

Portugal's National (adult) Immunization Plan: current status and upcoming changes

Healthcare system and the adult immunization plan in Portugal



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Portuguese NITAG (CTV) activities



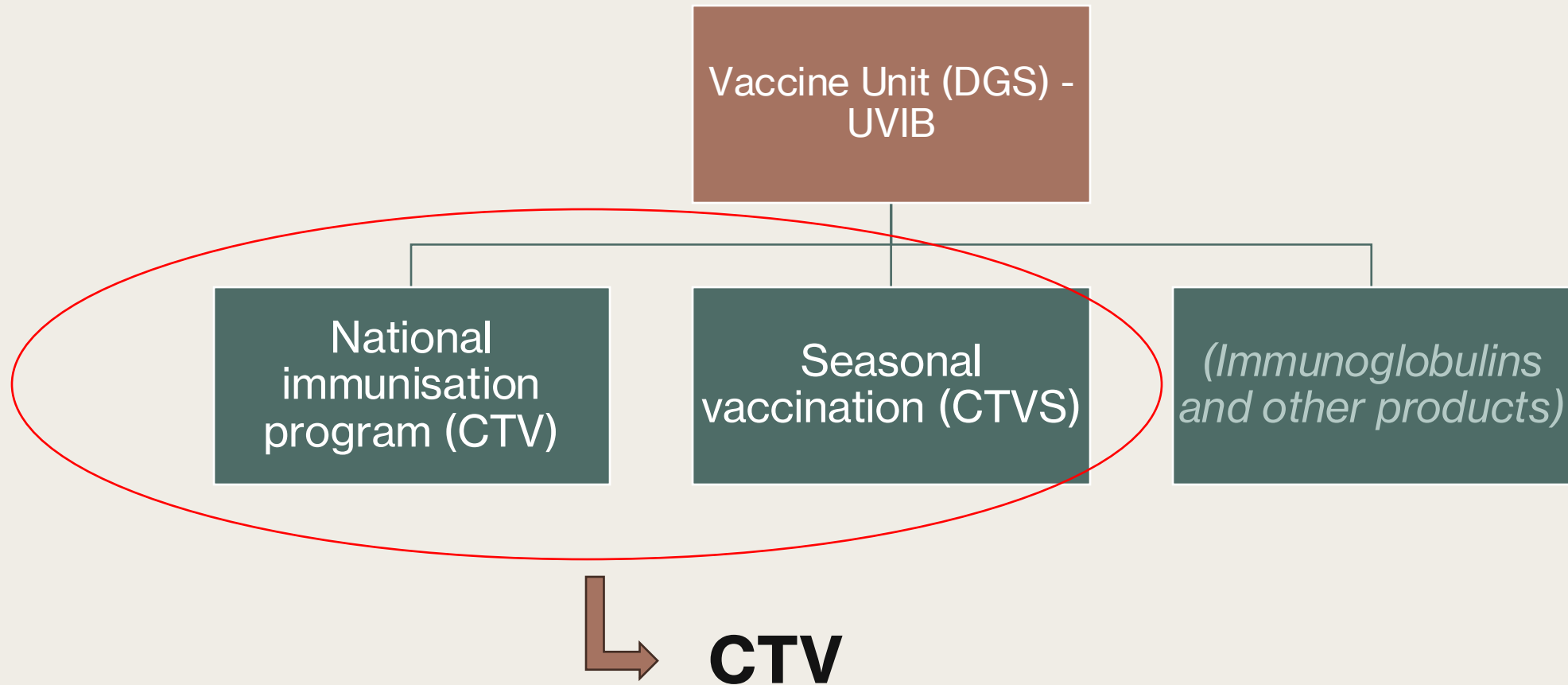
- To define, develop, monitor, and evaluate vaccination strategies within the framework of the country's health policy, including the development of methodologies for evaluating/monitoring the National Vaccination Program (PNV) and vaccination strategies.
- Provide technical opinions on the vaccination strategies to be adopted for each vaccine, taking into account their availability in national and international markets.
- Provide technical opinions on the National Vaccination Program
- Participate in the preparation and validation of technical documents on vaccination.

