ADULT VACCINATION STRATEGIES

The importance of a committed and international adult vaccination strategy

June 26th, 2024

POSITION PAPER

Roundtable Moderators

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- **Sandra Evans,** Acting Executive Director, Coalition for Life Course Immunisation (United Kingdom)
- **Jaime Jesús Pérez Martín,** President, Spanish Association of Vaccinology (AEV) (Spain)

Roundtable Speakers

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- **Prof. Dr. Christian Bogdan**, Chair of Microbiology and Infection Immunology, Friedrich Alexander University and University Hospital Erlangen (Germany)
- **Prof. Dr. Gordon Dougan,** Member, Board of Trustees, International Vaccine Institute (IVI) & Professor, CITIID, Department of Medicine, University of Cambridge (United Kingdom)
- **Prof. Dr. Mine Durusu Tanriover**, Vice Chair of the Institute and the Chair of the Immunization Policies Department, Hacettepe University Vaccine Institute (Turkey)
- **Dr. Carolina Klett-Tammen**, Deputy Team Leader Clinical Epidemiology, Helmholtz Centre for Infection Research (Germany)
- **Luís Lourenço**, Member of the Executive Committee, Member of the Board, Professional Secretary, International Pharmaceutical Federation (FIP) (Portugal)
- **Prof. Dr. Maarten Jacobus Postma**, Professor in Health Economics, University of Groningen (Netherlands)
- **Prof. Dr. Barbara Rath**, Co-founder & Chair, Vaccine Safety Initiative (Germany)
- **Prof. Dr. Lothar Rink**, Director of Institute of Immunology, Aachen University Hospital (Germany)
- **Dr. Iván Sanz-Muñoz,** Responsible of science and virological surveillance, National Influenza Centre, Valladolid (Spain)
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INTRODUCTION

The last roundtable opened the discussion and highlighted the urgent need to prioritise adult vaccination. This year, the priority is **to build a comprehensive and updated perspective on adult vaccination strategies based on the critical insights of 2023's position paper**, providing a platform and a baseline for stakeholders to collaborate and drive concrete action in promoting Life Course Immunisation (LCI) and preventing diseases, particularly respiratory diseases, on a global scale.

LCI presents an advocacy framework for protection against vaccine-preventable diseases throughout the course of our lives. Investing in a life-course approach in national immunisation programmes brings wide health and economic benefits, protects all ages from vaccine-preventable infectious diseases, and reduces disease burden, better preparing us all to live longer and more productive lives. In a context where older persons comprise the world's fastest-growing age group, maintaining a healthy, fit older population will become very important for individuals.

LCI strategies are a cost-effective means of improving health throughout the duration of adult life. Adult vaccination not only reduces the incidence and severity of infectious diseases but also reduces the incidence and severity of comorbidities with noncommunicable conditions. Infections caused by influenza virus, respiratory syncytial virus (RSV), the bacteria Bordetella pertussis and Streptococcus pneumoniae as well as the reactivation of varicella zoster virus (VZV) significantly contribute to healthcare resource utilisation and associated costs. Adult immunisation programmes are highly cost-effective and can result in net cost savings for healthcare systems. Recent studies have highlighted that these programmes not only offer health benefits but also yield financial gains by averting hospital inpatient and emergency care. However, there are still gaps in evidence regarding the value of immunisation programmes, indicating a need for further research to enhance adult immunisation programmes for the benefit of society and public health.[1]

The COVID-19 pandemic not only highlighted the **seriousness of respiratory infections** and the importance of treating them with adequate treatments, but also **the critical role of prevention**. Today, respiratory infections and other diseases (e.g., allergic asthma, chronic obstructive pulmonary diseases) are part of our daily lives. Their burden is aggravated by seasonality, antimicrobial resistance, and environmental pollution. In this context, LCI is more important than ever.

