



Global Atlas on Adult Vaccination (GAAV)

Executive Summary

May 2025

Background

The 'Global Atlas on Adult Vaccination' (GAAV) seeks to be an interactive global platform that benchmarks policy evidence and gaps, additional barriers to adult vaccination, and opportunities for change at a country level.

The International Federation on Ageing (IFA) has synthesized insights from its own research and member organizations, conducted environmental scans, and consulted with knowledge holders to produce a series of country-level report cards on vaccination policies for older adults.¹ Findings were collected via environmental scans, with a focus on immunization against the following vaccine-preventable diseases: COVID-19, influenza, diphtheria, pneumococcal pneumonia, respiratory syncytial virus, and shingles. Prior to research, indicators of vaccination policy were grouped into several categories relevant to vaccination policy and distribution. Each indicator received one of four possible grades—criteria include fully/partially/not met, or the findings were insufficient/inaccessible/unclear if the criteria has been met. Research was nationally based, meaning that while some countries have provincial, territorial, or state-based programs, the report cards only recognize national or country-wide initiatives.

The report cards included in the GAAV provide a policy snapshot of international adult vaccination practices and represent baseline data. The GAAV contributes to the World Health Organization's (WHO) Immunization Agenda 2030 (IA2030), particularly Strategic Priority 4 (Life-course and Integration) and may help inform actions associated with several action areas of United Nations (UN) Decade of Healthy Ageing such as long-term care, integrated care, and combatting ageism.

Information collected in the GAAV serves as a resource for policymakers, civil society organizations (CSOs), and researchers to inform and underpin advocacy strategies and actions to influence adult vaccination policy and good practice. The GAAV platform offers an opportunity to showcase best practices that can support advocacy efforts among key stakeholders and organizations, globally.

GAAV- Summary of Findings

The GAAV launch features research on ten countries: Australia, Brazil, Canada, France, Germany, India, South Korea, Thailand, Turkey, and the United Kingdom (UK). Research for each country has been consolidated into a report card, which highlights seven country-level immunization program indicators: policies, funding, program, performance, equity, long-term care, and civil society organization engagement. This report aims to summarize the overarching findings of the Global Atlas across the indicators examined. Findings reveal that immunization practices vary widely across countries. While countries with higher socio-economic status appear to often have more developed vaccination programming and policy, this is not universally applicable. Given the 10 countries in this report, there does not appear to be any significant predictor or determinant of vaccination practices internationally.

¹ This project is being conducted with the support of GSK, Novavax, and Sanofi.

Policy

National Aged Care Strategies

Efforts to integrate vaccination into national strategies for older adult care vary significantly across countries, reflecting diverse approaches to addressing the needs of ageing populations. These findings reveal a broad spectrum of policy approaches to vaccination for older adults, from comprehensive integration in countries like France and Thailand to notable exclusions in Australia, India, and South Korea. For instance, while the latter countries' national aged care strategies notably omit discussion of vaccination¹⁻³, countries like France explicitly acknowledge immunization in their frameworks. This priority is further supported by public awareness campaigns and collaboration with care providers.⁴⁻⁶ Expanding immunization within national ageing strategies remains an opportunity for improving health outcomes among older populations globally.

National Immunization Programme/Plan

National Immunization Plans (NIPs) refer to official government frameworks that outline recommended vaccines, target populations, and schedules for immunization across the life course. The inclusion of vaccines targeted at older adults into NIPs/schedules is variable across countries, with differences in vaccine recommendations, schedules, and targeted approaches. COVID-19, influenza, and shingles vaccines are commonly included in countries' immunization plans targeted at older adults, with 9/10 countries including COVID-19 and shingles vaccination in their immunization schedule and 8/10 countries including influenza in immunization schedules.