Portuguese NITAG (CTV) activities



- Issue opinions on the Portuguese legislative framework regarding vaccination.
- Propose and monitor the development of studies in the area of vaccination and associated diseases
- Advise on exceptional vaccination measures in the event of outbreaks or other circumstances that justify them.

Portuguese NITAG (CTV) organization until October 2025



CTV decision criteria



Guidance on an adapted Evidence to Recommendation Process for National Immunization Technical Advisory Groups

Criterion	Factors
Criterion 1: Problem	• Burden/epidemiology of disease • Clinical characteristics of the disease • Use and Costs of Health Care • Alternative preventive and control measures • Regional and international considerations
Criterion 2: Benefits and harms of the intervention	• Efficacy and effectiveness of the intervention (benefits) • Safety of the intervention (harms) • Indirect effects of the intervention
Criterion 3: Values and preferences of the target population	• Perception of target population of the intervention and the disease • Differences by subgroups of target population • Demand
Criterion 4: Acceptability to stakeholders	• Acceptability of the intervention • Financial, ethical and programmatic considerations

Criterion 5: Resources use	• Resource use and cost related to the intervention • Socioeconomic • Economic impact of intervention on immunization programme and health sector
Criterion 6: Equity	• Access to intervention • Ethics, legality of the intervention • Stigma
Criterion 7: Feasibility	• Vaccine characteristics • Accessibility • Resources for storage, distribution • Information management • Disease and AEFI surveillance • Global, regional, local experiences • Vaccine availability

A single unified "life-course" vaccination program



Vaccination program for children
Vaccination program for adults

“Life-course” vaccination program



● ● ●

Having separate “child” and “adult” programs leads to:

- fragmentation
- different funding rules
- lower awareness
- gaps in coverage

A life-course vaccination program:

- ensures continuity
- simplifies communication
- aligns decision-making
- makes it easier for clinicians and the public to understand

A program for all ages is more equitable, more effective, easier to implement, and better aligned with the actual distribution of disease burden



Aligns with WHO's Life-Course Immunization Strategy

address the entire lifespan

integrate maternal, adolescent, adult, and older adult vaccination

support whole-population immunity

Following this international guidance strengthens health system alignment and global consistency.



Is not having an adult vaccination program

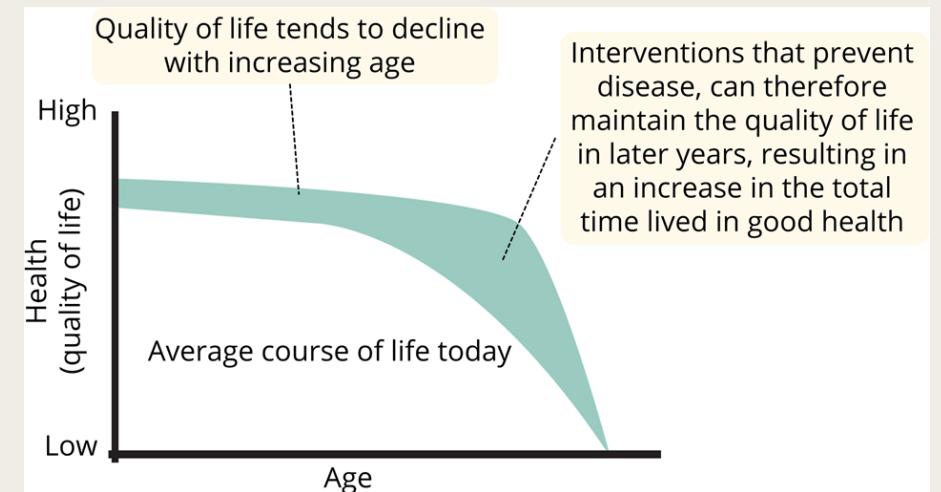


Is investing more in vaccines for adults, with a wider perspective of the benefits of vaccines in all ages

