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LIFE COURSE AND INTEGRATION



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 **IA2030**

WEBINAR SERIES

Health Worker Vaccination Programmes: Opportunities beyond COVID-19

8 March 2023

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WHO Recommendations for Vaccination of Health Workers

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Life Course and Integration Webinar Series
8 March 2023



**World Health
Organization**

Definition of Health Worker

WHO defines **health workers** very broadly as “**all people engaged in work actions whose primary intent is to improve health**”

- health service providers, such as doctors, nurses, midwives,
- public health professionals
- lab-, health- and medical and non-medical technicians
- personal care workers
- community health workers
- healers and practitioners of traditional medicine
- pre-service providers (students, trainees, volunteers).
- health management and administrators
- support workers (cleaners, drivers, food prep, etc.)
- social workers
- other occupational groups in health-related activities



Benefits of health worker vaccination

Health worker safety: protection against occupational exposure to vaccine preventable diseases (VPDs), reducing risks to themselves, their families, and communities

Patient safety: essential contribution to infection prevention and control of nosocomial infections

Health system strengthening: adds resiliency to health systems by protecting the workforce, in particular, in the context of outbreaks or epidemics

Positive health behaviour modelling: vaccinated health workers are more likely to recommend vaccination and advocate to patients and caregivers on immunization issues



Health worker vaccination platforms are framed within context of:

- WHO-ILO global recommendations on occupational health and safety
- WHO Health Worker Safety Charter (2020)
- WHO recommendations for vaccination of health workers ([Summary Table 4](#))
- Disease-specific global health strategies (e.g. viral hepatitis, influenza, measles and rubella)



Table 4: Summary of WHO Position Papers – Immunization
 The information below is provided to assist countries in deciding vaccine options for the vaccination of health workers as indicated on the national vaccination schedule in use.

Vaccine	Recommendations of Health Care Workers
Measles, Mumps, Rubella (MMR)	Health workers should be vaccinated against measles, mumps, and rubella. The WHO recommends that health workers should be vaccinated against measles, mumps, and rubella. The WHO also recommends that health workers should be vaccinated against measles, mumps, and rubella. The WHO also recommends that health workers should be vaccinated against measles, mumps, and rubella.
Poliovirus	Health workers should be vaccinated against poliovirus. The WHO recommends that health workers should be vaccinated against poliovirus. The WHO also recommends that health workers should be vaccinated against poliovirus.
Hepatitis B	Health workers should be vaccinated against hepatitis B. The WHO recommends that health workers should be vaccinated against hepatitis B. The WHO also recommends that health workers should be vaccinated against hepatitis B.
COVID-19	Health workers should be vaccinated against COVID-19. The WHO recommends that health workers should be vaccinated against COVID-19. The WHO also recommends that health workers should be vaccinated against COVID-19.
Other	Health workers should be vaccinated against other diseases. The WHO recommends that health workers should be vaccinated against other diseases. The WHO also recommends that health workers should be vaccinated against other diseases.

<https://www.who.int/docs/default-source/world-patient-safety-day/health-worker-safety-charter-wpsd-17-september-2020-3-1.pdf>
<https://www.who.int/publications/i/item/9789240011588>
<https://www.who.int/teams/immunization-vaccines-and-biologicals/policies/who-recommendations-for-routine-immunization---summary-tables>

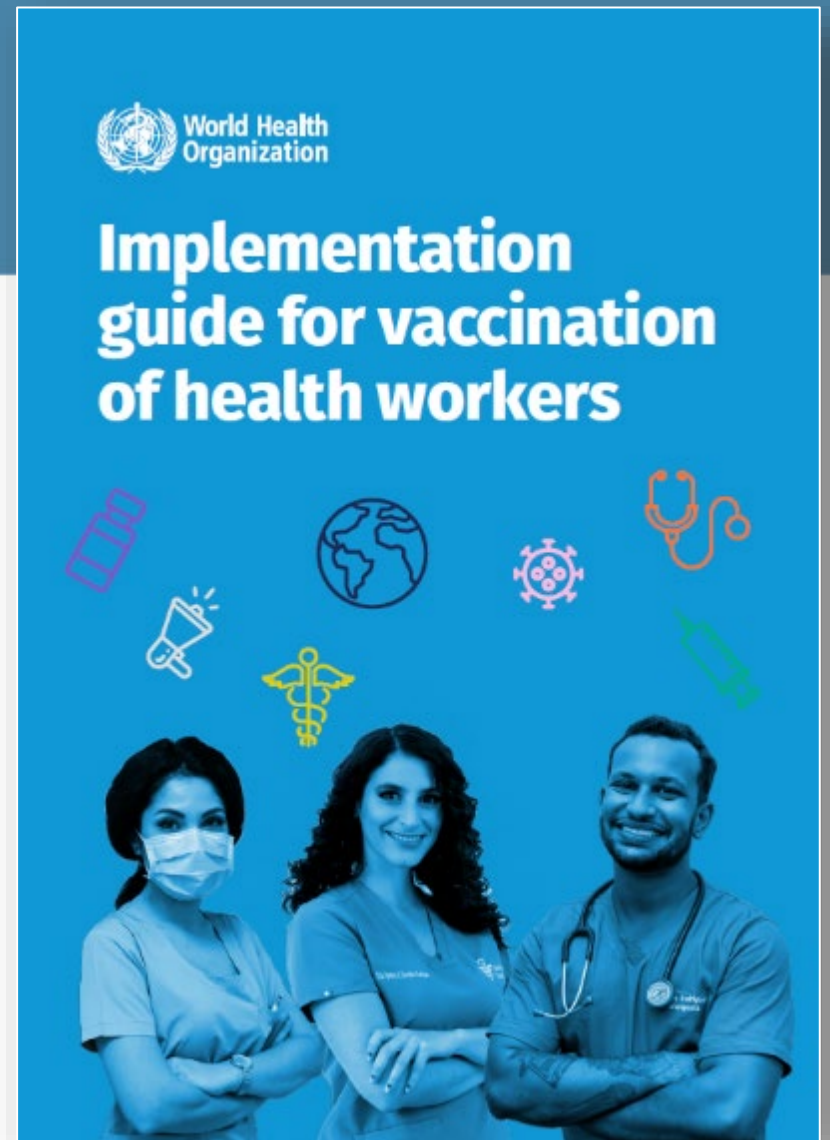
New!