As an example, **outbreaks of pertussis,** one of the world's most contagious respiratory infectious diseases, endemic in all regions, have been reported across the world during the last two years. Pertussis can affect persons of all ages but is most dangerous to infants, where it can lead to deaths. According to the World Health Organisation (WHO), the best way to prevent pertussis is through **immunisation.** Furthermore, the case of respiratory syncytial virus (RSV) should be considered, as it is recognised by the WHO as the main cause of lower respiratory tract infections in infants under one year of age. The introduction of the monoclonal antibody Nirsevimab in the 2023-2024 season was available to protect children from RSV, making Spain one of the first countries worldwide to implement this strategy and showing immunisation as the best way to prevent the virus.[2]

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STATEMENT

Immunisation is a highly cost-effective tool, not only because it directly reduces the number of infections but mainly because it lowers hospitalisation and mortality rates. Adopting a prevention mindset and achieving proper coverage requires a transdisciplinary approach that includes surveillance for data collection, a flexible and adaptable system with new processes and technological tools for real-time decision-making, strong communication and education support, and continuous analysis to make timely adjustments.

Elaborative Points leading to statement

A healthier population is a more productive one: Investing in health, particularly in prevention, acts as a fiscal multiplier.

Investing in prevention not only reduces costs but also boosters economies. When focusing on vaccines, a benefit-cost analysis published by the Office of Health Economics (OHE) in April 2024 showed that adult vaccines can return up to 19 times their initial investment to society, when their significant benefits beyond the healthcare system are monetised. Improved health is estimated to account for about 33% of the overall GDP-per-capita growth of developed economies in the past century. Better health could add $12 trillion to global GDP in 2040—an 8 percent boost, or 0.4 percent a year faster growth. Less than 5% of healthcare spending is allocated to disease prevention programmes and vaccine expenditure falls below 0.5% of healthcare spending.

The global context amplifies the difficulties for sustainable vaccination programmes

The geopolitical conflicts had an impact on the world economy, and widespread supply-chain disruptions that have led to high inflation, demographic shifts, and the availability of new technology. This do not align with the fact that 77% of European countries spend less than 0.5% of their healthcare budget on vaccination programmes meant to relieve healthcare expenses. The share of government expenditures allocated to health would need to increase by around 5 percentage points by 2040 to meet future needs. To be sustainable, the vaccine budget should be ring-fenced, long-term, and protected by laws. It is crucial to have a safeguarded budget that is disconnected from potential savings programmes.

New tools offer new opportunities

Many identified obstacles, related to financiation, processes and sustainability, can be addressed with digitalization, which has great potential to improve vaccine uptake and supports the need for effective life-course immunisation services. New technology can provide the resources needed to better understand the current situation and future scenarios, helping to reduce decision-making time and error gaps. The primary reported barrier to implementing digital-based programs is the lack of resources and shared standards. On the other hand, digital vaccination registries are crucial for improving vaccination coverage rates and ensuring efficient healthcare delivery. The establishment of digital registries allowed better access to patient health data, enabling healthcare professionals to provide targeted vaccinations, recall reminders, and personalised care. The integration of such systems and the inclusion of pharmacies as data collection points are contributing to optimal vaccination coverage across the lifespan.

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Riding the post-covid wave of changes

Regulations around Real World Evidence (RWE) and digital tools that have been evolving and accelerated by COVID 19, set the perfect scenario for impactful life-course immunization strategies. But at the moment there are significant differences between regions, countries, and specific subgroups (e.g. age, sex, education) in digital maturity [3], the amount of digital talent, digital awareness, infrastructure, regulations, access to data and its quality. The ownership of the data is changing. In this context, the patients are increasingly involved and own their data. To date, some global actors are now developing new digital/health initiatives:

- The World Health Organisation (WHO) created a "Digital Health Strategy & iHub" department and they are establishing a technical advisory group and roster of experts on digital health.
- The Global Alliance for Vaccines and Immunisation (GAVI) is making partnerships to obtain a higher efficiency in the immunisation programmes using data/digital (Zenysis Technologies and Philips) and to fight misinformation with regards to Covid 19 (Facebook)
- The European Union created the European Health Data Space (EHDS), an initiative by the European Commission to create a secure and trustworthy ecosystem for health data. It aims to empower individuals, facilitate cross-border data sharing, and enable the secondary use of health information for research, innovation, and policy making within the European Union.

Collaboration is crucial for achieving results and bridging the gap

As health systems are not always equally modernised and are often under financial pressure, they may be reluctant to engage in new costly projects. This is where public-private partnerships in R&D can help spur technological innovation in health. When focusing on vaccination, sharing best practices and informing the planning of digital intervention models to counter vaccine hesitancy and increase vaccine uptake are crucial. More innovative technologies lead to the development of new products, expansion of services, and the creation of new business models, benefiting the global health community and its pharmaceutical partners. The rapid development of vaccines for COVID-19 is one example of how this kind of public-private partnership can advance the development of innovative medicines.

