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Strategic Consensus on a Proposed Vaccination Schedule for Adults in Portugal

Consenso Estratégico sobre uma Proposta de Calendário de Vacinação para Adultos em Portugal

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Vaccination as a tool for preventing disease across lifespan

The current and projected demographic context, characterized by an increase in average life expectancy,[1] highlights the growing necessity for a collective reflection on strategies to enhance the quality of life of the population. One of the most effective strategies for achieving this goal is investing in health technologies proven to reduce mortality and morbidity—vaccination being among the most prominent examples.[2]

Vaccination is one of the most powerful innovations in human history. Nowadays, vaccines protect individuals from over 20 diseases throughout their lives, preventing 3.5 to 5 million deaths worldwide each year.[3]

With vaccination coverage falling worldwide and anti-vaccine rhetoric gaining more visibility,[4] the scientific community remains firm in its stance that vaccination should be reinforced and treated as a lifelong responsibility for everyone.

An expanding body of published literature highlights adult and lifelong vaccination,[5] with data indicating that the epidemiological burden of vaccine-preventable diseases among adults remains substantial. For instance, influenza is responsible for approximately 72 000 deaths annually in Europe, predominantly affecting individuals over 65 years old.[6] The incidence of herpes zoster reaches up to 10.9 cases per 1000 adults, with a lifetime risk of 50% in individuals over the age of 80.[7] These data highlight the critical need for targeted adult vaccination strategies to reduce disease incidence, hospitalization, and mortality.

Adult vaccination not only prevents infections but also reduces their severity and may help prevent conditions like dementia.[8,9] Therefore, it is crucial to prioritize the ongoing integration of new vaccines into immunization programs while actively combating the infodemic of misinformation. In Portugal, the success of the National Vaccination Program, active since 1965, underscores the importance of vaccination and the health gains it has provided; however, the program continues to primarily focus on the pediatric population, and to some extent, the elderly.[10]

Between April and May 2024, a think tank initiative was carried out by a research team from NOVA Information Management School (IMS) at NOVA University of Lisbon, in support of the "+Longevity" project. This think tank brought together valuable insights from prominent Portuguese healthcare stakeholders and key opinion leaders (KOLs) on lifelong vaccination, collectively referred to as 'participants'. The initiative benefited from the guidance of a steering committee, all recognized subject-matter experts in the domains examined in the project, who collaborated with the NOVA IMS research team in conducting the study.

The "+Longevity Think Tank" was conducted in person at NOVA IMS and consisted of three structured sessions, each lasting approximately three hours, which included a discussion phase followed by a convergence of ideas phase, both facilitated by a member of the research team. Participation varied across sessions, with experts selected based on their specific areas of expertise relevant to the session topic. The first session focused on "The Future of Vaccine-Preventable Diseases in Adults", the second addressed "The Economic and Social Impact of Vaccine-Preventable Diseases in Adults", and the third explored "A Future Path for Adult Vaccination in Portugal". Before each session, a brief presentation was delivered summarizing the available evidence related to the session's specific topic. Following each session, a short summary was prepared and made available to the participants. The method used to reach consensus on the results throughout the

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process was majority agreement. Following the three sessions, participants were invited to complete a survey in which they rated the level of impact and priority of each recommendation that emerged from the initiative, using a 1-to-10 scale. A final consolidated technical report was subsequently drafted by the research team, reviewed by the Steering Committee, and then circulated to all participants for final review and feedback. This report was developed based on participants' insights and the available scientific literature.

The '+Longevity Think Tank' recommendations focus on three strategic priorities: investing in prevention and healthy aging, strengthening the health system's capacity and resilience, and securing the adult population's commitment to vaccination (Table 1).

Among other targeted recommendations, the think tank participants offered valuable insights into an optimal adult vaccination schedule for Portugal, aimed at advancing lifelong vaccination coverage. The goal was to inspire changes to the existing National Vaccination Program, reinforcing a societal commitment to lifelong vaccination and recognizing prevention as a vital component at every stage of life. Rather than developing a separate schedule, the emphasis should be on advancing a unified approach that reshapes the narrative—positioning vaccination as a cornerstone of disease prevention and a key driver of improved quality of life.

A proposed vaccination schedule for adults in Portugal

The think tank panel, composed of 19 experts, collaboratively contributed insights toward a proposed adult vaccination schedule for Portugal, which was subsequently refined and consolidated by the research team. This proposal represents what participants view as the ideal vaccination schedule, while remaining aligned with current epidemiological trends, vaccine efficacy and effectiveness, and economic considerations (Table 2).[5]

Lifelong vaccination awareness narrative

The think tank participants share a common vision: shifting the vaccination narrative to emphasize a lifelong approach is essential. Incorporating a dedicated segment for the adult population within the National Vaccination Program offers a top-down implementation strategy that facilitates faster adoption. At the same time, think tank participants emphasized the importance of raising awareness among healthcare professionals and the general public about the benefits of lifelong vaccination. As noted—and in line with practices in several European countries—the use of targeted communication tools to support awareness campaigns aimed at the adult population is regarded as essential. Moreover, the importance of tailoring communication strategies to specific sub-populations within the adult group—such as different age cohorts, risk groups, migrant communities, and others with potential disparities in vaccination coverage—has been emphasized as a means to maximize protection and enhance quality of life.

