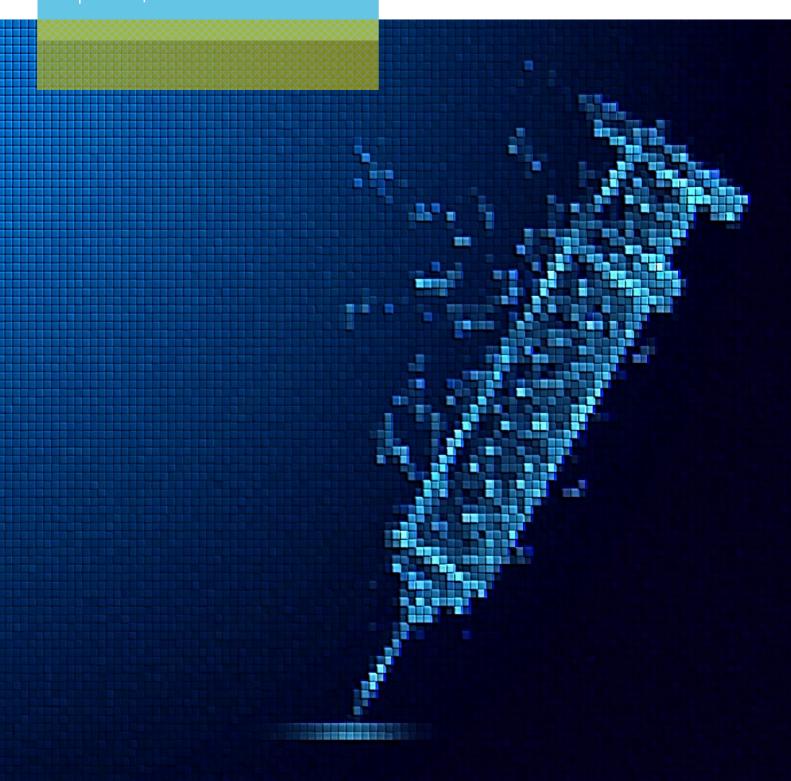
Leveraging pharmacy to deliver life-course vaccination

An FIP global intelligence report

EXECUTIVE SUMMARY

April 2024



Colophon

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Contents

Acknowledgements	
Foreword	2
Executive Summary	3
Summary and conclusions	10
Special acknowledgements	11
Appendix: Data summary from the study	14

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Foreword

Achieving Universal Health Coverage (UHC) remains a vital goal globally. Immunisation against vaccine-preventable diseases reduces morbidity and mortality and contributes to herd immunity. It also reduces emergency room (A&E) visits and pressure on existing healthcare facilities, thus releasing resources (including healthcare workforce) for other much-needed healthcare services. In various parts of the world, there continues to exist scepticism from various stakeholders about the ability of pharmacists to deliver vaccination services. However, given their accessibility, qualifications, and experience in patient care management, pharmacists, particularly those employed in community pharmacies or primary care facilities, are poised to play a pivotal role in advancing global immunisation endeavours. Through this approach, they contribute to the efficient and resilient operation of the healthcare system and deliver value to patients.

In 2023, FIP released a <u>Statement of Policy on the role of pharmacy in life-course vaccination</u> (a global policy for the profession) which emphasised the importance of expanding vaccination schedules and strategies beyond infancy, as well as integrating pharmacists into patient immunisation pathways. Recognising and valuing pharmacists' role as vaccinators is imperative for effectively increasing vaccination uptake in communities. Their accessibility and convenience are pivotal to ensuring vaccines reach even the most vulnerable populations. This is especially vital in areas without access to traditional healthcare and vaccination providers. Governments can improve vaccination coverage rates and protect the welfare of the public by taking advantage of pharmacists' accessibility and expertise in administering vaccines to the public.