Implementation Guide for Vaccination of Health Workers

- Focus is on establishing and/or strengthening programmes for vaccination of health workers with **all recommended vaccines** (*not specifically about COVID-19*)
- Pulls together **existing recommendations and resources** in one place

www.who.int/publications/i/item/9789240052154

(Available in EN/FR/SP... PT coming soon)



Health worker vaccination strategies

Three broad categories, or “scenarios” for HW vaccination:

Routine immunizations that all HWs should receive (ideally prior to entering the workforce)

Annual or periodic vaccines
(e.g. seasonal influenza)

Emergency or exceptional vaccinations
(e.g. Ebola, pandemic influenza, COVID-19)

Pre-service screening and vaccination

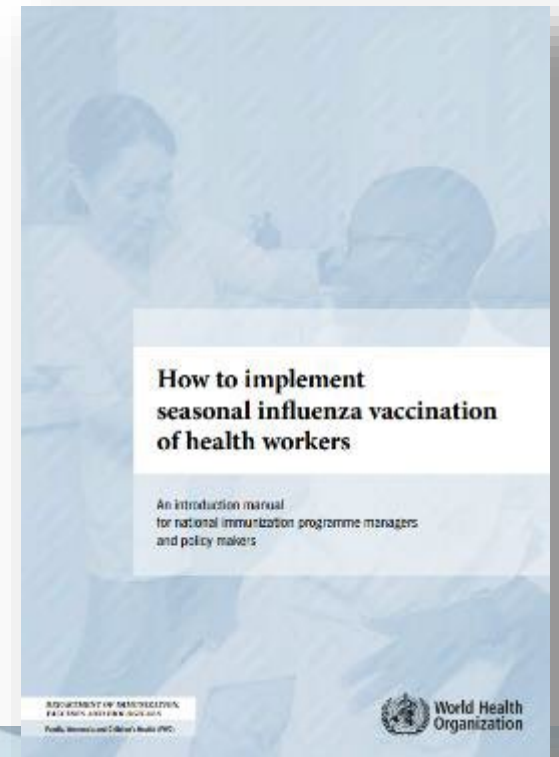
- Offer catch-up vaccination (free of charge) to HWs as part of training or beginning a new job
- Require vaccination history or documentation of immunity for admission to medical/nursing/other health professional schools
- Build in vaccination checks as part of the hiring/onboarding process and routine reviews (e.g. employee health assessments)
 - ★ Requires close collaboration between the MOH/NIP, OHS programmes, and the Ministry of Education or equivalent entities responsible for schools/training
 - ★ Requires reliable data systems/home-based record retention



Vaccination of current health workers

- Mechanisms should also be in place to vaccinate current (in-service) HWs
 - Annual vaccinations (e.g. seasonal influenza)
 - Emergency/outbreak response
 - Catch-up of missed earlier opportunities, completion of a series, etc.
- Most often the responsibility of the employer (as part of OHS programme) but may be implemented by the NIP or other

[How to implement seasonal influenza vaccination of health workers](https://apps.who.int/iris/handle/10665/325906) (WHO 2019) provides a good basis for introducing this strategy



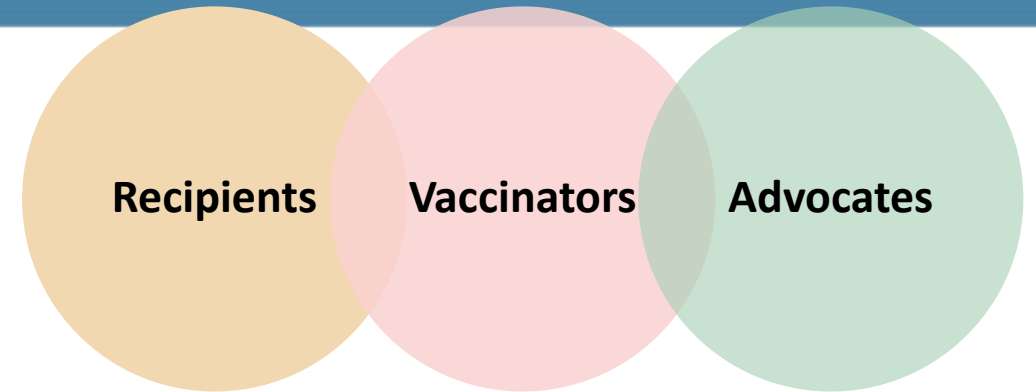
Vaccination during emergencies or outbreaks

- When resources are limited, ethical allocation frameworks will almost always place HWs at or near the top of the priority list
- Countries with existing platforms will be better prepared to reach HWs during an outbreak or emergency
- Legislation or health facility policies may call for mandatory (or more stringent) requirements for HW vaccination during a public health emergency



Confidence and demand

- Health workers are a unique target group
- Unfortunately, uptake of vaccination among health workers is variable (and often, low)
- Significant body of research on challenges with uptake and factors affecting motivation, acceptance and demand
- Behavioural research → tailored solutions



- ★ **Communication strategies and key messages**
- ★ **Interventions to increase health worker vaccination uptake**
- ★ **Health worker influence on community awareness and acceptance**
- ★ **Managing misinformation**



**THANK YOU
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Health worker vaccination programmes: opportunities beyond Covid-19

8 March 2023

PAHO



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Diagnostics survey for the Americas

In 2021, a **survey of national health worker vaccination policies** was distributed through the WHO-UNICEF electronic Joint Reporting Form on Immunization (eJRF) to 45 Member States, reporting entities and associate members of the UN within the Americas.



Responded to the HW vaccination survey



Conducted communication activities to promote vaccination among HWs in the past 5 years



Had a mechanism for introducing a vaccine in an emergency context



Had a system for monitoring and reporting vaccination uptake among HWs

Topics discussed

Vaccination policies (national, subnational, institutional)

National vaccination policies, by antigen

Mandatory vs. voluntary vaccination policies

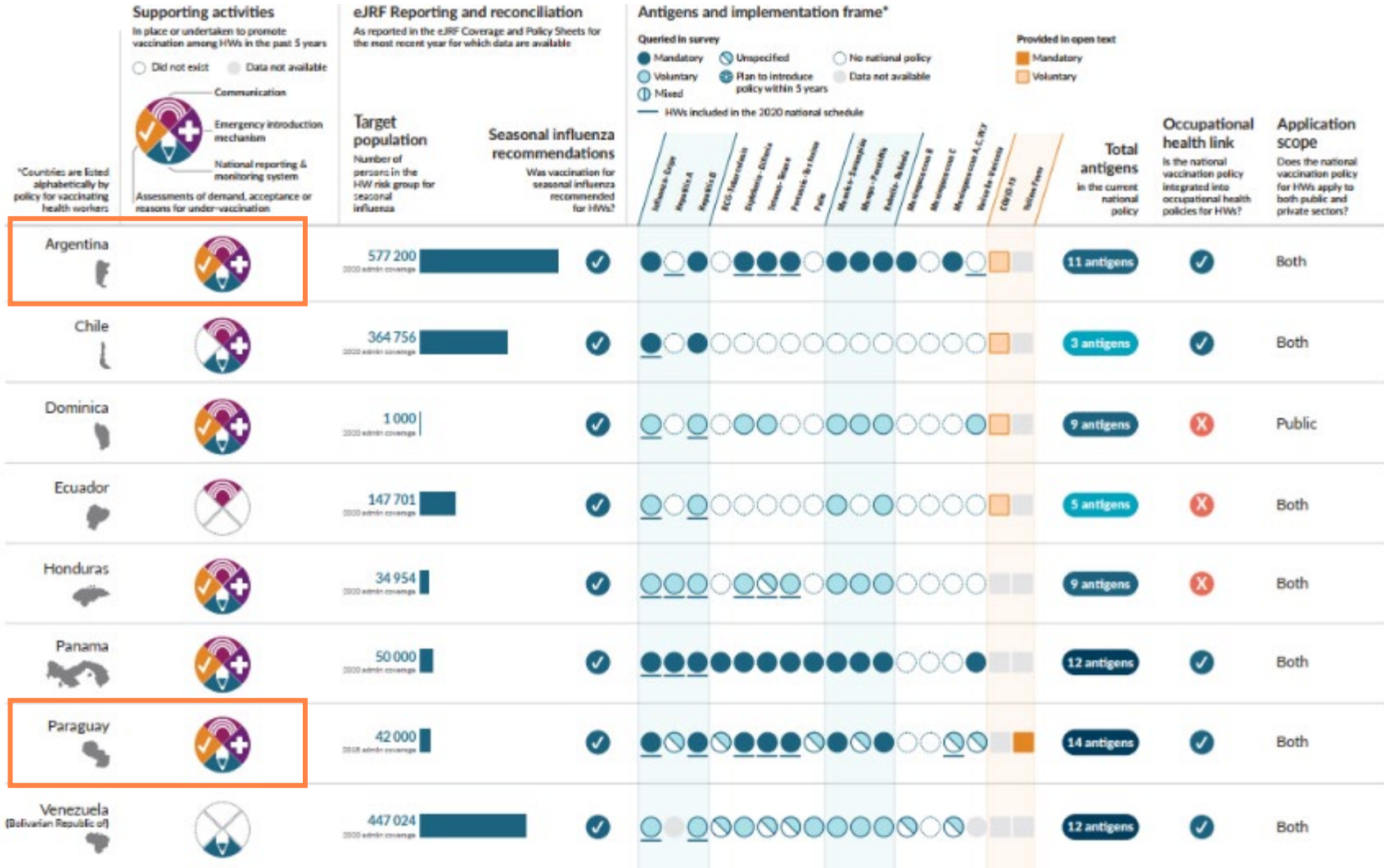
Integration with other occupational health policies