Challenges in the adult/older population

The WHO estimates that the number of adults aged ≥ 60 years will increase by 34%

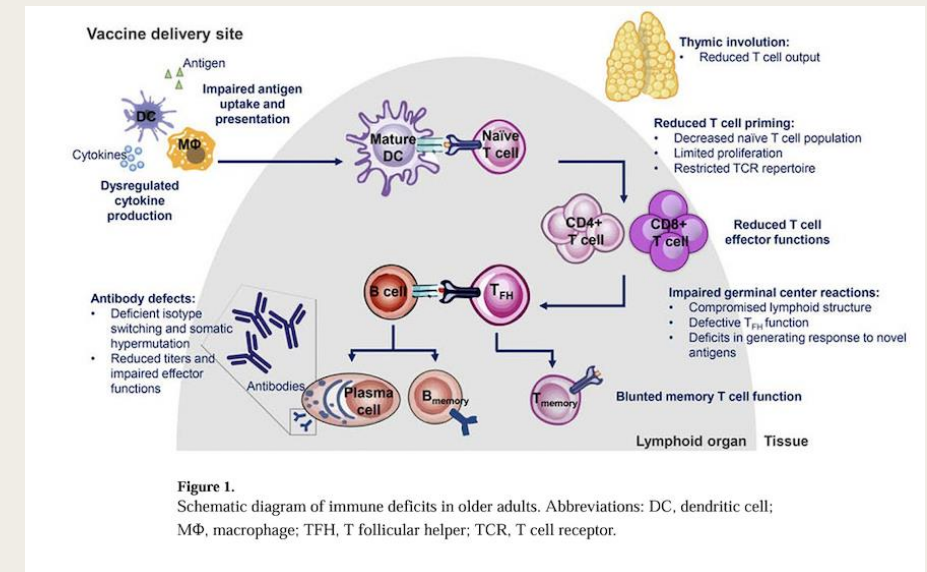
Demographic changes associated with population aging create the need for investment in the implementation of preventive measures for this population.



Curran, Det al. Healthy ageing: Herpes zoster infection and the role of zoster vaccination. *npj Vaccines* **8**, 184 (2023).

Challenges in the adult/older population

- Adults typically exhibit significantly lower vaccination coverage than other age groups.
- **Challenges** include limited awareness of the importance of vaccination at this stage of life, inconsistent or uncertain recommendations, and costs that are not always reimbursed.
- Multiple factors may contribute to reduced vaccine efficacy or effectiveness, including immunosenescence.



Portuguese Immunization program

Quadro n.º 1 – PNV: Esquema geral recomendado³

Vacina/ Infecção-Doença	nascimento	2 meses	4 meses	6 meses	12 meses	18 meses	5 anos	10 anos	25 anos	45 anos	65 anos	10/10 anos
VHB Hepatite B	VHB 1	VHB 2		VHB 3								
Hib infecção por <i>Haemophilus influenzae</i> b		Hib 1	Hib 2	Hib 3		Hib 4						
DTPa difteria, tétano, tosse convulsa		DTPa 1	DTPa 2	DTPa 3		DTPa 4	DTPa 5					
VIP poliomielite		VIP 1	VIP 2	VIP 3		VIP 4	VIP 5					
Pn20 infecção por <i>Streptococcus pneumoniae</i>		Pn ₂₀ 1	Pn ₂₀ 2		Pn ₂₀ 3							
MenB infecção por <i>Neisseria meningitidis</i> B		MenB 1	MenB 2		MenB 3							
MenACWY <i>Neisseria meningitidis</i> ACWY					MenACWY							
VASPR sarampo, parotidite epidémica, rubéola					VASPR 1		VASPR 2					
HPV infecção por vírus do papiloma humano								HPV 1,2				
Tétano, difteria e tosse convulsa									Tdpa - Grávidas		Pregnant	
Tétano e difteria									Td	Td	Td	Td

Legenda:

- Vacinas em blocos interligados por traços de cor – vacinas com antígenos para todas as doenças evitáveis mencionadas no interior dos limites: a vacina hexavalente (2 meses e 6 meses) inclui VHB; Hib; DTPa e VIP, a vacina pentavalente (4 meses e 18 meses) inclui Hib, DTPa e VIP, e a vacina tetravalente (5 anos) inclui DTPa e VIP;
- Número – número de dose no esquema geral recomendado para cada doença.