There is a significant expansion of pharmacists' contribution to vaccination, as more countries are authorising pharmacists to deliver this healthcare and public health service. FIP remains committed to supporting this significant role of pharmacists and advocates for the widespread utilisation of pharmacists to ensure vaccination coverage and improved health systems. Therefore, building on our 2016 and 2020 vaccination surveillance publications, I am pleased to present this global report with the most recent updates on pharmacy's contributions to vaccination.

This report represents findings from 120 countries and territories, and I trust the information provided in this work will be of value to FIP's member organisations and other stakeholders, and their efforts in advocating for pharmacy-based vaccination at the national level. To complement this report, we have developed an <u>interactive atlas</u>, a dynamic digital resource that highlights the significant findings and key insights from our comprehensive study on pharmacist-led immunisation.

The findings of this study reveal a significant increase in the number of countries that have introduced pharmacy-based vaccination—rising by 22 countries since our 2020 report. It is important to note that the 2020 report also included aggregated data from the 2016 survey for countries that did not participate in the 2020 survey, ensuring a comprehensive analysis. As a result, the total number of countries with authorised pharmacy-based vaccinations now stands at 56, marking a 64.7% increase from the 34 countries identified in 2020. This data underscores ongoing policy and regulatory changes in many countries that are necessary to introduce these valuable services in the future.

There remains a significant journey ahead, and FIP will continue to advocate for and support its members in expanding our scope of practice and our contributions to society.

Paul Sinclair President

International Pharmaceutical Federation

Executive Summary

Note: This report is accompanied by the interactive online <u>FIP Pharmacy-based Vaccination Surveillance Atlas</u>.

Below is a breakdown (or summary) of the denominators referenced throughout each section of this report:

	Number of countries and territories included in the report from all sources (FIP surveys from 2024, 2020, and 2016 and literature review)	120
(2024)	Number of countries and territories that participated in the 2024 survey	73
4 =	Number of countries and territories included in the report with data on the availability of pharmacybased vaccination	117
0	Number of countries and territories included in the report with data on pharmacists authorisation to prescribe vaccines	53
**	Number of countries and territories included in the report with data on policy developments	79
5	Number of countries and territories included with data on reimbursement for vaccination services	37
	Number of countries and territories with data on authorisation of pharmacists to administer vaccines outside of the pharmacy premises	77
224	Number of countries and territories with data on the availability of vaccination training for pharmacists	116 (47 where pharmacists are authorised to administer vaccines, whether within or outside pharmacy premises and 69 where pharmacists are not authorised to do so)
4	Number of countries and territories with data on access to vaccination records (reading rights)	117
	Number of countries and territories with data on access to vaccination records (writing rights) (only for pharmacists who can administer vaccines)	43

The role of pharmacists in global health initiatives has significantly evolved particularly in immunisation, transitioning from traditional responsibilities as medicine experts to recognised integral players in first-line healthcare delivery and interdisciplinary teams. Recognising the increasing authority of pharmacists to administer vaccines across various regions and the associated benefits, this report seeks to provide a comprehensive overview of the status of pharmacist-led vaccination services.

In 2016, the International Pharmaceutical Federation (FIP) initiated the first global survey to identify pharmacists' roles in immunisation. This was followed by another comprehensive survey conducted between December 2019 and March 2020, which engaged organisations from 99 countries and territories. Advancing this work, FIP conducted its latest survey in 2024, to update and expand the data on pharmacist-led immunisation practices worldwide. This report employed a mixed-method approach that integrated recent findings from the 2024 survey with prior surveys, literature reviews, and newly collected data, and represents the most extensive and representative global study on this topic to date.

Survey responses were received from 77 member organisations across 73 countries and territories, thus yielding a response rate of 63.5% (73 countries and territories out of the 115 that were invited). In addition, this study also incorporated data from 39 countries and territories that had participated in previous surveys conducted between 2016 and 2022. Furthermore, the data collection was expanded to include primary and secondary sources. In total, data from eight countries and territories were gathered from these resources so that, after integrating these additional data with survey responses, the dataset for this study covered a total of 120 countries and territories.