Financial support for implementation

Support to vaccination policies for health workers (monitoring, communication, evaluation)

Mechanisms to vaccinate health workers during emergencies

Results



Results for the countries that described the most complete vaccination program for HCWs in the Americas.

Case study: Paraguay & Argentina

Goal

Obtain additional information on the national vaccination program for HCWs, so to share lessons learned and best practices with other countries.

Objectives

- Document lessons learned during the implementation of the vaccination program for health workers
 - Considerations re: national context, motivation, structure, integration into general occupational health policies for health workers.
- Describe how this experience was used during the response to the COVID-19 pandemic.
- Document strengths, opportunities for improvement, and lessons learned.

Topics

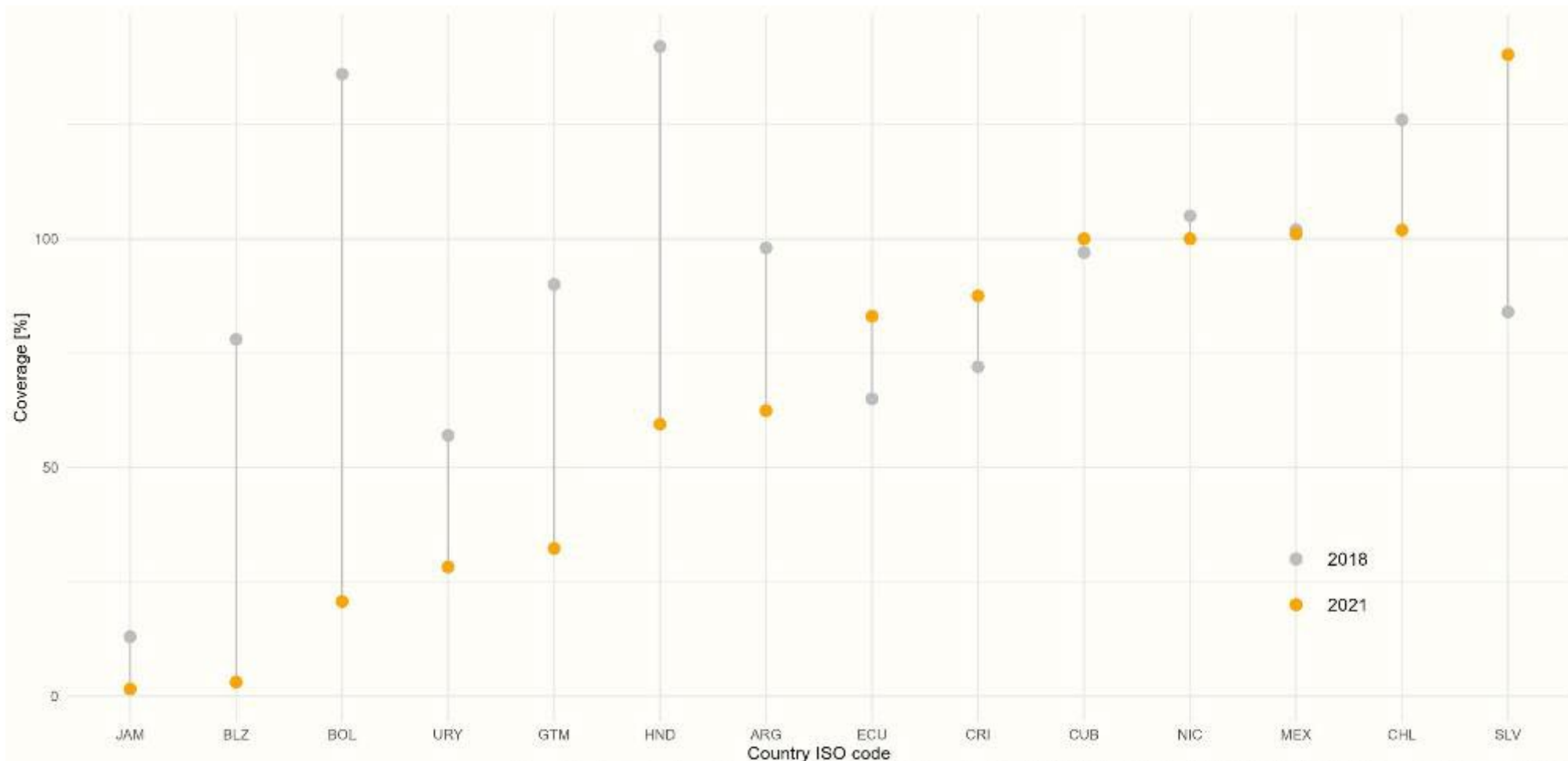
- The national immunization program and its positioning within the occupational health program, for health workers
- Vaccination policies
- Strategies to reach health workers
- Implementation of vaccination operations for health workers
- Communication strategies and demand generation activities
- Monitoring vaccination uptake
- Challenges identified.
- Best practices and lessons learned.

Complete diagnosis of vaccination policies for HCWs in the Americas

- Conduct a review of the results of the 2020 survey on national HCW vaccination policies.
- Replicate the survey to countries that did not respond in the first instance (15 countries) and complete information in countries that sent incomplete survey (1 territory and 3 countries).
- Rescue the lessons learned from those countries that reported progress during the new information collection process.