The inclusion of pneumococcal and DTaP (the vaccine that protects against tetanus, diphtheria, and pertussis) vaccines in countries' vaccine calendars is more variable. These findings underscore the need for a more standardized global approach to immunization in ageing populations, addressing gaps in access, targeted recommendations, and specialized doses to protect older adults against vaccine-preventable diseases.

National Advisory Committees on Immunization (NITAGs)

National Immunization Technical Advisory Groups (NITAGs) are multidisciplinary country-level expert committees tasked with providing independent, evidence-based advice to policymakers and programme managers on immunization and vaccine policy issues.⁷ NITAGs play a critical role in informing immunization policies, yet their representation of expertise in ageing and adult immunization varies significantly across countries. Most NITAGs appear to be predominantly pediatric-focused; only half of the countries studied include an ageing expert on their committee. Strengthening the inclusion of ageing specialists within NITAGs is essential for ensuring that immunization strategies effectively address the needs of older adults and promote a life course approach to vaccination.

Overall, results indicate that vaccination policy is widely inconsistent across countries. Countries with best practices include Canada and France, which feature immunization in national ageing strategies, promote vaccinations targeted at older adults, and involve ageing experts in their NITAG.^{8,9}

² "National strategies" refer to government policy frameworks, explicitly dedicated to older adults, outlining priorities and services for older adults, including health and aged care.

Funding

Funding and Vaccination Coverage

Like policy, funding for vaccination coverage/reimbursement and financial accessibility for older adults vary across countries, reflecting differing health system structures and policy priorities. For instance, funding may vary depending on how each country's health system(s) are regulated and where decision-making lies (federally, provincially/state-based, etc.). One example of this is seen in the Canadian context, where provinces/territories are largely responsible for health coverage plans.¹⁰ Additionally, settings where individuals are vaccinated and by whom (physician, nurse, pharmacist, etc.) may impact coverage, as seen in France and Turkey. For example, in France, vaccination coverage is dependent on the type of vaccine and the type of healthcare professional that administers it.^{11,12} Whereas, in Turkey, vaccinations are given free of charge to all age groups and are reimbursed for high-risk individuals who receive vaccinations at family medical centres.¹³ These findings highlight significant disparities in vaccination coverage and financial accessibility across countries. While some countries, like Brazil and Turkey, emphasize universal or near-universal access to vaccines, others, such as Canada and Germany, exhibit variability based on regional policies or insurance models. Expanding comprehensive and equitable vaccine coverage for older adults remains a critical priority to ensure their health and well-being globally.

Budgeting in National Strategies

Global vaccine funding for older adults varies significantly, reflecting diverse health systems and priorities. Countries like Brazil and Canada demonstrate substantial investments in vaccine infrastructure and targeted programs, while others, such as India and South Korea, focus more on broader/more general public health strategies with limited emphasis on older adult immunization.¹⁴⁻²⁰

High-income countries such as Germany and France invest significantly in healthcare infrastructure but lack streamlined and targeted funding mechanisms for vaccination programs dedicated to older adults. In contrast, Australia and the UK ensure vaccine accessibility, but face challenges with funding transparency and declining preventative care investments in their annual public health budgeting.²¹⁻²⁴

Emerging economies such as Thailand and Turkey acknowledge the importance of integrating immunization into broader healthcare frameworks, though financial specifics and prioritization of older adults remain unclear. Bridging these gaps through targeted funding and prioritization may enhance vaccination rates and improve immunization uptake outcomes among older populations globally.

Program

Vaccination Information and Campaign Accessibility

Public health campaigns and programs supporting adult vaccination are widely varied across countries in terms of focus, accessibility, and comprehensiveness. For instance, Brazil demonstrates a life-course approach, available through the Ministry of Health's easily accessible website and three annual vaccination campaigns. This is shown through Brazil's vaccination schedule and health promotion programming, providing residents with access to information.²⁵ Conversely, France has minimal accessible information concerning older adult vaccination and does not uniformly demonstrate a life course approach to vaccination, depending on the vaccine type.²⁶

Similarly, in India, public health campaigns focus heavily on pediatric and maternal vaccinations, such as those for tuberculosis and measles, with minimal efforts targeting older adults.²⁷⁻²⁹

Overall, these findings highlight the critical role of accessible, diverse public health campaigns in promoting adult vaccination and emphasize the need for a more balanced focus across vaccine types and life-course immunization strategies.

