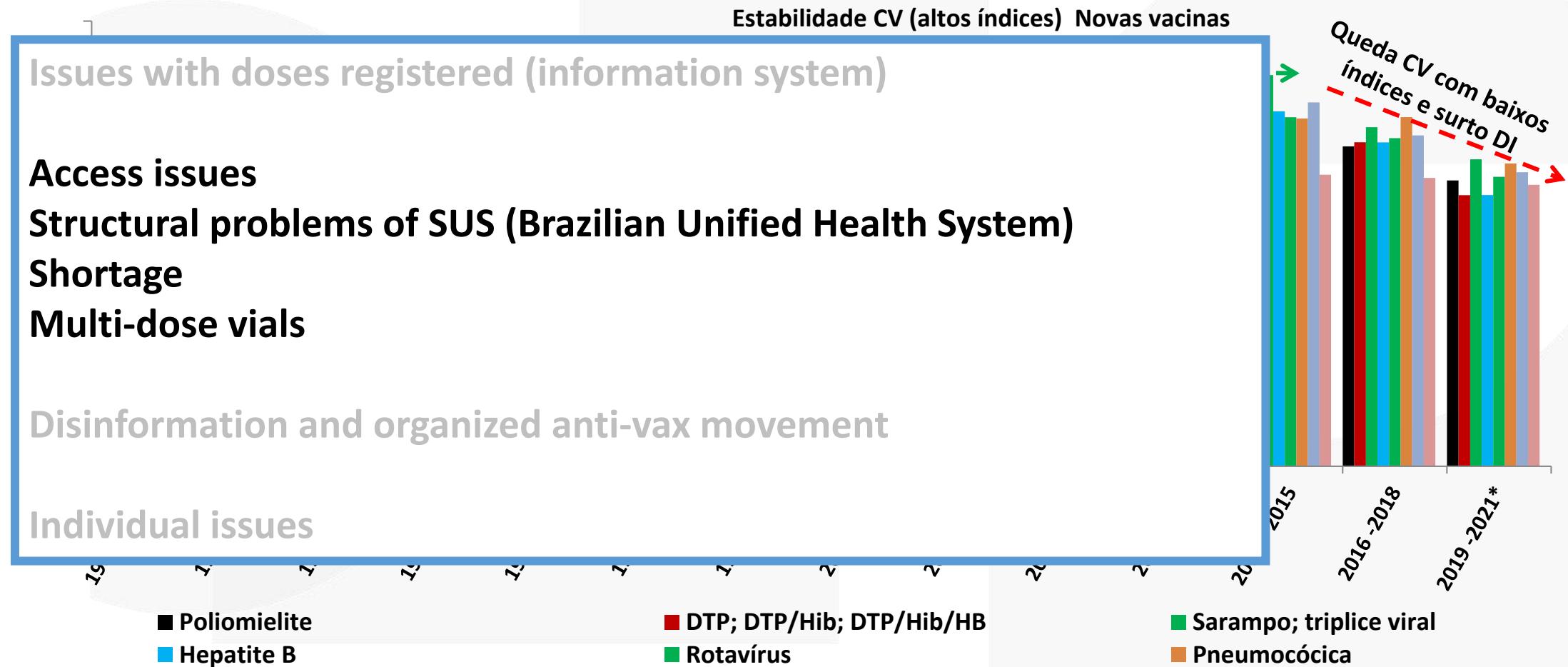
Standardization of information flow and business rules

All doses linked to the citizen's identification number

Digital vaccination record

Use of nominal data for vaccination strategy development

# Average vaccination coverage per three-year period, vaccines from the childhood immunization schedule, Brazil, 1980 to 2021\*



Fonte: SES e <http://sipni.datasus.gov.br> a partir de 1994.. Sarampo /tríplice viral corresponde a primeira dose. Penta corresponde a vacinas com componentes DTP. A Hepatite B, considerada a média da CV de penta a partir de 2012.

\*Dados preliminares 2021 em 07/12/2022

# **Microplanning for High-Quality Vaccination Actions (AVAQ) in the Global Context**

**Origin:** PAHO Resolution on "Revitalization of immunization as a public good for universal health", approved by the WHO Regional Committee for the Americas in September 2021

## **Methodology**

- Organizing work processes involving vaccination, considering the unique realities of the territory
  
- Simple
- Low cost
- Allows adaptation of lessons learned from previous experiences of countries in the Americas

# Differential Differentiated planning in primary care

- High-quality vaccination and Microplanning



- Implementation in Rio Grande do Norte (RN) – April 24 to 28, 2023  
(Intensification against yellow fever)
- National team training – May 2 to 5, 2023



# Microplanning for AVAQ in the context of Brazil

Brazil adapted PAHO guidelines and developed the Manual and Exercise Handbook, considering the unique realities of the Brazilian territory:

## Manual and Exercise Handbook

Include general, theoretical, and practical guidelines for implementing microplanning at the local, municipal, state, and national levels.

**Materials on Microplanning in Brazil are available at:**

<https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/c/calendario-nacional-de-vacinacao/avaq/publicacoes/manual-de-microplanejamento-para-as-atividades-de-vacinacao-de-alta-qualidade/view>

<https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/c/calendario-nacional-de-vacinacao/avaq>



# **Microplanning and Multivaccination**

## **GM Ordinance 844/2023**

- Microplanning workshops
- Monitoring and closing of microplanning
  - National Team – SVSA, SAPS, and SESAI
  - State Team – to be taken to municipalities
- Multivaccination Campaign
- 151 million reais – two installments
  - 13.7 million to states
  - 137 million to municipalities