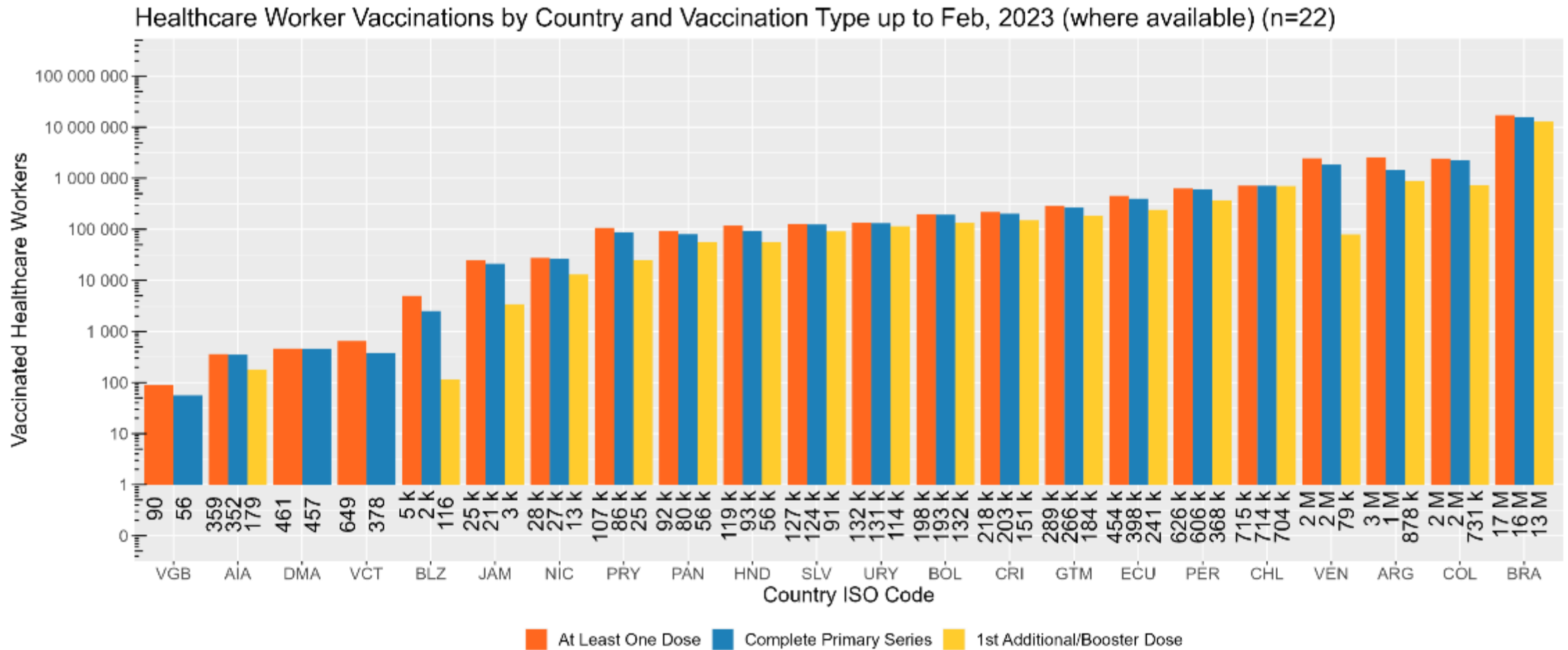
Coordinated work with the data team of the Immunization Unit and the Health Promotion and Social Determinants Unit within PAHO.

Influenza vaccination coverage rate among health workers, by country (2018 & 2021)




Source: Country reports through the PAHO-WHO/UNICEF Joint Reporting Form (JRF), 2019 and electronic PAHO-WHO/UNICEF Joint Reporting Form (eJRF), 2022.



Number of health workers vaccinated against COVID-19, by dose number



Data from the eJRF

A specific table is incorporated into the eJRF to collection vaccination data for high-risk groups.

8.1.2. Vaccination coverage for risk groups, health and care workers, adults and pregnant women included in the national immunization programme for the year 2022 

#	A. Vaccine	B. Target group	C. Description of the denominator used in the coverage calculation	D. Number in target group (denominator)	E. Number of doses administered through routine services (nume
 8.1.2.1	Hepatitis B vaccine	Health and care workers			
8.1.2.2	Hepatitis B vaccine	Adults			
8.1.2.3	Tetanus toxoid-containing vaccine, 2nd and subsequent doses	Pregnant women			
8.1.2.4	Pertussis-containing vaccines	Pregnant women			
 8.1.2.5	Pertussis-containing vaccines	Health and care workers			
8.1.2.6	PPV (Pneumococcal polysaccharide vaccine)	Adults			
8.1.2.7	PCV (Pneumococcal conjugate vaccine)	Adults			

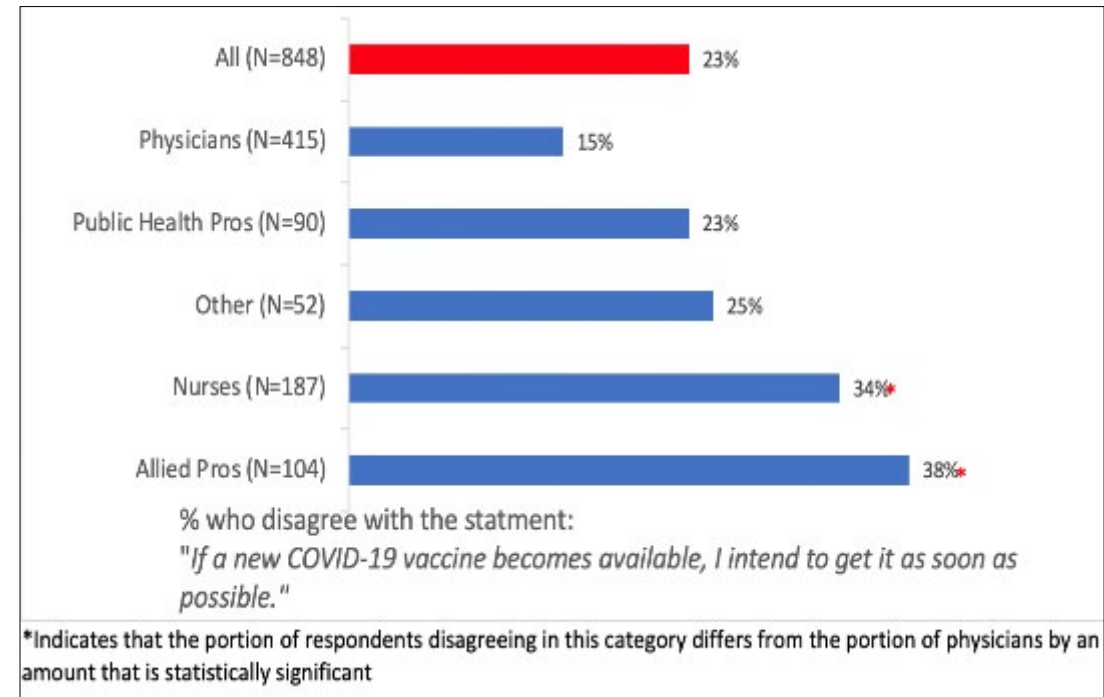
Vaccine hesitance by HCW category: Caribbean countries

Methods

- Convenience sampling in 14 countries of the Caribbean.
- 1,197 health workers sampled.
- Data collection: 15 March to 30 April 2021.