In this report, we sought to evaluate various aspects of pharmacist-led vaccination, including advocacy activities, regulatory frameworks, vaccine administration and prescribing, training and certification, access to vaccination records, and remuneration models, and identified barriers to expanding these services within pharmacy practice.

This study forms part of the FIP Vaccination Surveillance Project, an ongoing initiative aimed at continuously monitoring and assessing the development of pharmacists' roles in immunisation globally. The ongoing collection of this data from FIP members is important because it establishes a strong base from which members can advocate for supportive policies, regulations, and the broader inclusion of pharmacists in vaccination strategies in their nations. This ongoing surveillance is essential for providing the evidence needed to support our members and lobby for an expanded role of pharmacists in vaccination and immunisation practices worldwide.

KEY FINDINGS

Pharmacists' roles in promoting vaccination awareness and uptake and advocating for vaccination

- Cumulative responses from 109 countries from 2016, 2020 and 2024 surveys confirmed that
 pharmacists play an active role in promoting and advocating vaccination for individuals.
 Vaccination information and advice are provided by pharmacists in most countries, as well as
 participation in pharmacy-led vaccination campaigns.
- Based on current data, it is apparent that pharmacists are underrepresented in national vaccination technical advisory groups in many countries. The inclusion of pharmacists in these vital teams can be fostered through further high-level stakeholder engagement and advocacy efforts.

Regulatory and contractual frameworks for pharmacy-based vaccination

Current data on pharmacy-based vaccination (PBV) is available for 117 countries and territories. Among these, PBV is authorized in 56 countries and territories, representing 47.9% of the total. This represents an important increase of 22 countries (64.7%) in relation to data reported by FIP in 2020, which had identified 34 countries and territories with PBV. This indicates active changes in pharmacy practice and regulatory frameworks to include vaccination services in pharmacies.

- This increase includes 17 countries that reported not having PBV in their 2020 survey responses now have it: Albania, Algeria, Belgium, Cameroon, Cape Verde, Croatia, Germany, Ghana, Italy, Jordan, Latvia, Lithuania, Nigeria, Poland, Romania, United Arab Emirates, and Yemen. Additionally, four countries previously without data have now been identified as having PBV: Luxembourg, Namibia, Saudi Arabia, South Sudan, and Tunisia.
- While the overall number of countries with PBV has increased, 61 out of 117 countries and territories analysed still do not offer PBV, which underscores ongoing regional and regulatory disparities that limit broader implementation.
- Of the 56 countries with PBV vaccination, 13 countries have vaccinations in pharmacies that are administered by other healthcare professionals rather than pharmacists. This accounts for about 11.1% of the sample (n=117)
- From the 56 countries or territories with regulated pharmacy-based vaccinations, 53 provided data regarding the prescribing authority of pharmacists. Prescribing authority is defined as the authorisation for pharmacists to administer or dispense vaccines without a medical prescription, taking on the responsibility of assessing vaccine eligibility for individuals.
- In 26 countries or territories (49%) pharmacists are authorised to prescribe certain vaccines for administration. This marks a noticeable increase from 2020 when the majority of respondents (68%) lacked prescribing authority, and only seven respondents (21%) authorised pharmacists to prescribe some vaccines.





Policy developments on pharmacy-based vaccination

- Of the 79 countries surveyed in 2024, 37 (approximately 47%) are actively proposing or developing policies aimed at enhancing pharmacists' authority to administer or prescribe vaccines. This indicates a significant movement towards expanding the responsibilities of pharmacists in the public health sector.
- Notably, 12 of the countries that are currently without any form of pharmacy-based vaccination and four others (Croatia, Estonia, Finland, Malta) that allow vaccinations in pharmacies but do not authorise pharmacists to administer them, are exploring policy changes.
- The remaining 42 countries (53%) reported no ongoing policy changes related to pharmacists' roles in vaccination. This group includes 20 countries with established PBV where pharmacists are already administering vaccines and five countries (Bangladesh, Lebanon, Nepal, Paraguay and Sweden) where pharmacists, despite existing PBV, lack the authorisation to administer vaccines.