# Microplanning Workshops

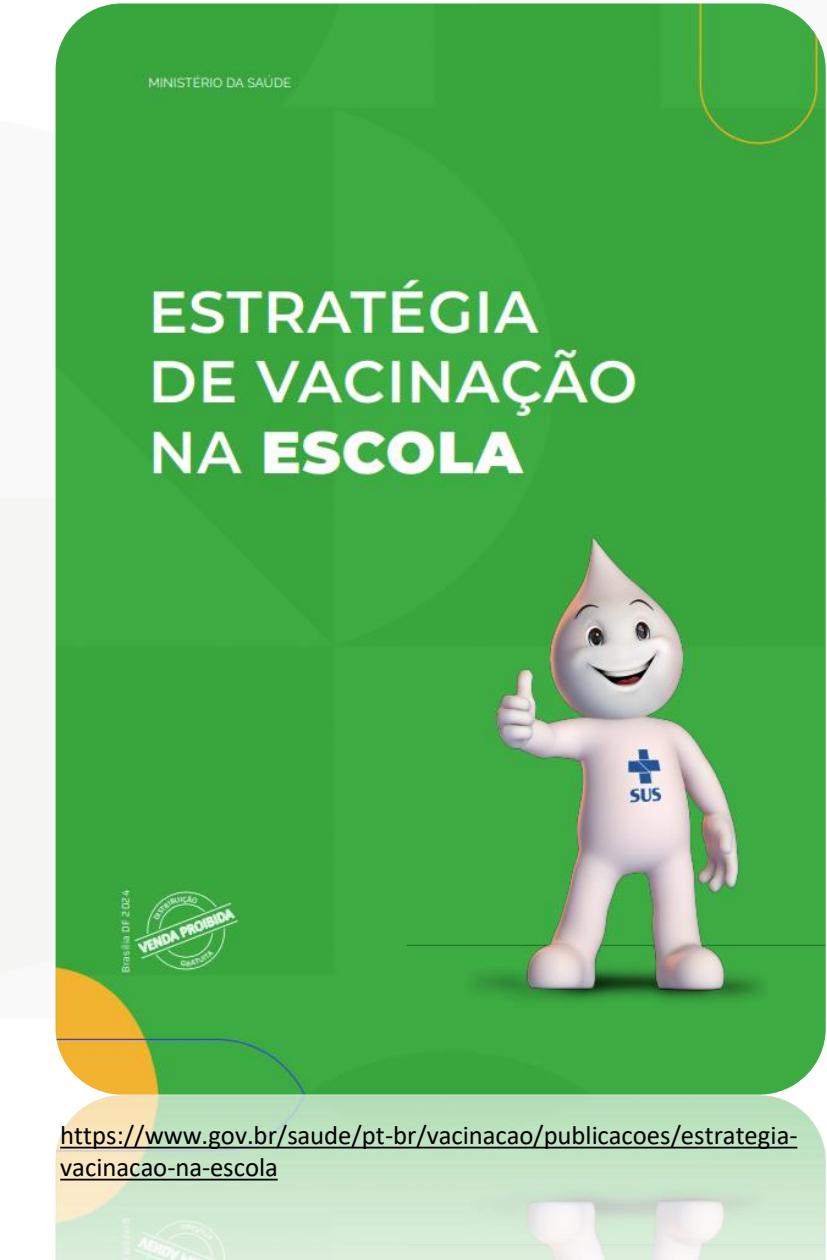
- Between April and September 2023, there were **18 capacity-building workshops**.
- **1,195 facilitators** were trained nationwide.







# Vaccination Strategy in Schools 2024



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Ministério da Saúde

O que você procura?

SAÚDE E EDUCAÇÃO

## Governo federal promove ação de vacinação nas escolas para crianças e adolescentes

Iniciativa dos ministérios da Saúde e Educação, pactuada com estados e municípios, faz parte do Programa Saúde na Escola e vai atualizar a caderneta de jovens com até 15 anos de idade

Publicado em 03/04/2024 08h30 | Atualizado em 03/04/2024 12h29

Compartilhe:



Foto: Walterson Rosa/MS

DISQUE 136  
SAÚDE

**EM MATÉRIA DE VACINAÇÃO, O BRASIL É 10.**

O Movimento Nacional pela Vacinação chegou à comunidade escolar.

Saiba mais em [gov.br/vacinacao](https://gov.br/vacinacao)

MOVIMENTO NACIONAL PELA VACINAÇÃO

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# Monitoring of Vaccination Strategies (MEV)

Establishes financial incentives  
for the development of  
vaccination strategy

GM/MS Ordinance No. 3,288, March 2024



National Vaccination Campaign  
against Poliomyelitis and MEV against  
Poliomyelitis and Measles in 2024  
Circular Letter No. 125/2024/SVSA/MS April 2024