Vaccination Administrative Eligibility

The eligibility and roles of vaccination administrators vary widely across countries, influenced by regulations, professional qualifications, and healthcare system structures. For instance, in the UK vaccination authority is broad. Physicians, nurses, and pharmacists are eligible to vaccinate under the NIP. Furthermore, recent regulatory changes allow medical and nursing students to administer influenza vaccines, with supervision. Midwives, paramedics, and pharmacy technicians can vaccinate under specific patient group directions (PGDs) or other structured guidelines.³⁰⁻³⁴ In contrast, India relies heavily on physicians, nurses, and auxiliary nurse midwives (ANMs) to provide routine immunizations, especially for children and maternal health.³⁵ A recent initiative by the Indian Pharmaceutical Association aims to train pharmacists as vaccinators by 2025.³⁶

These findings highlight the diverse approaches to vaccination administration globally, underscoring the impact of regulatory frameworks, workforce training, and healthcare system organization on vaccination delivery.

Professional Education and Upskilling

Professional education and upskilling opportunities—such as continuing medical education courses, certification programs, and interdisciplinary workshops—can enhance the quality of care provided to older adults by equipping primary care providers with updated knowledge and skills. The availability and focus of educational resources related to adult immunization vary widely across countries, reflecting differences in healthcare priorities, training frameworks, and professional development. Few countries emphasize the importance of upskilling and continued education on a life-course approach to immunization. While some countries, like Germany and the UK, provide structured training, many others still face significant gaps in education and coordination. No country studied appeared to have a robust program dedicated to continued education for health care professionals on older adult vaccination.

Administrative Guidelines

Guidelines surrounding vaccine eligibility, dosage schedules, and administration procedures are generally clear and well-defined in many countries, although there are notable variations in their accessibility and specificity. It also appears that while eligibility for different age and risk groups is predominantly well-defined, guidelines as to how these populations are prioritized and protocols are more limited. Some countries, like Brazil, Germany, and the UK, provide comprehensive frameworks for vaccine administration, while others, such as South Korea and Turkey, still rely on general or less publicly available frameworks.

Performance

Country-Level Vaccination Goals and Targets

Vaccination goals and targets for older adults vary widely across countries. Some countries outline specific objectives for improving coverage and reducing vaccine-preventable diseases (VPDs), while others lack clear targets. For example, some countries, like Canada and Thailand, provide clear coverage targets, while others, such as Germany and Turkey, do not include adult vaccinations in their national strategies.^{10,37-42}

Immunization Coverage Data

Immunization coverage data for older adults— often used as a metric to gauge the efficacy of a country or areas' vaccination program implementation— differs significantly across countries, with some countries providing comprehensive and detailed reports, while others face challenges in data collection or lack centralized systems for monitoring adult vaccination rates. Brazil has extensive data on vaccination coverage, detailed in the country's vaccination guide, which covers various vaccines, vaccination schedules, and target groups.⁴³ The guide emphasizes monitoring trends, homogeneity of coverage rates, and adherence to target populations, though challenges remain due to the dispersion of certain populations.

Burden of Disease Data and Age Disaggregation

Vaccination coverage and data on the burden of disease, particularly for older adults, varies across countries, with some countries collecting age-segregated data and others facing gaps in this area. Countries that feature age-disaggregated data include Australia, Canada, South Korea, and the UK. Overall, countries like Australia, Canada, and the UK provide relatively comprehensive and up-to-date immunization coverage data, while others, such as India, Germany, and Thailand, face challenges due to incomplete data systems or a lack of centralized monitoring for adult immunization.