Reimbursement for vaccination services

- In most countries and territories (21 out of 37), pharmacy-based vaccination services are paid for by the customer. However, the study identified 13 countries where the service is reimbursed by public health systems and nine with reimbursement by private health systems. And, in 10 countries, the service is provided at no cost to the patient or health system (i.e., the cost is taken up by the pharmacy).
- This report provides a preliminary overview of the remuneration processes for pharmacy-based vaccination services, providing a way for a more detailed analysis to be released in a subsequent report later in 2024.

Pharmacy-based vaccine administration

- The influenza vaccine is the most widely administered vaccine by pharmacists, available in 30 countries
- The COVID-19 vaccine is administered by pharmacists in 29 countries.
- Other vaccines, such as the Tdap boosters (against tetanus, diphtheria and pertussis), hepatitis B, pneumococcal, human papillomavirus (HPV), herpes zoster (shingles) and meningococcal vaccines, can be administered in 14 to 20 of the countries.
- The emergence of the Respiratory Syncytial Virus (RSV) vaccine in eight countries marks a milestone in expanding vaccination options available at pharmacies.
- Variations exist in vaccine administration authority globally, with increases in Tdap boosters and HPV vaccines.
- There are important variations in the age and population groups eligible for vaccine administration: 13 countries allow pharmacists to administer certain vaccines to individuals across all age groups, while others limit eligibility to specific age ranges. Additionally, while eight countries allow the administration of all nine vaccines listed in the survey, others only allow certain vaccines to be administered.
- In countries such as Australia, Canada, Switzerland, and the United States, the eligibility criteria differ across subnational jurisdictions, which leads to variations in practice at the local or regional level.
- In 29 out of 77 countries and territories (38%), pharmacists are authorised to administer vaccines outside of the pharmacy premises, in locations such as clinics and other healthcare facilities, workplaces, nursing homes, schools or patients' homes. The availability of other locations may offer convenience and accessibility for individuals seeking vaccinations, contributing to increased vaccine uptake rates and overall public health outcomes.





Education and training for pharmacist-delivered vaccination services

- Pharmacists receive vaccination training in over half of the 116 countries (n=64; 55.2%), even
 including countries where pharmacists do not have vaccination authority. In 100% of countries
 where pharmacists are authorised to vaccinate, they receive education and training for the
 provision of this service.
- Since 2016, there has been a notable increase from 12 to 64 countries (+433%) reporting some level of vaccination training for pharmacists. This trend indicates a growing recognition of the vital role pharmacists play in vaccination efforts, accompanied by an increasing emphasis on equipping them with essential skills and knowledge.
- Since 2016, the number of countries reporting vaccination training at the undergraduate level has risen from six to 19, while post-registration, postgraduate, or continuous professional development training has increased from 11 to 41, underlining a growing emphasis on comprehensive pharmacy education in vaccination training.
- With vaccination training mandated in 22 countries and renewal requirements in 17 countries, there is a pressing need to establish ongoing training and certification renewal programmes as more pharmacists gain authority to administer vaccines, ensuring the sustained quality of services.
- In conclusion, there exists a notable variation among countries regarding the extent of authorisation granted to pharmacists to administer vaccines and the availability of essential training to support their role in vaccination service provision.