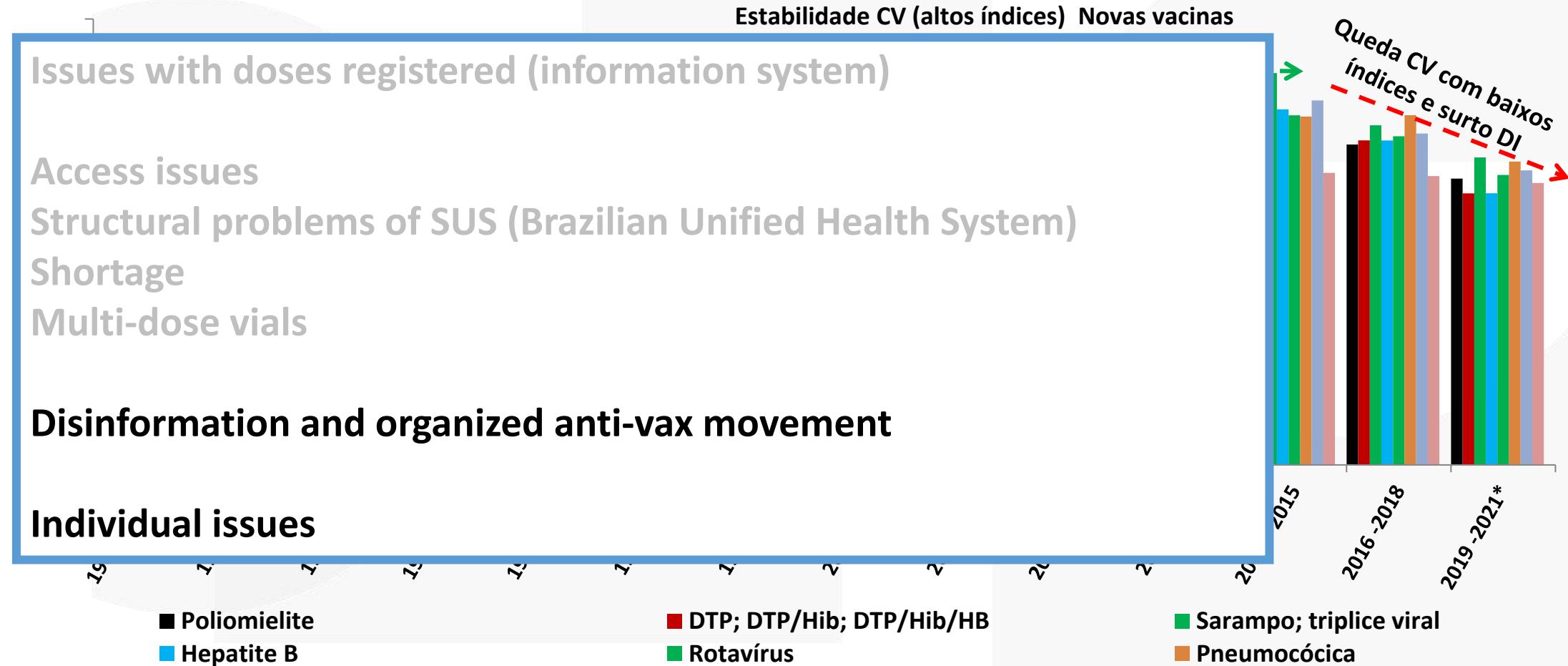
Schedule for MEV training against  
Poliomyelitis and Measles in 2024  
Circular Letter No. 161/2024/SVSA/MS May 2024



National Vaccination Campaign  
against Poliomyelitis  
May 27 to June 14, 2024

Monitoring of  
vaccination strategies  
June 17 to July 31, 2024

# Average vaccination coverage per three-year period, vaccines from the childhood immunization schedule, Brazil, 1980 to 2021\*



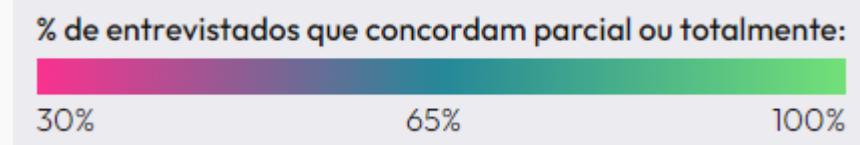
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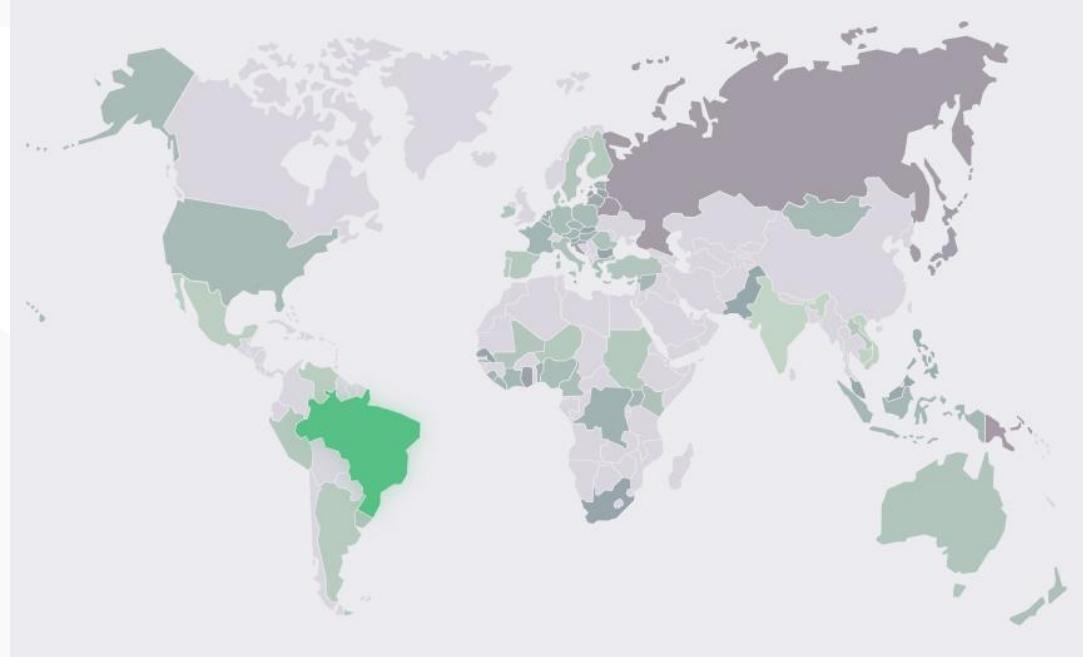
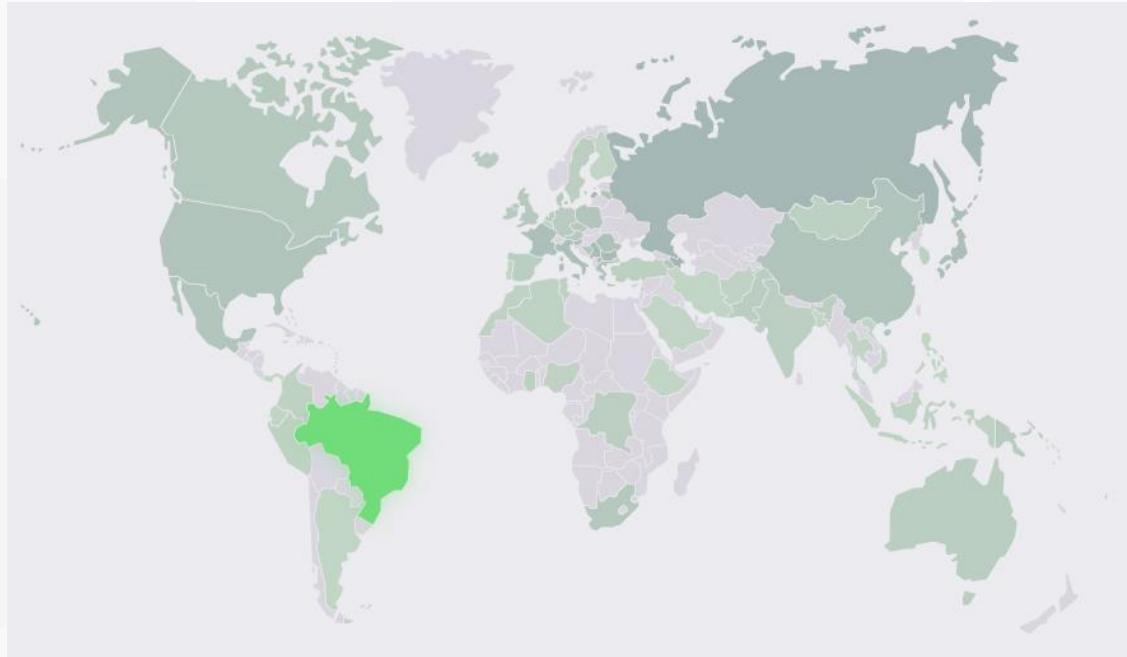
# Vaccine hesitancy