- Pneumococcal vaccines



Seasonal

- Influenza vaccine
- Covid 19 vaccine

Free

Portuguese Immunization program



Vaccination coverage – 2024 report (2023 data)

**Tetanus and
diphtheria**

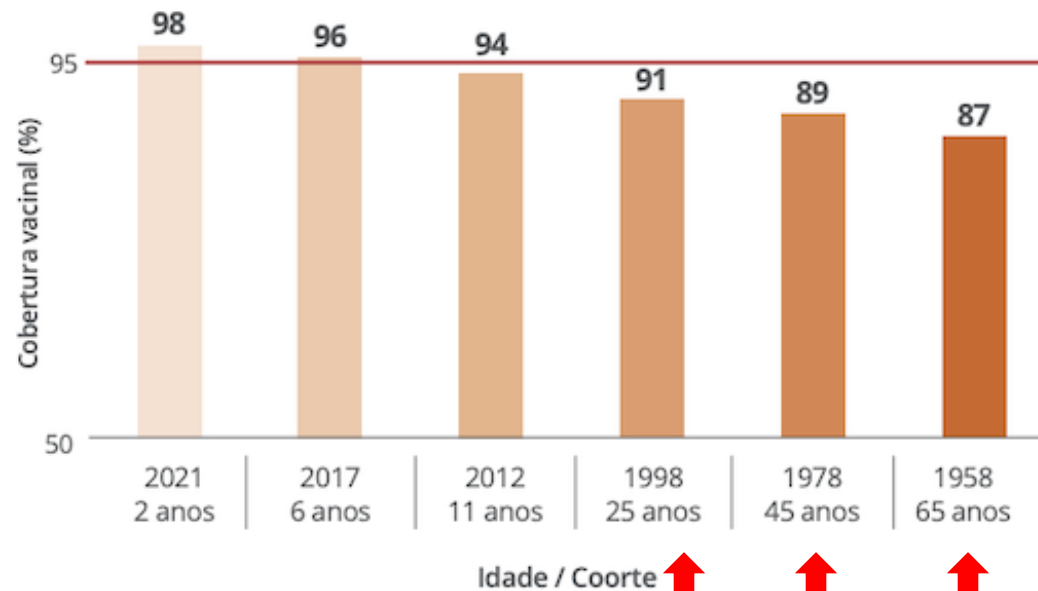


FIGURA 3. Cobertura vacinal contra tétano e difteria, por idade/coorte. PNV esquema cumprido. Avaliação 2023, em Portugal Continental. **Fonte:** VACINAS

Portuguese Immunization program

Vaccination coverage – 2024 report (2023 data)

Tetanus and diphtheria and pertussis (Tdap)

“It is estimated that, in 2023, approximately 84% of eligible pregnant women had been vaccinated with the Tdap vaccine as part of the National Vaccination Program (PNV).”



Pneumococcal vaccines



- Risk groups: PCV20 + PPV23

- ≥ 65 years of age: PPV23

under revision

- under revision*

Ret



In Portugal for IPD we could have potentially a similar coverage with our current scheme of pneumococcal polysaccharide vaccine

- * PCV21 is approved for the prevention of invasive pneumococcal disease caused by serotype 15B based upon prespecified criteria for the proportion of participants with fourfold or more rise in OPA responses: <https://www.fda.gov/media/1179426/downloadattachment>⁵

PCV20+PPV23 or with PCV21, but potentially higher for non invasive disease (more challenging to evaluate)

⁵PCV21 contains serotype 20A.

¹PCV21 contains serotype 20A.

Pneumococcal vaccines



A – Immunocompetent Individuals

Condition	Free Vaccination	Vaccination Schedule
Adult aged ≥ 65 years, without the conditions listed below	No	Pn23
Chronic heart disease – Chronic heart failure – Ischemic heart disease – Pulmonary arterial hypertension – Cardiomyopathies	No	PCV20 ↓ Pn23 6m-1y interval <i>minimum 8 weeks</i>
Chronic liver disease	No	
Bone marrow donor (before donation)	No	
Diabetes	No	
Chronic respiratory disease – COPD – Emphysema – Asthma (on chronic systemic or inhaled corticosteroid therapy) – Bronchiectasis – Interstitial lung disease – Cystic fibrosis – Pneumoconioses – Neuromuscular diseases	No	
Chronic respiratory insufficiency – Chronic respiratory insufficiency on long-term oxygen therapy – Severe chronic respiratory insufficiency (PaO₂ < 70 mmHg) and FEV1 ≤ 50%		