Equity

Inclusion of Older Adult Sub-Groups in NIPs

For the purposes of the GAAV, older adult sub-groups include people with chronic illness/disease, adults with disabilities, and older adults in rural communities. These subgroups are at a heightened risk of contracting infectious diseases. The GAAV found that several countries' NIPs generally guide vaccinations for older adults and high-risk populations, but few explicitly address the intersection of age and high-risk comorbidities.

Germany, India, South Korea, Thailand, and Turkey also show limited or no focus on older adults with high-risk conditions in their NIPs.⁴⁴⁻⁴⁹ While several countries include older adults in their vaccination plans, few integrate the intersection of age with chronic conditions or other factors (such as low socio-economic status and/or social isolation). This leaves gaps in vaccination strategies for older adults, particularly those with comorbidities.

When addressing the issue of vaccination equity, various countries employ different strategies to ensure underserved populations, including older adults, receive adequate access to vaccines, though the focus on specific high-risk or marginalized groups varies. There appears to be a gap between policy and practical, ground-level interventions. One example that unpacks this disconnect between policy and access can be seen in Australia. In Australia, federal equity initiatives include previous participation in COVAX, a global effort for equitable COVID-19 vaccine distribution.¹ The NIP offers free COVID-19, influenza, shingles, and pneumococcal vaccinations to Aboriginal and Torres Strait Islander people. The National Centre for Immunisation Research and Surveillance (NCIRS) provides culturally informed resources to encourage vaccination uptake in these communities. However, research suggests that barriers to accessibility, such as the limited number of vaccination venues and inaccessibility in some regions, hinder vaccine distribution to these populations.^{1,50}

Unfortunately, Germany and India do not include vaccine equity initiatives in their NIPs or vaccination materials. Research from both countries highlights the need for vaccine equity in rural and densely populated areas but does not offer clear plans or roadmaps for addressing these disparities.⁵¹⁻⁵³

Overall, while many countries recognize the importance of reaching equity-deserving populations, the strategies and focus on older adults, particularly those with chronic conditions or other high-risk factors, are inconsistent and often lack clarity or specificity in terms of implementation.

Long-Term Care

Inclusion of Long-Term Care Residents in NIP and Strategies to Support Immunization in Long-Term Care

The consideration of risk factors for older adults (such as cardiac disease, diabetes, cognitive impairment, etc.), particularly those in long-term care (LTC) settings, varies significantly across the countries studied. Few countries acknowledge long-term care residents in their vaccination schedule, and others lack specific policies for LTC populations.

Amongst countries where older adults in LTC were included in vaccine policy, it appears that no countries have specific policies or pathways to ensure that immunization is equitable or accessible for these populations. For example, the Canadian Immunization Guide acknowledges long-term care residents, particularly when discussing adult risk factors for invasive pneumococcal disease. Long-term care residents are also prioritized in Canada's COVID-19 Immunization Plan for vaccine rollout and distribution.⁵⁴⁻⁵⁶ However, how this distribution will be/has been implemented is unclear.

In contrast, in countries such as India, Turkey, and Thailand, LTC is less established, and older adults primarily rely on informal caregiving. Therefore, immunization of older adults in care facilities or individuals in the community who require long-term care is not discussed in vaccination strategies or plans.

Overall, the inclusion and consideration of older adults with complex needs receiving LTC are minimal. Moreover, practical implementation is unclear in countries where LTC residents are incorporated into vaccination schedules.

Across the countries reviewed, there is a wide range of levels of involvement of civil society organizations (CSOs) in vaccination advocacy and knowledge mobilization. In countries like Brazil and the UK, CSOs play a critical role in closing the gap between policy and the accessibility of information to the public. In Brazil, CSOs such as the Brazilian Society of Immunizations play a prominent role in vaccination advocacy, particularly through educational materials and promoting a life-course approach to immunization. These efforts are well-developed and contribute to public health interventions aimed at improving vaccination uptake (24). However, countries like South Korea and Turkey exhibit less robust CSO engagement, and vaccination advocacy campaigns appear to be largely government-driven.^{13,57}

At the time of this report, there appears to be a lack of CSO participation/involvement in the immunization landscape. Given CSOs community-based practice, these organizations are in an ideal position to champion knowledge mobilization efforts and to promote older adult immunization in the future.