Are vaccines important for Brazilian children?

2015 = 99%



2022 = 88%



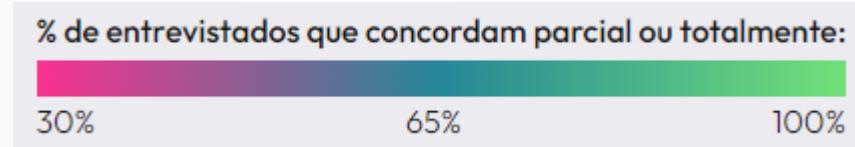
Source: Map of Vaccine Confidence Index - Vaccine Confidence Project (VCP)

<https://www.vaccineconfidence.org/vci/map/>

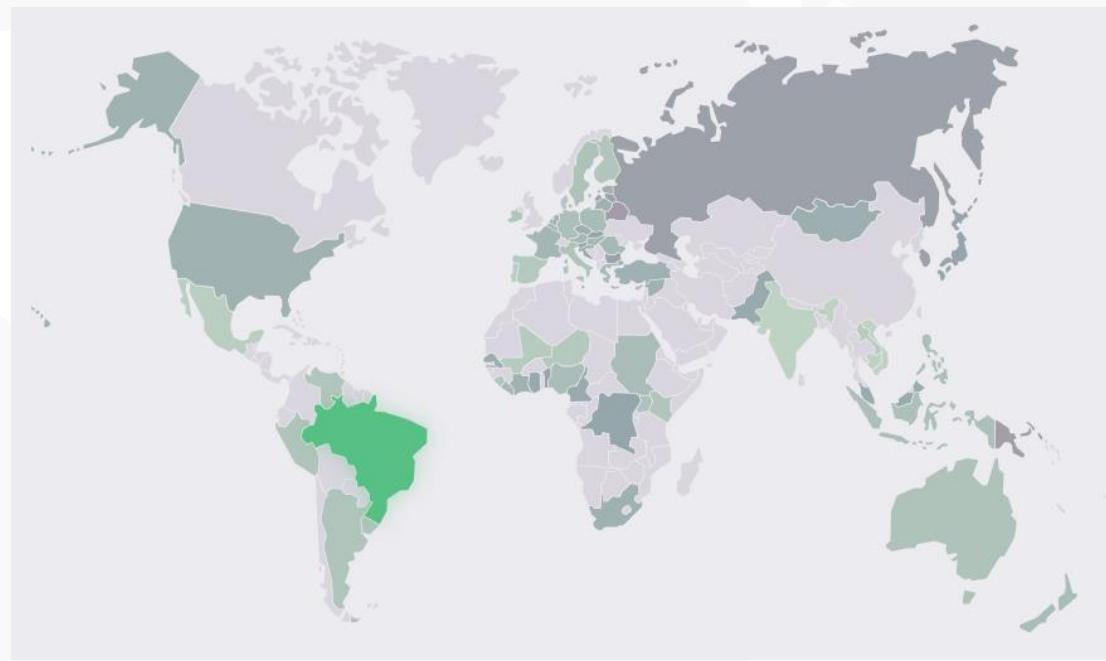
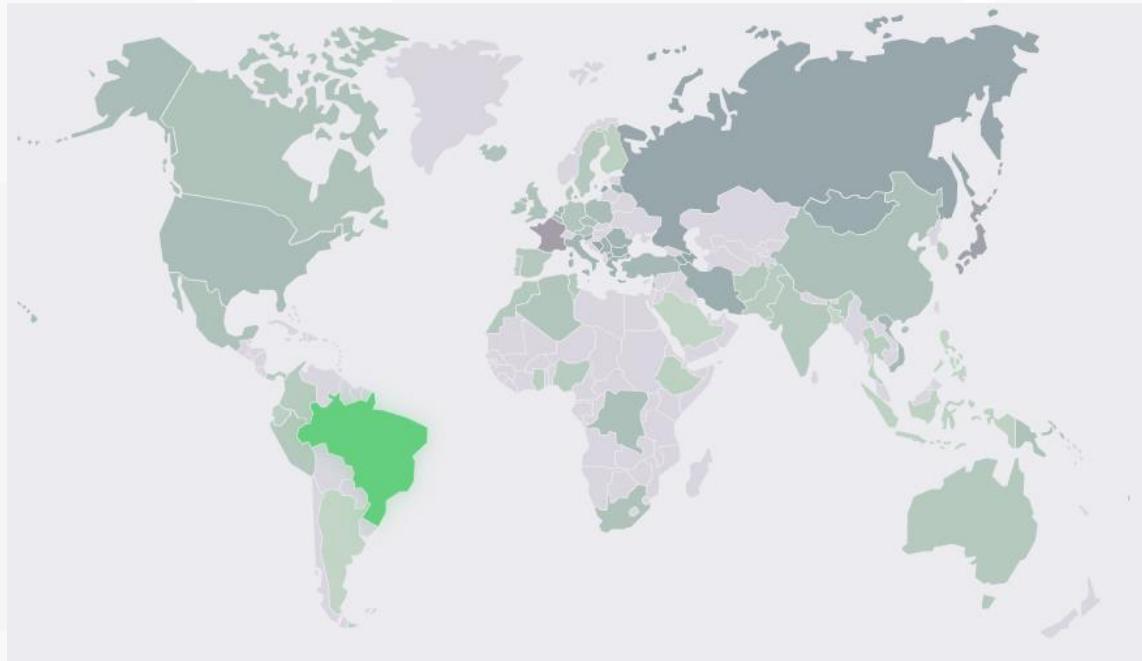
# Vaccine hesitancy