Current recommendations

Pneumococcal vaccines



B – Immunocompromised Individuals

Condition	Free Vaccination	Vaccination Schedule
Cerebrospinal fluid (CSF) fistulas	Yes	PCV20 ↓ 6m-1y interval <i>minimum 8 weeks</i> Pn23
Cochlear implants (candidates and recipients)	Yes	
Asplenia and complement deficiency	Yes	
• Anatomical or functional asplenia		
• Hyposplenism		
• Sickle cell disease		
• Other hemoglobinopathies with splenic dysfunction		
• Congenital complement deficiency		
• Therapy with complement inhibitors		
Primary immunodeficiencies	Yes	
HIV infection with CD4+ T cells ≥ 500 cells/mm ³	No	
HIV infection with CD4+ T cells < 500 cells/mm ³	Yes	
Transplant candidates (on active waiting list) and transplant recipients	Yes	
• Hematopoietic stem cell transplantation (bone marrow or peripheral)		
• Solid organ transplantation		

Current recommendations

Pneumococcal vaccines



B – Immunocompromised Individuals

Active neoplastic disease	Condition	Free Vaccination
	Leukaemias	Yes
	Lymphomas	Yes
	Multiple Myeloma	Yes
	Other Malignant Tumours	No
	Nephrotic Syndrome	Yes
	Iatrogenic Immunosuppression	No
	• Therapy with biological agents or DMARDs (Disease-Modifying Anti-Rheumatic Drugs)	
	• Systemic corticosteroid therapy	
	• Chemotherapy	
	• Radiotherapy	
Current recommendations	Chronic Kidney Disease	No
	Down Syndrome	No

Vaccination Schedule

PCV20



6m-1y interval
minimum 8 weeks

Pn23

Pneumococcal vaccines: coverage



Pneumococcal Vaccination Coverage (Portugal, 2021)

- Overall vaccination coverage was **very low**.
- Among adults **≥65 years**, only **19.3%** received at least one pneumococcal vaccine dose:
 - **11.8%** received **Pn13**
 - **6.7%** received **Pn23**
 - **0.8%** completed the **Pn13 + Pn23** schedule

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Pneumococcal vaccines: coverage



Pneumococcal Vaccination Coverage (Portugal, 2021)

- Interpretation challenges:
 - **No access to comorbidity data**, limiting assessment of coverage in high-risk groups.
 - Recommended schedule for ≥ 65 varies **depending on comorbidities**:
 - Without additional risk factors $\rightarrow$ **Pn23**
 - With additional risk factors $\rightarrow$ **Pn13 + Pn23**
- Using age alone (≥ 65) as the criterion, **Pn23 uptake remains low** relative to guideline recommendations.

Does the lack of gratuity explain partially the low uptake?

Influenza vaccine



Current recommendations

Eligible groups:

- **People aged 60 years or older**
- Children aged 6 months or older and younger than 5 years, particularly during the first 2 years of life
- **Patients with chronic illnesses or immunosuppression**, aged 6 months or older
- **Pregnant women**
- **Healthcare professionals and other caregivers**

Free for all
except for 2-5
years old
children without
risk factors

Influenza vaccine



Pathology / Condition	Examples
Respiratory	– Asthma under treatment with inhaled or systemic corticosteroids - Chronic obstructive pulmonary disease (COPD), cystic fibrosis, interstitial lung disease, pneumoconiosis, bronchopulmonary dysplasia, congenital malformations with respiratory impact, respiratory sequelae of COVID-19
Cardiovascular	– Congenital heart disease – Hypertensive heart disease – Chronic heart failure – Ischemic heart disease – Pulmonary hypertension – Cardiomyopathies
Renal	– Chronic renal insufficiency – Nephrotic syndrome
Hepatic	– Cirrhosis – Biliary atresia – Chronic hepatitis
Neuromuscular	– Conditions involving impairment of respiratory function, secretion clearance, or increased risk of aspiration
Hematologic	– Hemoglobinopathies