Conclusion

The global adult immunization policy landscape is largely variable and dependent on how countries' health policy is constructed (i.e. whether vaccines are covered, what settings immunizations are covered, and how coverage is territorially divided). Funding and vaccination coverage are important in assuring that immunization is accessible to and incentivized for older adult populations. Additionally, research suggests that countries with more robust immunization data collection are in stronger positions to evaluate the efficacy and overall success of their vaccination programs. Equity-based initiatives are critical to ensuring that immunization is equally accessible to marginalized and equity-deserving populations, such as racialized individuals, people of lower socio-economic status, and communities with disabilities/impairments. Many of these populations and people with complex needs can be found in LTC settings, meaning that comprehensive, equitable policy should acknowledge care facility residents. There appears to be ample opportunity for country-level civil society organizations to engage in advocacy work to help close these gaps. The GAAV aims to serve as a repository of information for these advocacy and policy efforts, highlighting best practices and identifying gaps in older adult immunization.

Overall, despite the benefits of immunization to support healthy ageing, productivity and health and social care systems, immunization policy and program efforts and interventions are varied and non-exhaustive. While certain countries appear to have more inclusive practices, all countries show room for growth, refinement, and development in their vaccination policy.

References



1. Australia's vaccine agreements | Australian Government Department of Health and Aged Care [Internet]. [cited 2024 Jul 8]. Available from: <https://www.health.gov.au/our-work/covid-19-vaccines/about-rollout/vaccine-agreements>
2. Australia AO. National Strategy for an Ageing Australia Challenges and Opportunities for all The Hon Kevin Andrews MP, Minister for Ageing. 2001;
3. Improving adult vaccination policy in long-term care settings - Vaccines 4 Life [Internet]. [cited 2024 Jul 9]. Available from: <https://www.vaccines4life.com/improving-adult-vaccination-policy-in-long-term-care-settings/>
4. Implementation of the Madrid International Plan of Action on Ageing (MIPAA) and its Regional Implementation Strategy (RIS) Fourth review and evaluation round (2018-2022): national monitoring report-France.
5. LOI n° 2015-1776 du 28 décembre 2015 relative à l'adaptation de la société au vieillissement (1) - Légifrance [Internet]. [cited 2024 May 29]. Available from: <https://www.legifrance.gouv.fr/loda/id/JORFTEXT000031700731/2024-02-29/>
6. Résultats de votre recherche sur “[vaccin]”| Pour les personnes âgées [Internet]. [cited 2024 May 29]. Available from: <https://www.pour-les-personnes-agees.gouv.fr/recherche?req=vaccin>
7. Immunization, Vaccines and Biologicals [Internet]. [cited 2025 Apr 2]. Available from: <https://www.who.int/teams/immunization-vaccines-and-biologicals/policies/NITAGs>
8. National Advisory Committee on Immunization (NACI): Membership and representation - Canada.ca [Internet]. [cited 2024 May 27]. Available from: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/naci-membership-representation.html>
9. Haute Autorité de Santé - Vaccine Committee [Internet]. [cited 2024 May 29]. Available from: https://www.has-sante.fr/jcms/c_2758065/en/vaccine-committee
10. Adult National Immunization Coverage Survey (aNICS): 2023 results - Canada.ca [Internet]. [cited 2024 May 27]. Available from: <https://www.canada.ca/en/public-health/services/immunization-vaccines/vaccination-coverage/adult-national-immunization-coverage-survey-2023-results.html>
11. Lawlor R, Wilsdon T, Rémy-Blanc V, Nogal AÁ, Pana A. A review of the sustainability of vaccine funding across Europe and implications for post-COVID policymaking. *Health Policy (New York)*. 2022 Oct 1;126(10):956–69.
12. Shingles Atlas for Adult Vaccination (SAAV) - Vaccines 4 Life [Internet]. [cited 2024 Jul 24]. Available from: <https://www.vaccines4life.com/ifa-interactive-world-map/>
13. Özceylan G, Toprak D, Esen ES. Vaccine rejection and hesitation in Turkey. *Hum Vaccin Immunother* [Internet]. 2020 May 3 [cited 2024 Dec 16];16(5):1034. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7227707/>
14. Planning, management and monitoring [Internet]. [cited 2025 Feb 26]. Available from: https://immunizationdata.who.int/global/wiise-detail-page/planning-management-and-monitoring?ISO_3_CODE=BRA&YEAR=
15. Immunization expenditure [Internet]. [cited 2025 Feb 26]. Available from: https://immunizationdata.who.int/global/wiise-detail-page/immunization-expenditure?ISO_3_CODE=BRA&YEAR=