Access to vaccination records by pharmacists

- The majority of pharmacists do not have access to vaccination records, which is largely associated with countries where pharmacy-based vaccination is not yet available.
- There has been a slight increase observed from 2016 to 2024 in countries where pharmacists have full access to vaccination records, or at least access to some records. Recent data from 2024 (n=73) suggests that vaccination records are fully accessible in only 10 countries (13.7%), whereas limited access to some records is observed in 18 countries (24.7%).
- Positive trends have been observed between 2016 and 2024 in countries where pharmacists are allowed to document patient records for the vaccines they have administered, whether it is mandatory or optional. The latest data from 2024 (n=32) suggests that mandatory recording in a shared vaccination registry is enforced in 20 countries (62.5%), whereas six countries (18.8%) countries allow pharmacists to record this information voluntarily.
- According to the latest survey in 2024 (n=38), the majority of pharmacies across various countries primarily use a nationally shared electronic system or paper-based registry (e.g., vaccination card or booklet kept by the individual), with 18 countries (47.4%) and 17 countries (44.7%), respectively.

Public satisfaction rates with pharmacy-based vaccination services

- Pilot projects in France, Ireland, Belgium, Estonia, and Poland have shown high patient satisfaction with pharmacist-administered vaccines, emphasising convenience and professionalism.
- Countries like Saudi Arabia, Singapore, and Switzerland are witnessing a growing acceptance of pharmacists' expanded roles in healthcare delivery.
- Challenges remain, including resistance from healthcare professionals in Indonesia and divergent patient preferences in Lebanon and Malaysia.
- Surveys in Canada, Germany, and other nations highlight strong patient satisfaction and willingness to use pharmacy-based vaccination services.

Limitations to the development of pharmacists' role in vaccination

 The changing statistics from 2016 to 2024 indicate a dynamic shift in the perception of barriers, with a general trend towards improved conditions for pharmacists in non-pharmacy-based vaccination settings. Notably, a decline in the lack of confidence by pharmacists was observed, dropping from 81% in 2020 to 33% in 2024.

- New challenges have arisen in settings with established pharmacy-based vaccination. These challenges highlight specific areas needing attention such as enhancing pharmacist training, improving public awareness of pharmacists' roles in vaccination, and addressing the perceptions that may deter patients from utilising pharmacy-based vaccination services.
- A perceived or effective lack of support and recognition from governmental bodies and other healthcare professions to pharmacist-delivered vaccinations is frequent in both countries where pharmacy-based vaccination is present or absent. This suggests a need for enhanced advocacy to educate stakeholders on the benefits of involving pharmacists in vaccination efforts and establishing productive interprofessional relationships.
- The lack of remuneration for pharmacists' vaccination services is a major barrier, impacting the sustainability and equitable access to vaccination services.
- Various countries have legal restrictions that prevent pharmacists from administering vaccines, significantly impeding their ability to participate in these public health services.

Summary and conclusions

Since the previous FIP surveys in 2016 and 2020, remarkable progress is evident from our data. More countries and territories have engaged in support and advocacy activities that promote pharmacy-based vaccination, leading to a notable increase in the availability of this service globally. Additionally, an increase in the number of countries where policy development is underway was observed, which is expected to further enhance pharmacists' involvement in immunisation, improve accessibility to vaccine services, and increase vaccination coverage.

The introduction of pharmacy-based vaccination in 22 new countries since the data were published in 2020 highlights the dynamic expansion of this service. Such developments present a positive trend in healthcare practice, where pharmacists are increasingly recognised as key players in vaccination. However, despite these advancements and the available evidence of impact, substantial challenges remain. Legislative and regulatory barriers still restrict pharmacists' full participation in immunisation strategies. Critical issues that need further advocacy include the establishment of comprehensive reimbursement schemes and the standardisation of training and certification processes for pharmacy-based vaccination.

Furthermore, the uneven and disparate implementation of pharmacy-based vaccination across different regions underscores the necessity for a harmonised and structured approach to accessing vaccination records and pharmacist engagement in immunisation. Continued collaboration with governmental bodies, healthcare providers, and the enhancement of public education about pharmacists' roles in vaccination are essential.