**Current
recommendations**

Influenza vaccine



Pathology / Condition	Examples
Immunosuppression	Primary immunodeficiency Secondary to disease: – HIV infection – Asplenia or splenic dysfunction Secondary to therapy: – Immunosuppressive therapy (antineoplastic or post-transplant) – Treatment with biological agents or DMARDs (<i>Disease-Modifying Anti-Rheumatic Drugs</i>) – Ongoing systemic corticosteroid therapy for more than 1 month at: • Dose ≥ 20 mg prednisolone/day (any age) • ≥ 2 mg/kg/day for children < 20 kg
Metabolic Diseases	– Hereditary metabolic disorders – <i>Diabetes mellitus</i>
Genetic Disorders	– Trisomy 21 (Down syndrome) – Alpha-1 antitrypsin deficiency receiving replacement therapy
Obesity	– Adults: BMI ≥ 30 – Children and adolescents: BMI $> 120\%$ of P97 or > 3 Z-score
Transplantation	– Solid organ or bone marrow transplant (including patients awaiting transplant)
Therapy with Salicylates	– Children and adolescents (6 months to 18 years inclusive) on prolonged salicylate therapy (risk of developing Reye syndrome after influenza or varicella infection)

**Current
recommendations**

Influenza vaccine



Current recommendations

“The Efluelda[®] vaccine, a high-dose influenza vaccine, is provided **free of charge** to the following groups:

- a. Residents of Long-Term Care Facilities for Older Adults (ERPI), similar institutions, and the National Network for Integrated Continuing Care (RNCCI)
- b. Individuals aged 85 years or older.”

Covid-19 vaccine

**Current
recommendations**



PRIMARY VACCINATION SCHEDULE

- **Individuals aged 18 years or older**
- Individuals aged 6 months to 17 years with severe immunosuppression

The recommended primary vaccination schedules against COVID-19 depend on age, the specific characteristics of each vaccine, and the eligibility criteria:

≥ 12 years of age: a single dose with Comirnaty LP 8.1® 30 µg.

Covid-19 vaccine

Current recommendations



SEASONAL BOOSTER

- Professionals and users/residents in Long-Term Care Facilities for Older Adults (ERPI) and similar institutions; the National Network for Integrated Continuing Care (RNCCI); and correctional facilities.
- Individuals aged 60 years or older
- Individuals with chronic diseases aged 18 years or older
- Individuals aged 6 months to 17 years with severe immunosuppression or upon individual clinical assessment
- Pregnant women
- People experiencing homelessness and the corresponding support professionals
- Healthcare professionals and other care-providing services, including social care workers, clinical trainees, firefighters involved in patient transport, caregivers of dependent persons, and pharmaceutical distribution workers.

Covid-19 vaccine

Current recommendations



The recommended interval between administration of the seasonal booster dose and the most recent immunological event – whether the last dose of a COVID-19 vaccine or a documented SARS-CoV-2 infection – is **4 to 6 months for individuals aged ≥ 12 years.**

Covid-19 vaccine

Current recommendations



Pathology / Condition	Risk Pathologies (18–59 years)
Active malignant neoplasm	Active malignant neoplasm undergoing or awaiting initiation of systemic antineoplastic therapy (cytotoxic agents, immunomodulators, antihormonal therapies, or targeted molecular therapies) and/or radiotherapy
Transplantation	Individuals who have undergone or are candidates for hematopoietic stem cell transplantation (allogeneic or autologous) or solid-organ transplantation
Immunosuppression	Primary immunodeficiencies Asplenia, congenital asplenia, sickle cell disease and other sickle cell syndromes (Hb S/Hb β ; Hb S/Hb C), <i>Thalassemia major</i> Individuals undergoing chronic therapy with biological agents or prednisolone >20 mg/day or equivalent Chronic inflammatory/autoimmune systemic diseases that confer immunosuppression based on clinical profile
HIV infection	HIV infection
Neurological diseases	Conditions resulting in impaired respiratory function, compromised secretion clearance, or increased risk of aspiration
Mental illness	Schizophrenia Other psychotic disorders Severe bipolar disorder
Chronic liver disease	Hepatic cirrhosis Chronic liver insufficiency
Metabolic disease	<i>Diabetes mellitus</i>
Obesity	Obesity with BMI ≥ 35 kg/m ²
Low body weight	BMI < 18.5 kg/m ²
Cardiovascular disease	Heart failure Cardiomyopathies (including congenital cardiomyopathies)