References



16. The Public Health Agency of Canada 2024–25 Departmental Plan - Canada.ca [Internet]. [cited 2024 Jun 19]. Available from: <https://www.canada.ca/en/public-health/corporate/transparency/corporate-management-reporting/reports-plans-priorities/2024-2025-departmental-plan.html#a3.1>
17. Immunization Partnership Fund - Canada.ca [Internet]. [cited 2024 Jun 19]. Available from: <https://www.canada.ca/en/public-health/services/immunization-vaccine-priorities/immunization-partnership-fund.html>
18. Indian Budget Series: Budget for Health [Internet]. [cited 2024 Jul 31]. Available from: <https://www.cdpp.co.in/articles/indian-budget-series-budget-for-health>
19. Choi YJ, Sohn J, Kim TH. Changes in Expenditures of the National Health Insurance of Korea during the COVID-19 Pandemic and the Financial Implications Thereof. Yonsei Med J [Internet]. 2023 Jan 1 [cited 2024 Aug 8];64(1):71. Available from: /pmc/articles/PMC9826958/
20. Lee JK. Strengthening the health system, including innovative budget mobilization, is an urgent issue for the Expanded Programme on Immunization. Osong Public Health Res Perspect [Internet]. 2024 [cited 2024 Aug 8];15(3):187–8. Available from: <https://doi.org/10.24171/j.phrp.2024.0181>
21. Immunisation and vaccination - Australian Institute of Health and Welfare [Internet]. [cited 2024 May 28]. Available from: <https://www.aihw.gov.au/reports/australias-health/immunisation-and-vaccination>
22. Immunisation for adults | Australian Government Department of Health and Aged Care [Internet]. [cited 2024 May 30]. Available from: <https://www.health.gov.au/topics/immunisation/when-to-get-vaccinated/immunisation-for-adults>
23. Healthcare expenditure, UK Health Accounts provisional estimates - Office for National Statistics [Internet]. [cited 2024 Aug 6]. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthcaresystem/bulletins/healthcareexpenditureukhealthaccountsprovisionalestimates/2022>
24. Morris T, Tate J, Wait S, Scrutton of The Health Policy Partnership J. Implementing a Life-Course Approach to Immunization: Lessons learned from international best practice in policy and programming.
25. Vacinação – Ministério da Saúde [Internet]. [cited 2024 Aug 14]. Available from: <https://www.gov.br/saude/pt-br/vacinacao>
26. Haute Autorité de Santé - Stratégie de vaccination contre le Sars-Cov-2 - Recommandations préliminaires sur la stratégie de priorisation des populations à vacciner [Internet]. [cited 2024 Jul 22]. Available from: https://www.has-sante.fr/jcms/p_3221338/fr/strategie-de-vaccination-contre-le-sars-cov-2-recommandations-preliminaires-sur-la-strategie-de-priorisation-des-populations-a-vacciner
27. Universal Immunization Programme (UIP) | Ministry of Health and Family Welfare | GOI [Internet]. [cited 2024 Jul 24]. Available from: <https://main.mohfw.gov.in/?q=Major-Programmes/universal-immunization-programme-uip>
28. Health and Tech: India still falls behind in adult immunisation-Telangana Today [Internet]. [cited 2024 Jul 31]. Available from: <https://telanganatoday.com/health-and-tech-india-still-falls-behind-in-adult-immunisation>
29. Vora A, Di Pasquale A, Kolhapure S, Agrawal A. Vaccination in Older Adults: An Underutilized Opportunity to Promote Healthy Aging in India. Drugs Aging [Internet]. 2021 Jun 1 [cited 2024 Jul 31];38(6):469. Available from: /pmc/articles/PMC8200323/