Are vaccines safe?

2015 = 93%



2022 = 88%



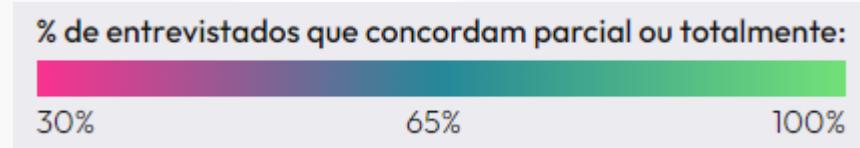
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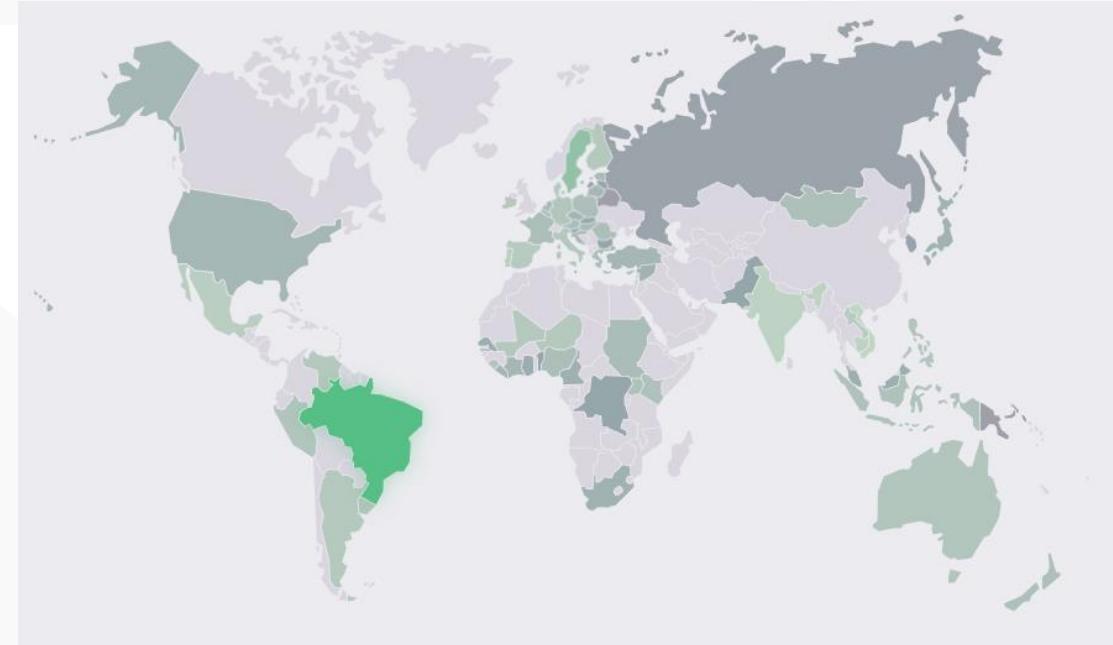
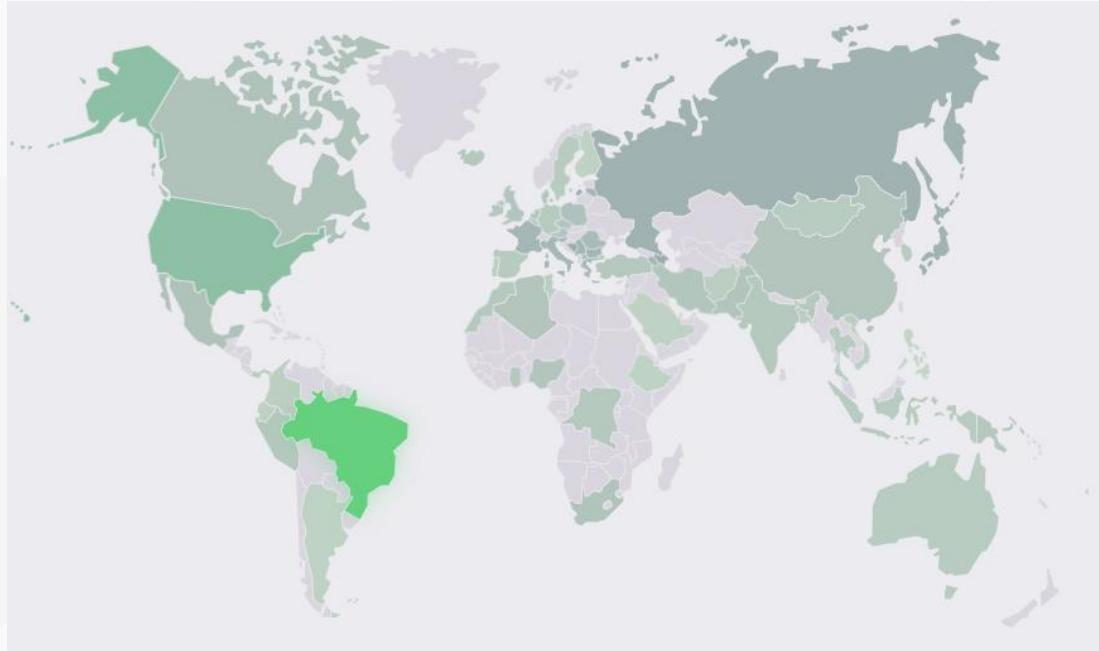
# Vaccine hesitancy

Are vaccines effective?