As pharmacists continue to serve as medicine experts and frontline healthcare providers, their expanded involvement in vaccination is crucial. By addressing these challenges through informed advocacy and strategic policy development, pharmacists' potential to significantly contribute to public health—especially in increasing immunisation coverage—can be fully realised. This will not only enhance individual patient care but also strengthen community health resilience against vaccine-preventable diseases.

Current and future FIP activities

Moving forward, FIP is set to continue its influential role in global health with several key initiatives. Notably, FIP plans to produce a detailed report focusing on remuneration for pharmacy-based vaccination services, expected to be released later in the year. This effort complements ongoing surveillance and data collection related to pharmacy-based vaccination practices.

Additionally, on April 24-25, 2024, FIP hosted a global policy development summit, highlighting the expanding role of pharmacy in vaccinations. This summit was a follow-up to the approval of the FIP global policy statement on life-course immunisation approved by the FIP Council in Brisbane in 2023. It aimed to consolidate evidence from 2023's initiatives, analyse global vaccination trends, and evaluate emerging therapies and technologies. These insights are intended to support the pharmacy workforce and enhance public health outcomes.

Looking forward, FIP is eager to advance the implementation of its policy on the role of pharmacists in life-course immunisation. The federation plans to engage with policy-makers, communicate effectively with all relevant stakeholders, and fulfil the mandates set by the FIP Council, thereby amplifying the impact of its policies and strengthening global health infrastructure.

Special acknowledgements

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Pharmacists Order of Albania

Argentina

Confederation Pharmaceutical Argentina

Australia

The Pharmaceutical Society of Australia

Austria

Austrian Chamber of Pharmacists

Bangladesh

Bangladesh Pharmaceutical Society

Barbados

Caribbean Association of Pharmacist

Belgium

Association of Pharmacists Belgium

Bosnia & Herzegovina

Pharmaceutical Chamber of the Federation of Bosnia and Herzegovina

Brazil

Brazilian Federal Council of Pharmacy

Bulgaria

Bulgarian Pharmaceutical Union

Cameroon

Cameroon National Order of Pharmacists

Canada

Canadian Pharmacists Association

Cape Verde

Order of Pharmacists of Cape Verde

China

Chinese Pharmaceutical Association

China Taiwan

Taiwan Society of Health-System Pharmacists

Colombia

National College of Pharmacist Colombia

Congo, Dem. Rep. of the

Order of Pharmacists of the Democratic Republic of the Congo

Costa Rica

College of Pharmacists of Costa Rica

Croatia

Croatian Pharmaceutical Society

Cyprus

Cyprus Turkish Pharmacists Association

Denmark

The Association of Danish Pharmacies

Ecuador

College of Chemists, Biochemists and Pharmacists of Pichincha

Estonia

Estonian Pharmacies Association

France

French Chamber of Pharmacists

French Pharmaceutical Unions Federation

Association of Finnish Pharmacies

Germany

Federal Union of German Associations of

Pharmacists

Pharmaceutical Society of Ghana

Guyana Pharmacists' Association

Hong Kong SAR, China

The Pharmaceutical Society of Hong Kong

Hungary

Hungarian Society for Pharmaceutical

Sciences

Iceland

Pharmacist association in Iceland

India

Indian Pharmaceutical Association

Indonesia

Indonesian Pharmacists Association

Ireland

Irish Pharmacy Union

Israel

Pharmaceutical Association of Israel

Italy

Federfarma - Italian Private Pharmacy Owners

Federation

Japan

Japan Pharmaceutical Association

Jordan

Jordan Pharmacists' Association

Kosovo

Kosovo Pharmaceutical Society

Lebanon

Order of Pharmacists of Lebanon

National Institute of Public Health, Clinical Epidemiology and Toxicology -Lebanon