References



30. Student nurses permitted to administer flu vaccines under new rules – NursingNotes [Internet]. [cited 2024 Aug 7]. Available from: <https://nursingnotes.co.uk/news/education/student-nurses-will-be-able-administer-flu-vaccines-under-new-rules/>
31. NHS England » NHS vaccination strategy [Internet]. [cited 2024 Aug 7]. Available from: <https://www.england.nhs.uk/long-read/nhs-vaccination-strategy/>
32. Patient group directions: who can use them - GOV.UK [Internet]. [cited 2024 Aug 7]. Available from: <https://www.gov.uk/government/publications/patient-group-directions-pgds/patient-group-directions-who-can-use-them>
33. FAQs December 2020 | Faculty of Physician Associates - quality health care across the NHS [Internet]. [cited 2024 Aug 7]. Available from: <https://www.fparcp.co.uk/about-fpa/news/faqs-december-2020>
34. Proposal for the use of patient group directions by pharmacy technicians - GOV.UK [Internet]. [cited 2024 Aug 7]. Available from: <https://www.gov.uk/government/consultations/proposal-for-the-use-of-patient-group-directions-by-pharmacy-technicians/proposal-for-the-use-of-patient-group-directions-by-pharmacy-technicians>
35. Gibson E, Zameer M, Alban R, Kouwanou LM. Community Health Workers as Vaccinators: A Rapid Review of the Global Landscape, 2000-2021. Glob Health Sci Pract [Internet]. 2023 Feb 1 [cited 2024 May 27];11(1). Available from: /pmc/articles/PMC9972374/
36. Pharmacists to soon start administering vaccine jabs | Nagpur News - Times of India [Internet]. [cited 2024 Jul 31]. Available from: <https://timesofindia.indiatimes.com/city/nagpur/pharmacists-to-soon-start-administering-vaccine-jabs/articleshow/97233591.cms>
37. Vaccination Coverage Goals and Vaccine Preventable Disease Reduction Targets by 2025 - Canada.ca [Internet]. [cited 2024 May 27]. Available from: <https://www.canada.ca/en/public-health/services/immunization-vaccine-priorities/national-immunization-strategy/vaccination-coverage-goals-vaccine-preventable-diseases-reduction-targets-2025.html>
38. Jiamsiri S. Thailand Expanded Program on Immunization.
39. The organization and delivery of vaccination services in the European Union Prepared for the European Commission [Internet]. Available from: www.healthobservatory.eu
40. RKI - Impfungen A - Z - STIKO-Empfehlung zur COVID-19-Impfung [Internet]. [cited 2024 May 30]. Available from: <https://www.rki.de/DE/Content/Infekt/Impfen/ImpfungenAZ/COVID-19/Impfempfehlung-Zusfassung.html>
41. WHO Immunization Data portal - European Region [Internet]. [cited 2024 Dec 16]. Available from: <https://immunizationdata.who.int/dashboard/regions/european-region/TUR>
42. EKMUD Rehberleri - EKMUD [Internet]. [cited 2024 Dec 16]. Available from: <https://www.ekmud.org.tr/emek/rehberler/1-ekmud-rehberleri>
43. Guia de Vigilância em Saúde - 6a edição Revisada, Brasília 2024 – Ministério da Saúde [Internet]. [cited 2024 Aug 14]. Available from: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/t/tetano-acidental/publicacoes/guia-de-vigilancia-em-saude-6a-edicao.pdf/view>
44. RKI - Informationsmaterial zum Impfen - Englisch [Internet]. [cited 2024 Jul 9]. Available from: https://www.rki.de/DE/Content/Infekt/Impfen/Materialien/Downloads-Impfkalender/Impfkalender_Englisch.html