Conclusions

Reactive health approaches are no longer efficient, there is a need for proactive strategies

It is imperative that decision-makers adopt a prevention-first mindset and allocate robust funding for vaccination programs that follow a life course approach. This strategy should not solely focus on children and the elderly but should be planned with a more integrated perspective. As challenges evolve, so must the strategies to achieve meaningful results and enhance people's lives. Now, more than ever, healthcare systems must invest in strategies to cope with unprecedented and growing demand. Prevention must be at the heart of these strategies, and comprehensive adult immunisation programs are a fundamental component of effective prevention. By prioritising prevention and adopting a life course approach to immunisation, healthcare systems can better address current and future health challenges.

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Now-casting surveillance is key to achieve results

The burden of vaccine-preventable diseases is projected to rise, necessitating a paradigm shift in adult immunisation programs. Transitioning from a forecasting to a now-casting approach is crucial, as real-time data is essential for making swift, data-driven decisions. This shift can lead to reduced costs and improved patient experiences. Implementing more robust data collection systems, widely accepted methodologies, and transparent/open data access will allow for more accurate quantification of these benefits. To bridge information gaps, research and surveillance should be integrated into the evaluation system for adult vaccination post-implementation. Key metrics such as deaths, hospitalizations, and avoided visits to emergency or primary care must be consistently included in the evaluation systems of vaccination programs. By adopting a now-casting approach and enhancing data infrastructure, healthcare systems can better respond to the dynamic landscape of vaccine-preventable diseases and ensure more effective adult immunisation strategies.

Training and communication is essential to accomplish a strong educated and united front

To combat the battle against misinformation, a united front is essential. Everyone involved in the immunisation process must have access to the same information and resources to ensure success. This includes not only patients, but also healthcare professionals, who may not be directly involved in vaccination but can serve as powerful message multipliers. Education plays a crucial role in enhancing quality of life and optimising healthcare utilisation at the societal level. Both individual and societal objectives must be addressed simultaneously. A vaccination program is ineffective if it is not utilised, leading to wasted resources. Therefore, studies must focus on identifying gaps in knowledge and adherence among patients and healthcare providers. Achieving high levels of adherence is essential for realising the desired outcomes and accurately addressing the needs of patients. By prioritising comprehensive education and communication strategies, the effectiveness of immunisation programs can be enhanced, ensuring that all stakeholders are well-informed and engaged in the process.

Embracing digitalisation is a must for enhanced vaccination outcomes

The implementation of data tools must be focused on acquiring information that facilitates better decision-making, rather than their random application simply because they are available. A more strategic, advanced approach is necessary to maximise the benefits these tools can provide. Precision data is crucial for gaining efficiency, and it must be grounded in the real experiences of patients to build trust and identify areas for improvement or change. Additionally, the tools available are essential for gaining a comprehensive understanding of information over the long term. Vaccination registries are vital not only for tracking the quantity and costs of vaccines but also for monitoring the progression of infections, their dynamics before and after the introduction of new prevention strategies. These registries can provide valuable insights into the sequelae of infections and vaccinations, as well as the infection dynamics in various settings and the specific and nonspecific effects of vaccines in both short- and long-term perspectives. This data will enable the fight against misinformation with concrete evidence. Incorporating population-based information into models will yield better answers, enhance our models, and improve the planning and evaluation of prevention strategies. By doing so, we can leverage real data to combat the infodemic effectively.

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Vaccine acceptance requires balanced and trustful communication

Communication should not be the final step in an immunisation plan; it must be integrated from the outset, beginning with the planning of data collection. While fear should not be the primary driver of communication campaigns, it is crucial for individuals to understand the importance of getting vaccinated, similar to their awareness during the COVID-19 pandemic when the effects of infection were evident everywhere. The messaging around how vaccines work, particularly emphasising their role in prevention, is vital. Without clear communication, there can be a trust issue when individuals contract an illness. Effective communication fosters trust and understanding, highlighting the preventative nature of vaccines and their role in safeguarding public health. By prioritising communication throughout the immunisation planning process, potential barriers can be addressed, ensuring a higher level of adherence and trust in vaccination programmes. This approach ensures that the public is well-informed and confident in the benefits and safety of vaccines.