Implementation

As emphasized by the Think Tank participants, implementing the concept of lifelong vaccination requires that management, governance, scientific validation, budgeting, and logistical frameworks align with those already established in the National Vaccination Program. To strengthen the vaccination policy agenda, it is recommended to introduce additional indicators—such as quality-of-life metrics—that capture broader dimensions of health and well-being alongside coverage rates. This approach offers a more accurate measure of success and reinforces the effectiveness of the proposed strategy."

Synergies with other social actors

To effectively raise awareness and support implementation, participants proposed establishing synergies—among others—with the Ministry of Social Security, local municipalities, and the occupational health network. These collaborations would foster a multidisciplinary and multisectoral approach, improving vaccination coverage by leveraging every healthcare interaction as an opportunity for immunization. This novel vaccination paradigm seeks to systematically translate evidence into comprehensive strategies that actively promote lifelong well-being and a culture of health consciousness.

Call for action

The public health challenges we face today, particularly regarding vaccination, call for decisive action from political and executive leaders to establish a compelling narrative and vision highlighting the benefits and need for lifelong vaccination. The agreement among national experts on this issue reflects a clear intent to move forward with its implementation.

PREVIOUS AWARDS AND PRESENTATIONS

The results of the study were publicly presented at two events: the first at the Portuguese Parliament on September 24th, 2024, and the second at the IMPRESA building (Portugal) on November 18th, 2024. Although the results were publicly presented, they have not been presented in a scientific context or submitted/published in any journal.

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AUTHOR CONTRIBUTIONS

LM, MC: Original draft, review & editing;

CH: Investigation, review & editing;

MTR: Review & editing;

DF: Project administration, review & editing;

JD: Conceptualization, methodology, formal analysis, investigation, visualization, project administration, funding acquisition, review & editing;

ACF: Supervision, review & editing;

CM, FF, FG, HL: Investigation, supervision, review & editing;

All authors approved the final version to be published.

CONFLICTS OF INTEREST

FF declares that, over the past 36 months (reporting to January 2025) he has received funding research and/or clinical trials from Merck, Sharp & Dohme (MSD). Additionally, he has served as lecturer for MSD, GSK, AstraZeneca, Sanofi, Novavax, Gilead, Bial, Hipra, and Roche; has also been a member of the scientific advisory boards of MSD, GSK, AstraZeneca, Sanofi, and Hipra.

All other authors have no conflicts of interest to declare.

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Table 1 – Recommendations of the +Longevity Think Tank

Area	Recommendation
Investment in prevention and healthy aging	Adult vaccination program
	Literacy narrative for adult vaccination and longevity
	Integration of mechanisms in the preventive approach
	Evaluate the impact of vaccination in addressing Global Health challenges
	Redefining management indicators to strengthen the vaccination strategy
	Personalization in data collection and management
	Models to incentivize community prevention
Health system capacity and resilience, along with community synergies	Strengthening the role of long-term care and personalized healthcare units in intervention efforts
	Strengthening existing capacity and fostering synergies to enhance surveillance efforts
	Assessment study on barriers to adult vaccination access
	Innovative funding models for vaccination
	Multiannual planning in vaccine procurement
	A platform for sharing best practices in vaccination strategy and coverage management
	Co-funding of complementary interventions in vaccination coverage
Ensuring the adult population's commitment to vaccination	Transparency and quality in communication and evidence dissemination
	Population segmentation of narratives and lines of action
	Simulation study and impact assessment of vaccination strategies in real life
	Multisectoral collaboration to advance literacy promotion
	Strategic alignment with the Action Plan for Active and Healthy Ageing
	Investment in strategies for infodemiological management
	Interventions supported by behavioral science algorithms

Table 2 – Proposed vaccination schedule for adults in Portugal

Infectious disease	Vaccination coverage assumptions
Influenza (seasonal flu)	Universal for people **aged 60 and over**
Influenza (high dose)	Long-term care home residents and Individuals aged 75 and older—ideally extending to those 65 and above—and/or those with comorbidities that place them in a high-risk group
COVID-19	Universal (annual)
Pneumococcal disease	Universal for individuals aged 65 and older, or those with comorbidities that place them in a high-risk group
Respiratory Syncytial Virus	Applicable to all individuals aged 65 and over, as well as those with comorbidities that place them in a high-risk group
Tetanus-Diphtheria-Pertussis	Universal **every 25 years until the age of 65** and Universal **every 10 years from the age of 65**
Herpes Zoster	Universal **from the age of 50** or from the age of 18 in high-risk groups
Human Papilloma Virus	**Up to the age of 46 years**, for both men and women