2015 = 94%



2022 = 87%



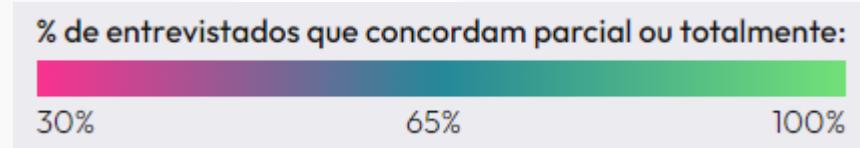
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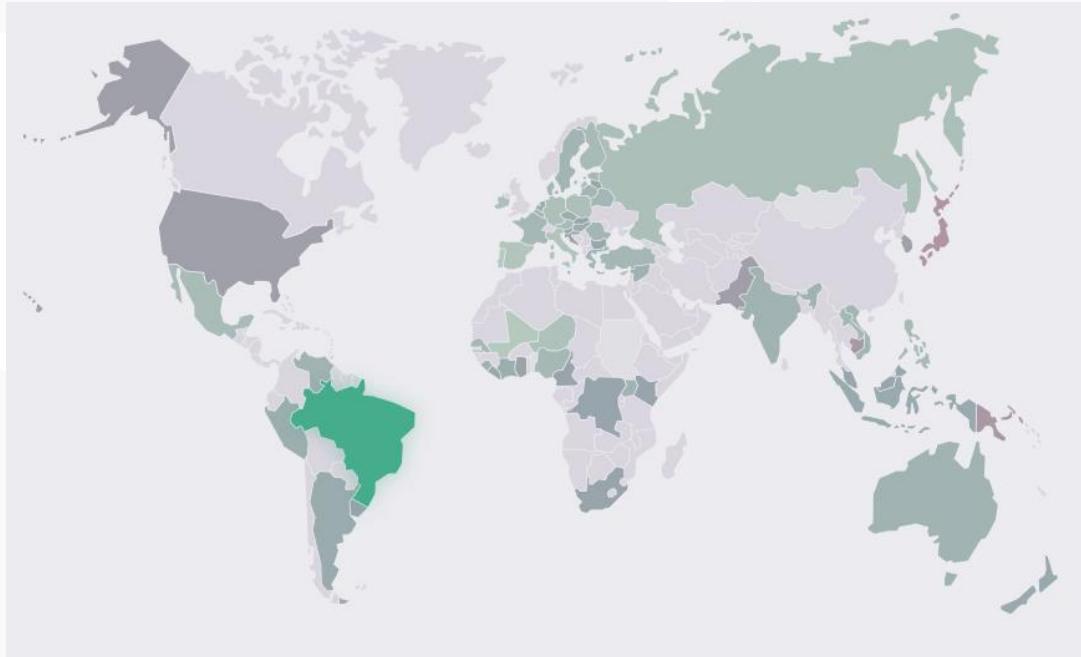
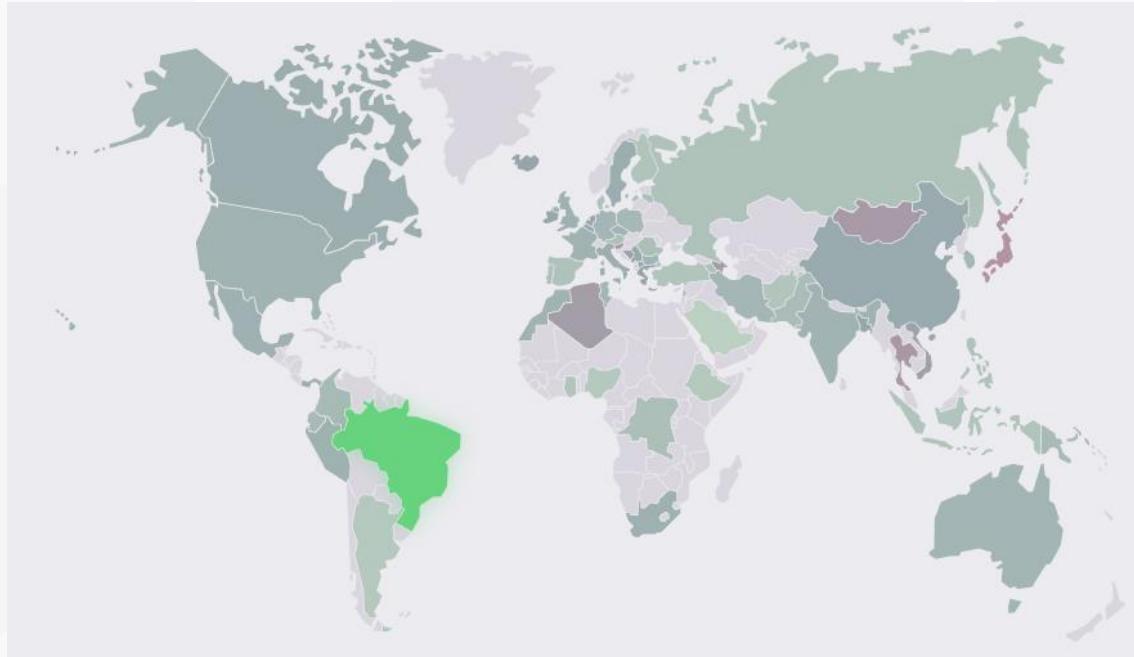
# Vaccine hesitancy

Are vaccines compatible with Brazilian beliefs?