Portuguese Immunization program



Vaccination coverage – 2024 report (2023 data)

Season
2023-24

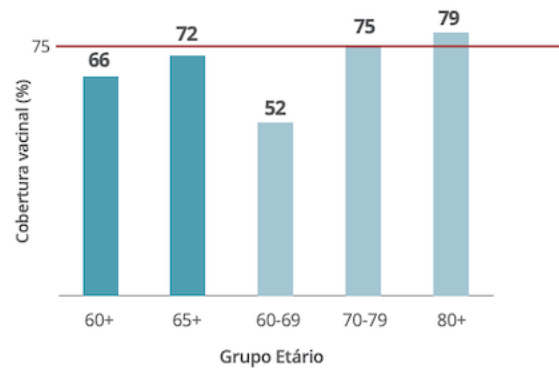


FIGURA 6. Cobertura vacinal contra a Gripe, por grupo etário, na época sazonal do Outono-Inverno 2023-2024, em 31/03/2024, em Portugal Continental. **Fonte:** VACINAS

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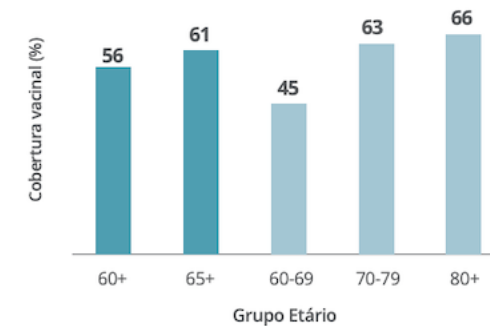
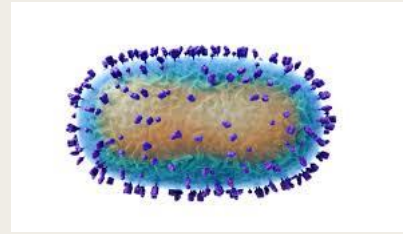


FIGURA 5. Cobertura vacinal da dose de reforço sazonal contra a COVID-19 no Outono-inverno 2023-2024, por grupo etário, em 31/03/2024, em Portugal Continental. **Fonte:** VACINAS