Lithuania

Lithuanian Pharmaceutical Union

Malawi

Pharmaceutical Society of Malawi

Malaysia

Malaysian Pharmacists Society

Malta

Malta Chamber of Pharmacists

Mongolia

Association of Mongolian Pharmacy Professionals

Montenegro

Pharmaceutical Chamber of Montenegro

Morocco

Sigma Pharm Gie

Namibia

Pharmaceutical Society of Namibia

Nepal

Nepal pharmaceuticals association

Netherlands

Royal Dutch Pharmacists Association

Nigeria

Association of Community Pharmacists of Nigeria

Norway

Norwegian Association of Pharmacists Norwegian Pharmacy Association

Paraguay

Pharmacists' Association of Paraguay

Philippines

Philippine Pharmacists Association

Portugal

National Association of Pharmacies

Romania

Ethica Independent Pharmacies Association

Russian Federation

Moscow Pharmaceutical Society

Serbia

The Pharmaceutical Chamber of Serbia

Sierra Leone

Pharmaceutical Society of Sierra Leone

Slovenia

Slovene Chamber of Pharmacy

South Africa

Pharmaceutical Society of South Africa

South Sudan

Pharmaceutical Society of South Sudan

Spain

General Pharmaceutical Council of Spain

Sri Lanka

Pharmaceutical Society of Sri Lanka

Sweden

Swedish Pharmacists Association

Switzerland

Swiss Society for pharmacists (pharmaSuisse)

Pharmacist Union Tunisia

Türkiye

Turkish Pharmacists' Association

United Kingdom

Royal Pharmaceutical Society Pharmacists' Defence Association

United States of America

American Pharmacists Association

Ukraine

All Ukrainian Pharmaceutical Chamber

Uruguay

Uruguayan Association of Chemistry and Pharmacy

Yemen

Community Pharmacy Owner Syndicate

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FIP thanks the FIP regional account holders for their support in the dissemination of the survey.

Appendix: Data summary from the study

						Rein	nbursement by a thir	d-party	
Country	Region	Income level	Administration in pharmacies	Prescribing by pharmacists	Yes, by public (state-run) health systems or insurers	Yes, by private health systems or insurers	No, the service is paid by the customer	No, the service is provided free of charge (i.e., the pharmacy takes on the cost of the service)	Access (reading rights) to vaccination registries
Afghanistan	EMRO	Low income	No	ND	✓				
Albania	EURO	Upper middle income	Н	No					No
Algeria	AFRO	Lower middle income	Р	Yes, for some vaccines					
Argentina	РАНО	Upper middle income	P/H	Yes, for some vaccines	✓	✓	✓		Yes for all records
Armenia	EURO	Upper middle income	No	ND					
Australia	WPRO	High income	P/H	Yes, for some vaccines	√		√		Yes for all records
Austria	EURO	High income	No	No				✓	Yes for all records
Bangladesh	SEARO	Lower middle income	P/T/H	No			✓		No
Barbados	PAHO	High income	No	No					No
Belgium	EURO	High income	Р	Yes, for some vaccines	✓				Yes for some records
Bolivia	PAHO	Lower middle income	Н	No					
Bosnia & Herzegovina	EURO	Upper middle income	No	No					Yes for some records
Brazil	РАНО	Upper middle income	Р	Yes, for some vaccines			✓		Yes for all records
Bulgaria	EURO	Upper middle income	No	No					No
Cameroon	AFRO	Lower middle income	Р	No				✓	Yes for some records
Canada	РАНО	High income	P/H	Yes, for some vaccines	✓				Yes for some records
Cape Verde	AFRO	Lower middle income	Р	No			✓		No
Chad	AFRO	Low income	P/T	Yes, for all vaccines					
Chile	PAHO	High income	No	ND					