2015 = 95%



2022 = 79%



Source: Map of Vaccine Confidence Index - Vaccine Confidence Project (VCP)

<https://www.vaccineconfidence.org/vci/map/>

# Anti-vaccine movement

## The anti-vaxx business

- Facebook
- Instagram
- Twitter
- YouTube

Social media platforms



- >62 million followers

Anti-vaccine audience



- US\$ 1.1 billion for Big Tech
- US\$ 35 million for the Anti-Vaxx industry

Annual revenue



## IMMUNIZATION AS A GOVERNMENT PRIORITY



Source: NUCOM/SVSA

# HEALTH WITH SCIENCE

Contingency plan to confront and respond to vaccine misinformation

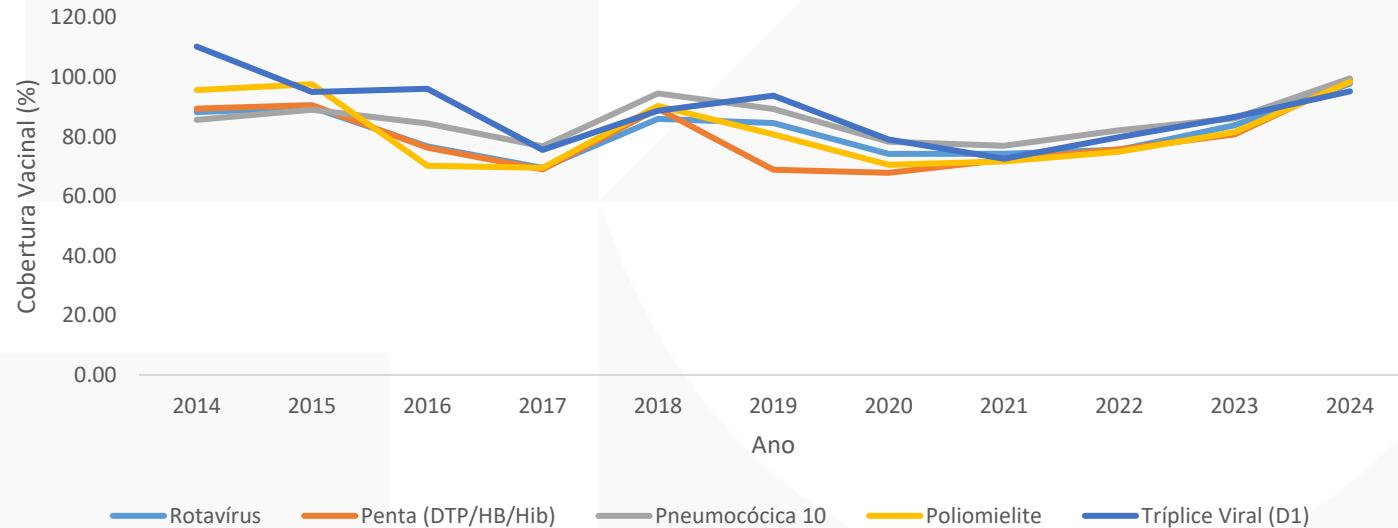
1. Strategic communication
2. Training and capacity building
3. Institutional cooperation
4. Monitoring, analysis, and research
5. Accountability



Source: <https://www.gov.br/saude/pt-br/assuntos/saude-com-ciencia/sobre>



# Vaccination coverage of vaccines agreed upon in PQAVS, Rio Grande do Norte, from 2014 to 2024.



Data extracted on 04/05/2024

[Source: Until 2022 - National Immunization Program Information System \(SIPNI\)](#)

[Source: From 2023 onwards - National Health Data Network \(RNDS\)](#)

Preliminary and subject to change.

Agreed vaccines: Polio; Pentavalent, Pneumococcal, and 1st dose of Measles-Mumps-Rubella

# Comparative vaccination coverage by vaccine type per year, Brazil, 2022 and 2023.

Immunobiological	2022	2023	Difference
<b>Rotavírus Humano</b>	76,6	84,1	7,5
<b>Meningocócica C</b>	78,6	82,2	3,6
<b>Penta (DTP/Hib/HB)</b>	77,2	83,5	6,2
<b>Pneumocócica</b>	81,5	86,6	5,1
<b>Poliomielite</b>	77,2	84,4	7,2
<b>Febre Amarela</b>	60,7	69,5	8,8
<b>Hepatite A</b>	73,0	80,6	7,6
<b>Pneumocócica 10-V (1º ref)</b>	71,5	80,5	9,0
<b>Meningocócica C (1º ref)</b>	75,3	81,3	5,9
<b>Poliomielite (1º ref)</b>	67,7	76,4	8,7
<b>Tríplice Viral D1</b>	80,7	86,7	6,0
<b>Tríplice Viral D2</b>	57,6	63,5	5,8
<b>DTP (1º ref)</b>	67,5	76,6	9,2
<b>Varicela</b>	73,3	69,5	-3,8

Data extracted on 04/05/2024

Source: Until 2022 - National Immunization Program Information System (SIPNI)

Source: From 2023 onwards - National Health Data Network (RNDS)

Preliminary and subject to change. Highlighting coverage equal to or greater than the target.

Newborn vaccines under evaluation.