Results

- COVID-19 vaccine hesitancy was reported by 23% of surveyed health workers. 4% intended to refuse the COVID-19 vaccine.
- COVID-19 vaccine hesitancy rates:
 - Differs between health worker categories.
 - Is highest among nurses.
 - Varies depending on the vaccine available.
- Decisions are influenced by local, regional and global events. Also, they vary over time.



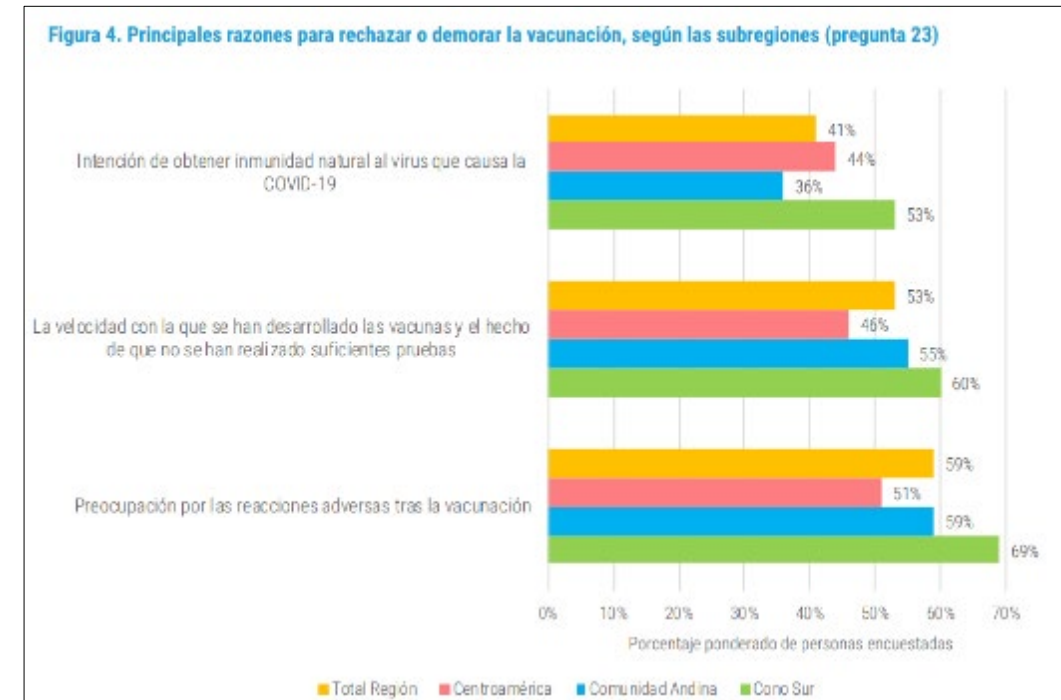
Vaccine hesitance by HCW category: Latin American countries

Methods

- Convenience sampling in 16 countries of Latin America.
- 6,718 health workers sampled.
- Data collection: 21 February to 20 May 2022.

Results

- 97% stated that COVID-19 vaccines protect against severe disease.
- 90% of surveyed participants reported a complete vaccination series. Only 1% reported having received 0 doses.
- Three factors influenced the decision to receive vaccines:
 - Country of vaccine manufacturing
 - Concerns over adverse events
 - Hospitalization and mortality rates among vaccinated persons.



42nd Regular Meeting of CARICOM Heads of Government

The Caribbean Community (CARICOM) Secretariat mandates Member States to continue to collaborate with Caribbean Public Health Agency (CARPHA), PAHO, regional nursing, medical and allied health professional bodies and institutions, to identify **strategies and policy guidelines/papers** to address vaccine hesitancy using an evidence-based approach.

Ongoing interventions

- Educational campaigns targeting HCWs across age groups.
- Two-way communication: Allow HCW to ask questions and address their concerns.
- Capacity building and training for HCW on communicating about vaccines and vaccination.
- Involve HCW in design of vaccination interventions
- Offer vaccination services at convenient times and places.
- Use vaccine champions to address HCW's concerns about vaccination.



Online training courses FPL/IM

Tools for monitoring the coverage of integrated public...

Tools for monitoring the coverage of integrated public health interventions.
Vaccination and deworming of soiltransmitted helminthiasis



Crisis communication related to vaccine safety: technical...

Crisis communication
related to vaccine safety

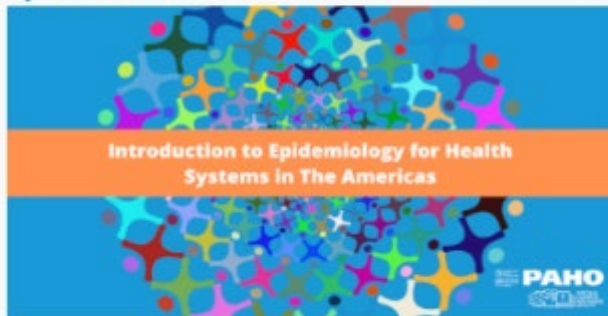


Introducing COVID-19 vaccination: Guidance for determining...



Introduction to Epidemiology for Health Systems in The...

Introduction to Epidemiology for Health
Systems in The Americas



Vigilancia de eventos supuestamente atribuibles a la...

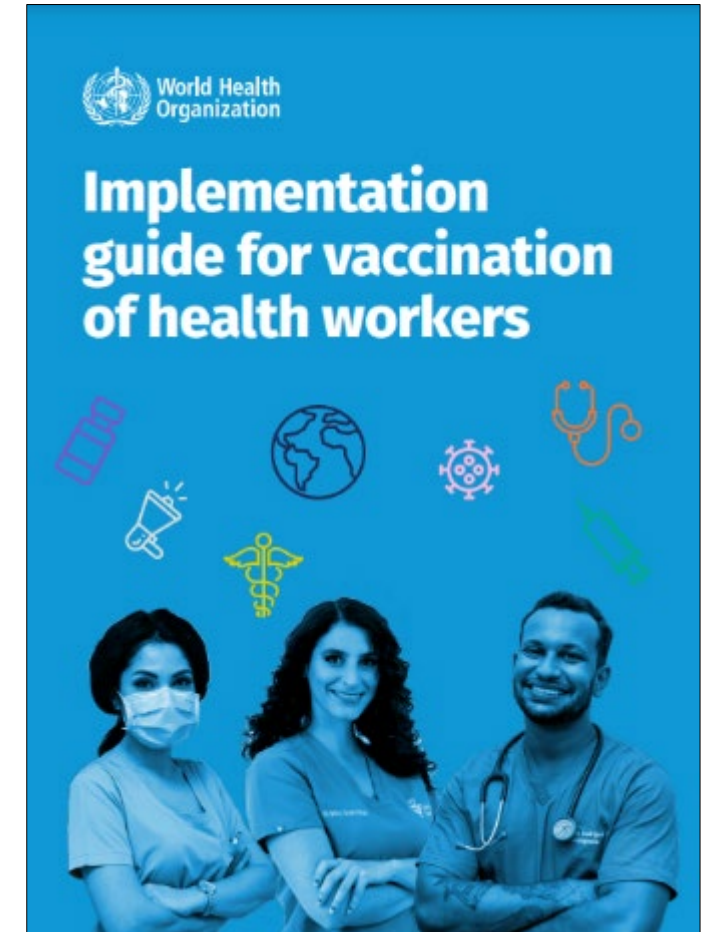
Vigilancia de eventos supuestamente atribuibles
a la vacunación o inmunización (ESAVI)



<https://www.campusvirtualesp.org/en/courses/self-learning>

Remaining gaps and next steps

- **Replicate the survey** to the 15 countries that did not respond to the first round.
- Carry out a **complete diagnosis** on national vaccination policies for health workers in the Americas.
- Adapt WHO's *Implementation guide for the vaccination of health workers* to the **context of the Americas**.
- Prepare a **regional operational plan** for the implementation of vaccination policies for health workers, based on the WHO Guide.
- Work with the Technical Advisory Group (TAG) on Immunizations to **issue recommendations** on the implementation of vaccination policies for health workers.
- **Support** countries that do not yet have a vaccination policy for health personnel and provide technical support to those seeking to implement their vaccination policies.