Bringing Vaccinations Closer with Digital Data and Diverse Access Points

Understanding the vaccine's journey enables healthcare providers to bring vaccinations to them, rather than requiring individuals to seek out vaccination services. The process must be adapted to make it more convenient for people, thereby increasing adherence. This adaptation could involve expanding vaccination points beyond hospitals and streamlining approval processes. A crucial aspect of this strategy is the digitalisation of data sharing. All vaccination points must have access to patient data to effectively promote vaccination. Pharmacies, for example, serve as key contact points for patients with chronic diseases. However, without access to vaccination data and specific training, they cannot effectively promote immunisation. It is essential not only to have access to this data but also to allow healthcare professionals to update it. These professionals, with the proper guidelines, are capable of collecting data and providing real-time evidence for community-based studies. They can monitor for side effects or interactions with other medications, which is crucial for life-course immunisation. By diversifying pathways and ensuring comprehensive data access and sharing, the reach and efficacy of immunisation programmes can be significantly enhanced. This approach ensures that vaccinations are more accessible and tailored to the needs of patients, ultimately leading to better health outcomes.

Deliver the right information to the policymakers and politicians for better decision making

Conveying accurate and comprehensive information about vaccines is essential for the effective implementation of life course immunisation strategies. Ensuring that policymakers and politicians are well-informed about the benefits of vaccines across different life stages, as well as the potential economic and social advantages of robust immunisation programs, fosters an environment conducive to sustained investment in vaccination initiatives. Such informed advocacy can lead to the development of policies that promote higher vaccination coverage, reduce the incidence of vaccine-preventable diseases, and ultimately enhance public health on a broad scale. The consideration of costs in vaccination programs should not be solely vertical and based on financial metrics. It is imperative to account for disease prevalence, the potential for individual and social disease prevention, the number of people required to be vaccinated to prevent a single case, and the associated secondary effects. The complexity of decision-making levels can impede the efficiency of vaccination plan implementation. In countries where decisions are made at a singular level, achieving better coverage is more straightforward. However, in countries like Italy or Spain, where multiple mechanisms are in place, the process becomes more challenging.

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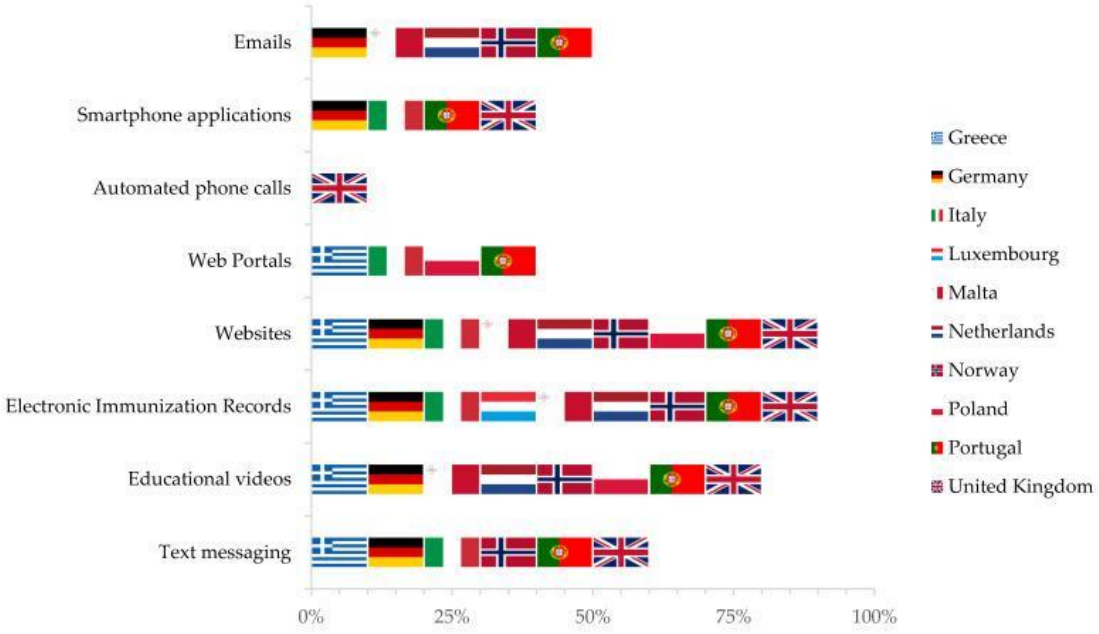

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