References



45. National Immunization Schedule.
46. Choi WS. Adult Immunization Policy in Korea. *Infect Chemother* [Internet]. 2023 Sep 1 [cited 2024 Aug 8];55(3):317. Available from: [/pmc/articles/PMC10551718/](https://pmc/articles/PMC10551718/)
47. 2022 Thailand Expanded Programme on Immunization - Biovalys [Internet]. [cited 2024 Jun 3]. Available from: <https://biovalys.com/2022-thailand-expanded-programme-on-immunization/>
48. Bulut A. Immunization and Vaccines. *Experimental and Applied Medical Science* [Internet]. 2023 [cited 2024 Dec 16];4:501-6. Available from: <https://orcid.org/0000->
49. REPUBLIC OF TURKEY MINISTRY OF HEALTH [Internet]. Available from: www.thsk.gov.tr
50. Immunisation for Aboriginal and Torres Strait Islander people | Australian Government Department of Health and Aged Care [Internet]. [cited 2024 Jul 8]. Available from: <https://www.health.gov.au/topics/immunisation/when-to-get-vaccinated/immunisation-for-aboriginal-and-torres-strait-islander-people>
51. Vora A, Di Pasquale A, Kolhapure S, Agrawal A. Vaccination in Older Adults: An Underutilized Opportunity to Promote Healthy Aging in India. *Drugs Aging* [Internet]. 2021 Jun 1 [cited 2024 Jul 24];38(6):469-79. Available from: <https://pubmed.ncbi.nlm.nih.gov/34125424/>
52. Hosseinpoor AR, Danovaro MC, Nambiar D, Wallace A, Johnson H, Singh D, et al. Disparities in Coverage of Adult Immunization among Older Adults in India. *Vaccines* 2022, Vol 10, Page 2124 [Internet]. 2022 Dec 12 [cited 2024 Jul 31];10(12):2124. Available from: <https://www.mdpi.com/2076-393X/10/12/2124/htm>
53. Neumeier S. Accessibility of COVID-19 Vaccination Centers in Germany via Different Means of Transport. *KN J Cartogr Geogr Inf* [Internet]. 2022 Mar 1 [cited 2025 Apr 2];72(1):41-58. Available from: <https://link.springer.com/article/10.1007/s42489-021-00088-x>
54. Influenza vaccines: Canadian Immunization Guide - Canada.ca [Internet]. [cited 2024 May 27]. Available from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-10-influenza-vaccine.html>
55. Immunization of adults: Canadian Immunization Guide: - Canada.ca [Internet]. [cited 2024 May 27]. Available from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-3-vaccination-specific-populations/page-2-immunization-of-adults.html#a4.2>
56. Recommended immunization schedules: Canadian Immunization Guide - Canada.ca [Internet]. [cited 2024 May 27]. Available from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information/page-13-recommended-immunization-schedules.html>
57. Yifan M, Barratt J. Changing the Conversation on Adult Influenza Vaccination, Campaign Overview: Canada This project is supported by an unrestricted educational grant from Sanofi Global Campaign Overview: Canada CHANGING THE CONVERSATION ON ADULT INFLUENZA VACCINATION Contents.

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