Thank You

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Health Workers Vaccination: The Experience and Lessons Learned from Costa Rica

Ana Morice
Medical Epidemiologist
Consultant



March 8, 2023

THE CONTEXT:

- *Costa Rica is a low middle income country (LMIC) located in Central America*



Territory	51,100 Km ²
Population 2021 (<i>inhabitants</i>)	5,163,038
Human Development Index	0.810
Life expectancy (<i>years</i>)	80 years
Infant Mortality Rate (<i>x 1000 births</i>)	7.8 x 1000
Maternal Mortality Ratio (<i>x 1000 births</i>)	0.34 x 1000
Health Care Coverage (%)	98%
Literacy Rate (%)	97%
GDP per capita (USD)	\$12.140
Total expenditure on vaccines financed by Government (%)	100%
Health spending per capita (USD)	\$922
Government health spending (%)	72.5%
Out of pocket spending (%)	22.3%

Immunization Schedule for HW and Students of health-related careers in Costa Rica

Antigen	Recommendation
Polio	<ul style="list-style-type: none"> ○ All HWs and students should have completed the primary vaccination against polio
Measles, Rubella, Mumps	<ul style="list-style-type: none"> ○ All HWs and students should have 2 doses of MMR vaccine
Hepatitis B	<ul style="list-style-type: none"> ○ All HWs and students should have 3 doses ○ If HW has 1 or 2 doses, a 3-dose scheme should be completed
Tetanus, Diphtheria	<ul style="list-style-type: none"> ○ One dose and a booster every 10 years
Influenza	<ul style="list-style-type: none"> ○ One dose annually
Varicella	<ul style="list-style-type: none"> ○ If unvaccinated or if HW doesn't have an electronic registry or vaccination card: 2 doses should be administered (4 weeks interval) ○ If HW has evidence of previous varicella disease or has 1 dose of varicella vaccine: 1 dose should be administered
Pertussis	<ul style="list-style-type: none"> ○ One dose of Tdap ○ A booster should be administered every 10 years
Pneumococcal 13**	<ul style="list-style-type: none"> ○ One dose of PCV13 to reduce nasopharyngeal colonization and bacterial carriage.
COVID19	<ul style="list-style-type: none"> ○ Three dose schedule (primary series and first booster). ○ A second booster (fourth dose) is recommended

EXAMPLES

CASE 1: VARICELLA VACCINATION

- In 1999, to prevent nosocomial varicella transmission, the National Children Hospital started HW vaccination
- In 2007, varicella vaccine was introduced in the national child immunization
- Vaccination strategies showed that incidence of hospitalizations and complicated cases of varicella declined in all age groups.
- In 2017, vaccination of HWs against varicella was expanded to all public hospitals in the country.

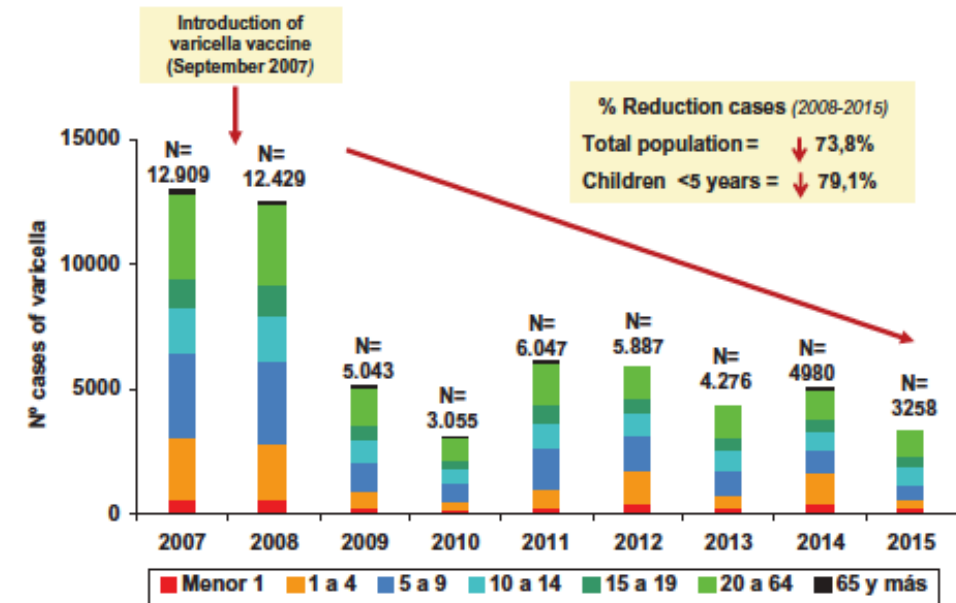


Figure 2. Reported varicella cases by age group before and after the introduction of the vaccine. Costa Rica, 2007–2015.