COVID-19

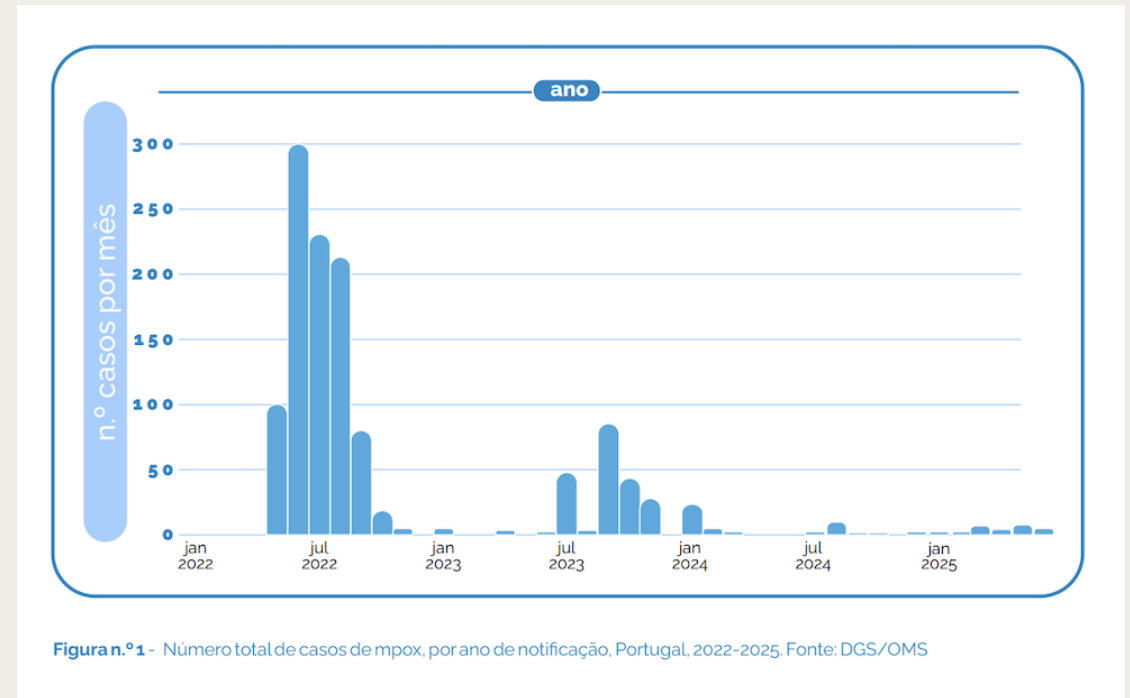
Other recommendations: Mpox



Gratuity for all recommended groups:

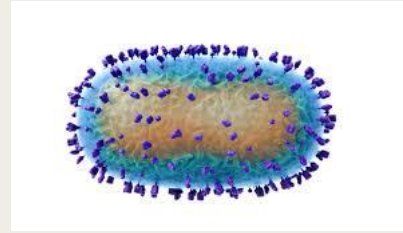
- a) *Vaccination in a pre-exposure context (for individuals at risk)*
- b) *Vaccination in a post-exposure context for close contacts of confirmed cases*

Vaccine: MVA-BN – Imvanex®



**Mpox number of cases
2022-2025**

Other recommendations: Mpox



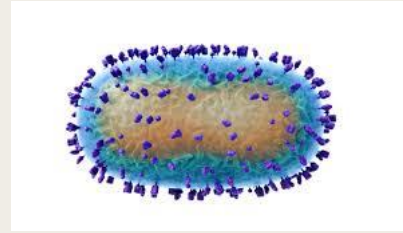
Pre-Exposure Vaccination

Pre-exposure vaccination for the prevention of mpox is administered **intradermally (ID)**, using a **0.1 mL dose**, except in special circumstances

a. Asymptomatic individuals aged 18 years or older:

- Individuals with multiple sexual partners and/or a history of group sexual practices;
- A recent diagnosis (within the last 6 months) of a sexually transmitted infection (STI);
- A history of sexual practices involving the use of psychoactive substances (*chemsex*);
- Individuals engaged in commercial sex work;
- Staff or users of venues where group sex or anonymous sex occurs;
- Individuals with anonymous sexual partners;
- Individuals enrolled in a PrEP programme (pre-exposure prophylaxis for HIV);
- Veterinarians or wildlife professionals who travel for work to areas where infection of wild animals is known to occur, such as Central or West Africa;
- Travellers engaging in sexual tourism who travel to outbreak-affected areas.

Other recommendations: Mpox



Pre-Exposure Vaccination

Pre-exposure vaccination for the prevention of mpox is administered **intradermally (ID)**, using a **0.1 mL dose**, except in special circumstances:

b. Healthcare professionals

with direct and ongoing contact with individuals with mpox, or professionals involved in the collection and processing of biological samples from mpox cases.

Other recommendations: zoster



Zoster vaccine

Recommendation issued by the Portuguese NITAG (CTV) to the health authorities.

waiting final decision

Other recommendations: RSV



- **RSV vaccine for older populations and risk groups** – under evaluation by Portuguese NITAG (*expected to be finalised by December 2025/January 2026*)
- **Responses in case of outbreaks: example Hepatitis A**

Conclusions



- The National Vaccination Program (PNV) must remain dynamic and therefore requires continuous re-evaluation.
- The PNV should increasingly be regarded as a comprehensive public health program spanning all age groups, from birth through older adulthood.
- There is a need for a higher investment in promoting gratuity and equitaty in vaccines for adult groups

Conclusions



- The challenges faced across different age groups vary and must be addressed accordingly
- The rapid emergence of new vaccines necessitates the use of more efficient evaluation methods, supported by strengthened technical, epidemiological, and modelling capacities

Vaccination For All

Let's get vaccinated



Thank you