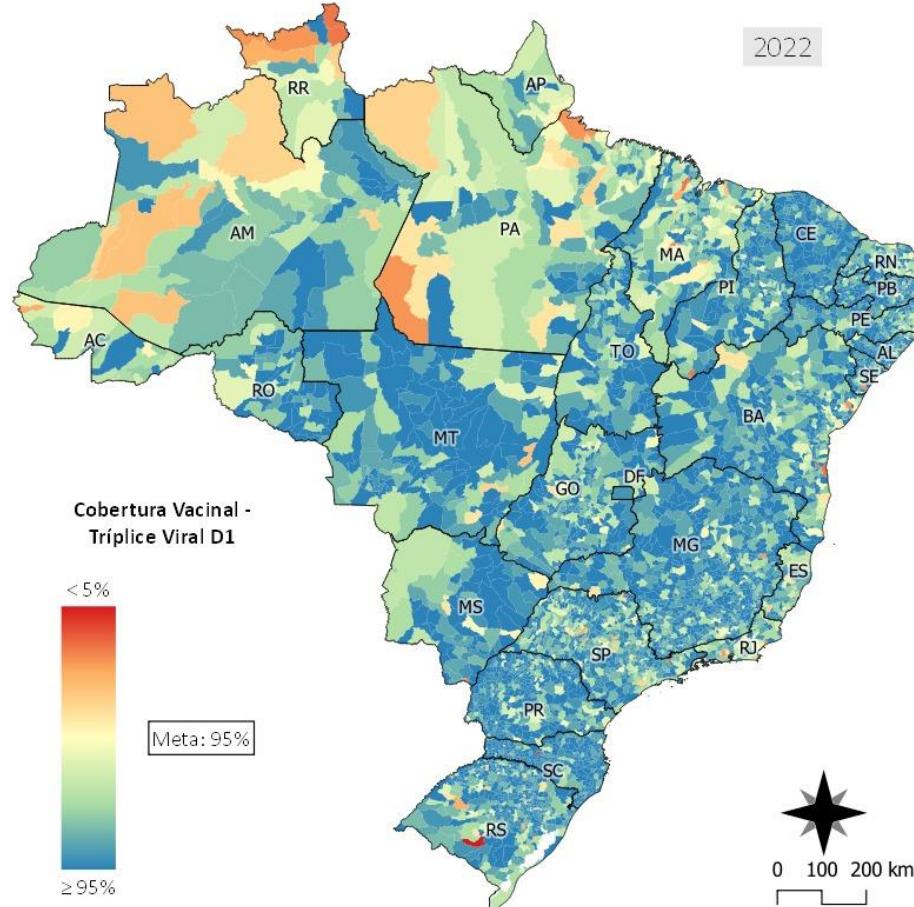


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# Municipalities with adequate vaccination coverage (homogeneity of coverage) for the first dose of the Measles-Mumps-Rubella vaccine. Brazil.

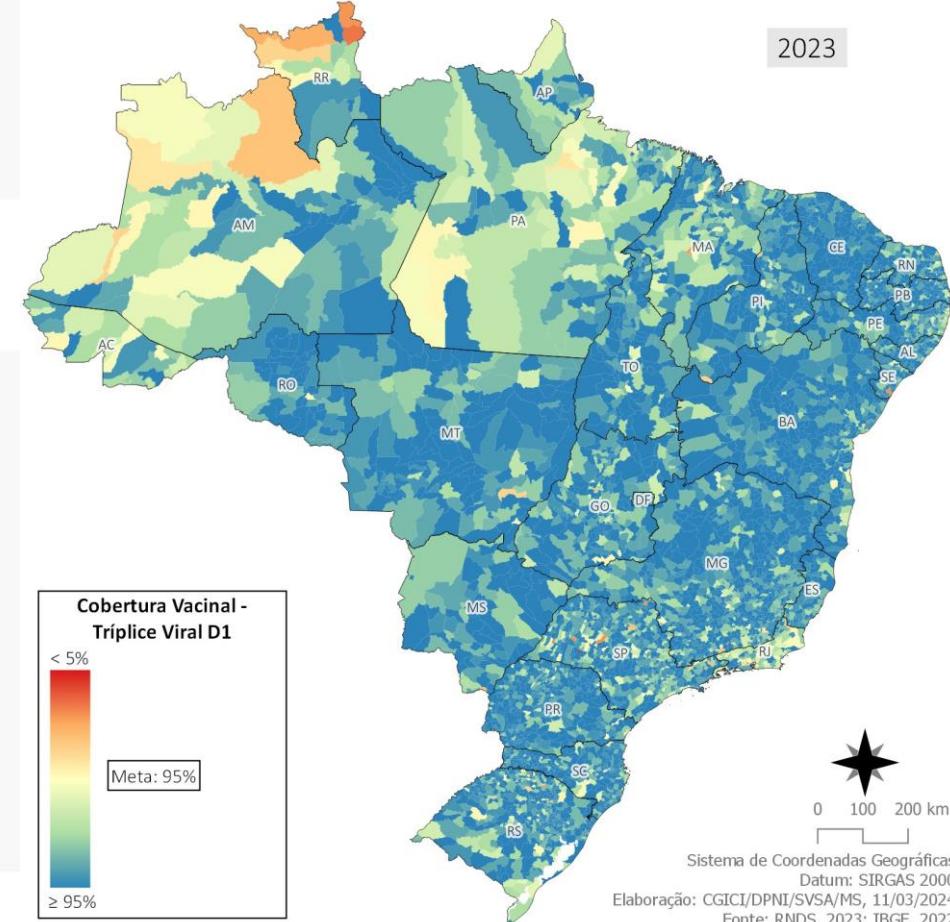
## Measles-Mumps-Rubella - 2022



**HCV: 44,52% (2.480)**  
**CV: 80,70%**

Source: CGICI/DPNI/SVSA/MS

## Measles-Mumps-Rubella - 2023



**HCV: 54,43% (3.032)**  
**CV: 86,72%**

# **Future**

- **Information system...**  
... ...permanent agenda

- **Microplanning**
  - Actions guided by different risk matrices
  - Monitoring
  - Recycling
  - End of national campaigns
- **Addressing chronic and structural issues**
  - Cold chain network
  - Logistics information system
  - New incorporations
  - Special immunobiologics



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**Thank you!**