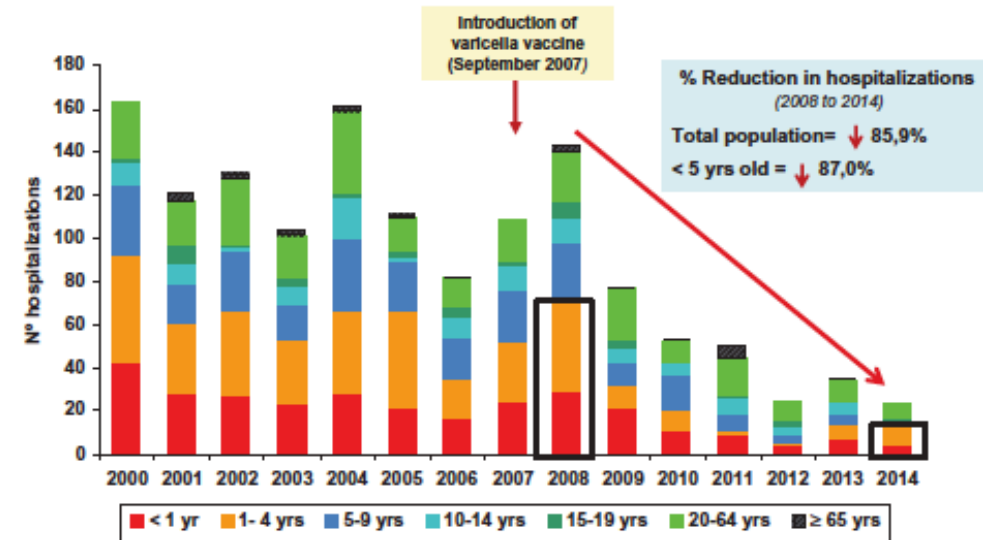
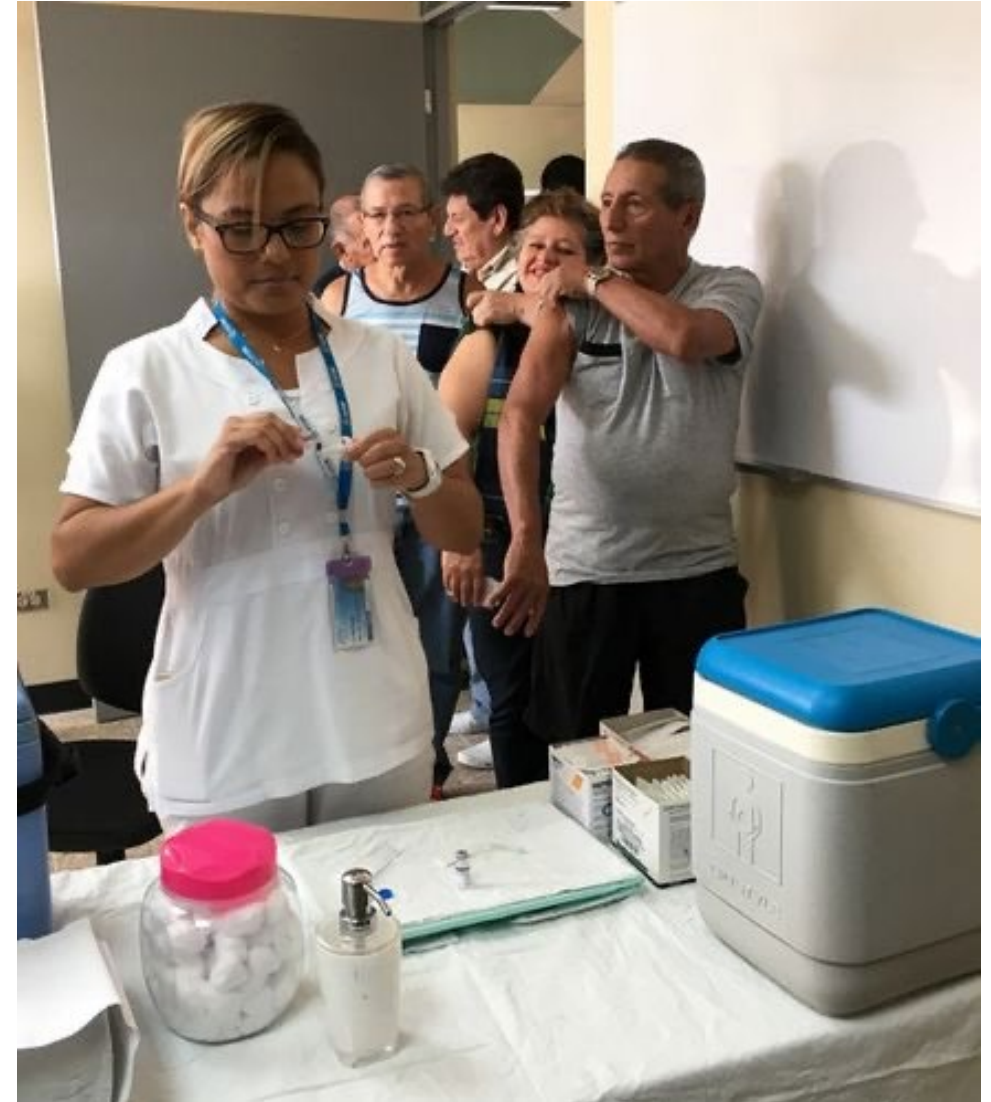


Figure 3. Varicella hospitalizations by age group before and after the introduction of the vaccine, Costa Rica, 2000–2014.

CASE 2: INFLUENZA VACCINATION

- In 2003, a cost analysis exercise showed that the economic benefits increased when vaccinating high risk groups, including HWs
- In 2004, Costa Rica officially introduced a plan of action to vaccinate 100% of HWs.
- To reach personnel working during all shifts, the vaccinators schedules are modified to provide vaccines not only during daytime but also at night.
- Private sector and organizations such as the College of Physicians and Surgeons of Costa Rica are actively involved and supported flu vaccination to HWs and their families.



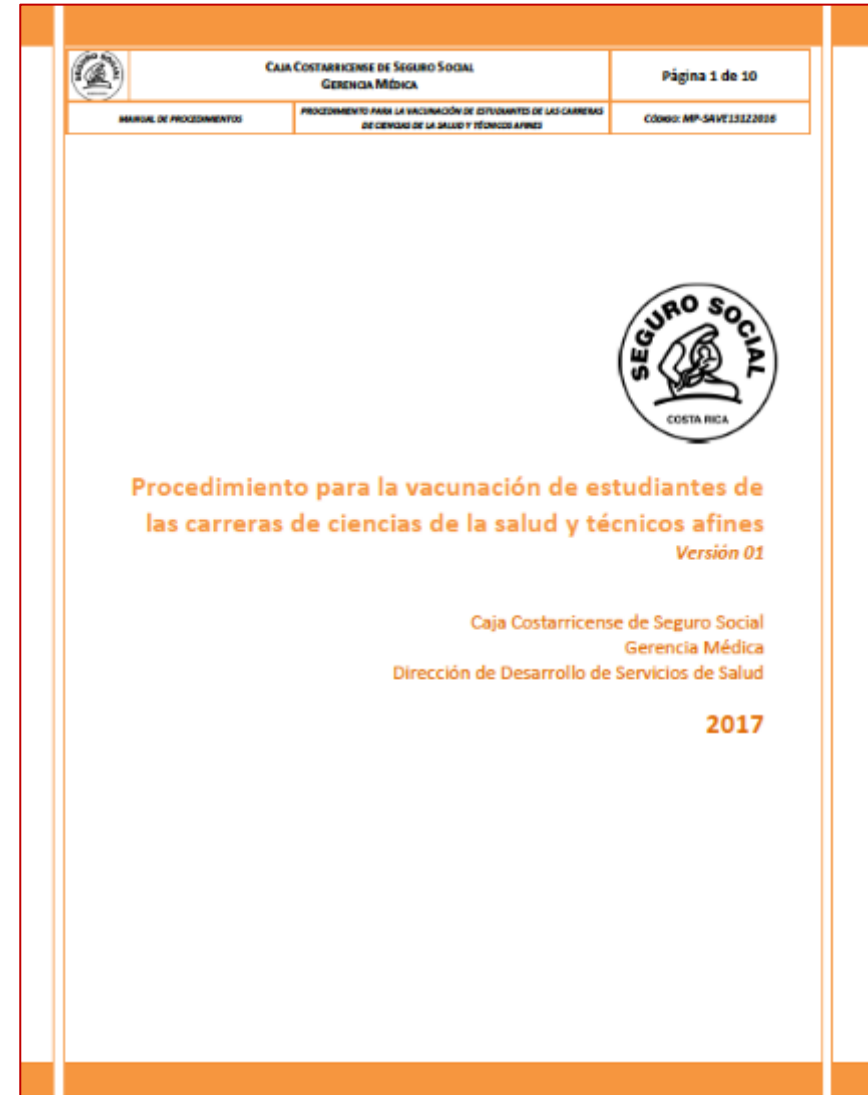
CASE 3: PERTUSSIS VACCINATION

- At the end of 2000, the National Children's Hospital warned of an increase in cases of whooping cough in newborns and infants.
- Data analysis showed that 90% of the hospitalized children were not old enough to complete a 3 doses schedule of DPT and 62% of the cases had a history of contact with people with persistent cough.
- In 2007, Costa Rica introduced a cocoon strategy vaccinating close relatives and pregnant women and also HWs using pertussis acellular vaccine (Tdap)
- Since then, personnel working in maternity wards, newborn care and other services must be vaccinated.



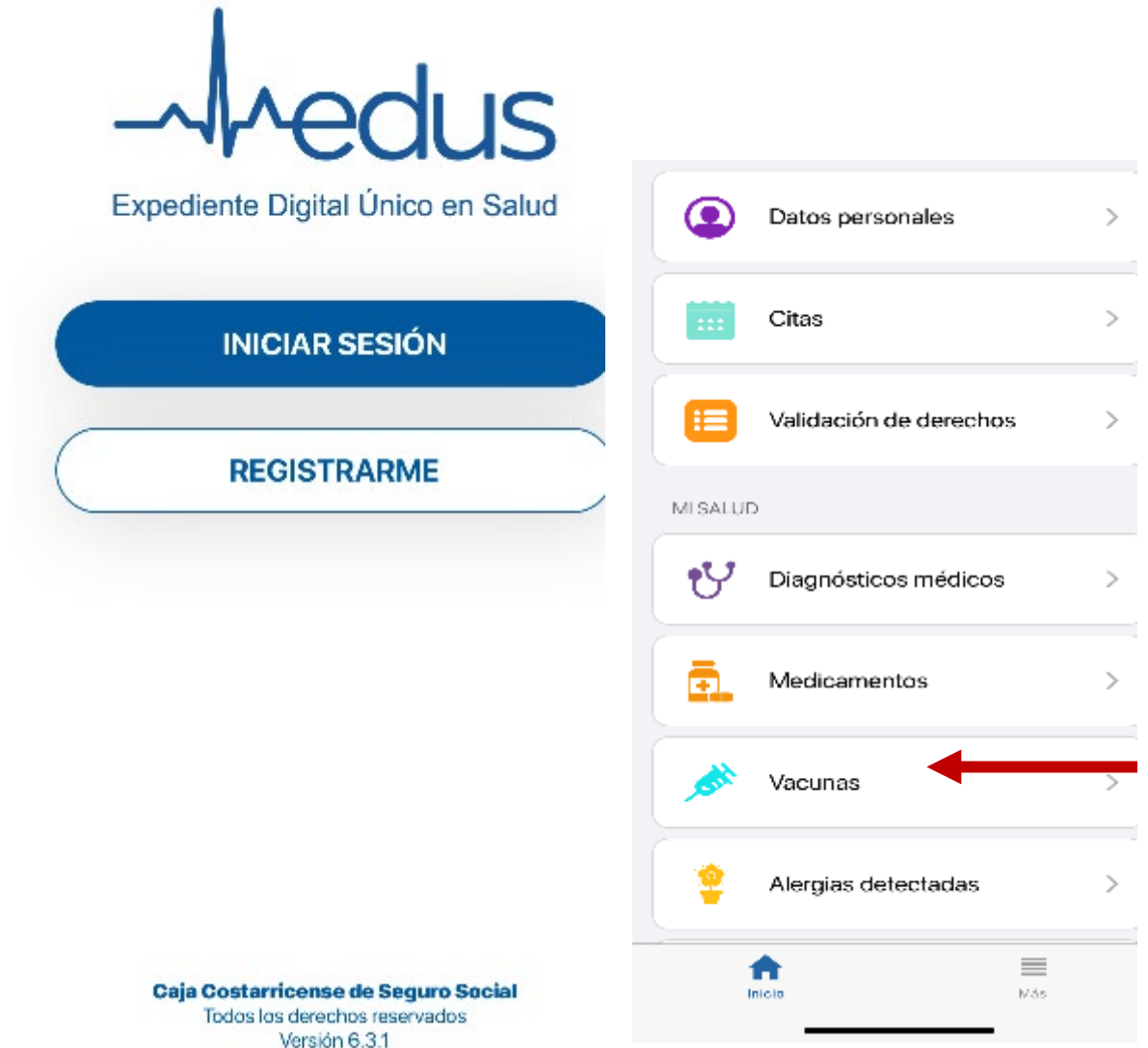
Pre-service screening: HWs and students of health-related careers

- Before starting in-hospital training, all students of health related careers must provide proof of vaccination
- Pre-service screening also applies to new personnel at all levels of health system.
- If their vaccine registries of HWs and students are not available, they must complete the vaccination schedule.
- If they refuse vaccination, they are included on a list to be reviewed by the director of each health facility, who can then determine if an exemption is warranted.
- This decision was approved by the NITAG and endorsed by the MoH and CCSS in 2017.



Vaccine coverage monitoring

- The Integrated Health Registry System (EDUS) is a nominal electronic registry used by the national health system in Costa Rica.
- Vaccines are registered in EDUS, including HWs vaccination data.
- Each health facility estimates the target population of HWs and prepares a line list of required vaccines and the total number of HWs to be vaccinated during the next year.
- The facilities monitor uptake based on the number of vaccines administered.
- The total number of HWs vaccinated for each one of the vaccines are reported monthly
- In the case of influenza, the vaccine coverage is monitored using the estimated population of HWs as denominator



LESSONS LEARNED (1)

- Some vaccines (i.e. varicella, hepatitis B, influenza) can be introduced in HWs before other target populations. This decision makes it feasible to start and progressively increase the access to vaccination
- It's crucial to find opportunities for updating of HWs vaccination schedules when a new vaccine is introduced in the official schedule of the country
- Decisions must be based on changes in epidemiologic patterns of VPDs and cost-effectiveness analysis
- Experts, epidemiologists and clinicians, research and academic institutions should be involved to support data analysis and advocate for decision-making.



LESSONS LEARNED (2)

- The rationale for HWs vaccination might be different to the rationale of vaccinating children.
- Therefore, messages should emphasize all benefits of vaccination and should be tailored depending on the protective mechanism of the vaccines to promote vaccine acceptance and demand
- Monitoring HWs vaccination can be challenging, but there are feasible options in health facilities
- It's important to engage and empower each health facility in the process of identifying, preparing the list of workers that must be vaccinated, implementing vaccination and monitoring coverage.
- Political, government, and HW's commitments are key contributors to success in order to achieve high coverage of HWs vaccination



President of the Republic, Minister of the Presidency and Minister of Health signing a decree to strengthen immunization strategies in Costa Rica

Thank you

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