	Region	Income level		Prescribing by pharmacists	Reimbursement by a third-party					
Country			Administration in pharmacies		Yes, by public (state-run) health systems or insurers	Yes, by private health systems or insurers	No, the service is paid by the customer	No, the service is provided free of charge (i.e., the pharmacy takes on the cost of the service)	Access (reading rights) to vaccination registries	
China	WPRO	Upper middle income	No	No			✓		Yes for some records	
China Taiwan	WPRO	High income	No	No				✓	No	
Colombia	PAHO	Upper middle income	No	No					No	
Congo, Dem. Rep. of the	AFRO	Low income	No	No					No	
Congo, Rep. Of	AFRO	Lower middle income	No	ND						
Costa Rica	РАНО	Upper middle income	Р	Yes, for all vaccines				✓	Yes for some records	
Côte d'Ivoire	AFRO	Lower middle income	No	ND						
Croatia	EURO	High income	Н	No				✓	No	
Cuba	PAHO	Upper middle income	No	ND						
Cyprus	EURO	High income	No	No			✓		No	
Czech Republic	EURO	High income	No	ND						
Denmark	EURO	High income	P/T/H	No	√		√		Yes for all records	
Ecuador	РАНО	Upper middle income	No	No					Yes for some records	
Egypt	EMRO	Lower middle income	No	ND						
El Salvador	PAHO	Upper middle income	No	ND						
Estonia	EURO	High income	Н	No					No	
Ethiopia	AFRO	Low income	No	ND						
Fiji	WPRO	Upper middle income	No	ND						
Finland	EURO	High income	Н	No					No	
France	EURO	High income	Р	Yes, for some vaccines	√				Yes for some records	
Germany	EURO	High income	Р	Yes, for some vaccines	√	✓			Yes for some records	
Ghana	AFRO	Lower middle income	Р	No			✓		No	
Greece	EURO	High income	Р	Yes, for some vaccines						
Guatemala	PAHO	Upper middle income	No	ND						

						Rein	nbursement by a thir	d-party	
Country	Region	Income level	Administration in pharmacies	Prescribing by pharmacists	Yes, by public (state-run) health systems or insurers	Yes, by private health systems or insurers	No, the service is paid by the customer	No, the service is provided free of charge (i.e., the pharmacy takes on the cost of the service)	Access (reading rights) to vaccination registries
Guyana	PAHO	High income	No	No					No
Haiti	PAHO	Lower middle income	No	ND					
Hong Kong SAR, China	WPRO	High income	No	No	✓				Yes for all records
Hungary	EURO	High income	No	No					No
Iceland	EURO	High income	P/H	No	✓				No
India	SEARO	Lower middle income	No	No					No
Indonesia	SEARO	Upper middle income	No	No					No
Iraq	EMRO	Upper middle income	No	ND					
Ireland	EURO	High income	Р	Yes, for some vaccines	✓		✓		Yes for some records
Israel	EURO	High income	Р	Yes, for some vaccines				✓	No
Italy	EURO	High income	Р	Yes, for some vaccines	✓		✓		Yes for some records
Japan	WPRO	High income	No	No					No
Jordan	EMRO	Lower middle income	Р	Yes, for some vaccines			✓		No
Kenya	AFRO	Lower middle income	Р	Yes, for all vaccines					
Korea (Rep. of)	WPRO	High income	No	ND					
Kosovo	EURO	Upper middle income	No	No					No
Kuwait	EMRO	High income	No	ND					
Latvia	EURO	High income	Р	ND					
Lebanon	EMRO	Lower middle income	Н	No				✓	Yes for some records
Lithuania	EURO	High income	P/H	Yes, for some vaccines					Yes for all records
Luxembourg	EURO	High income	Р	ND					
Madagascar	AFRO	Low income	No	ND					
Malawi	AFRO	Low income	No	No					No
Malaysia	WPRO	Upper middle income	No	No					No
Mali	AFRO	Low income	No	ND					

		Income level			Reimbursement by a third-party					
Country	Region		Administration in pharmacies		Yes, by public (state-run) health systems or insurers	Yes, by private health systems or insurers	No, the service is paid by the customer	No, the service is provided free of charge (i.e., the pharmacy takes on the cost of the service)	Access (reading rights) to vaccination registries	
Malta	EURO	High income	Н	No					No	
Mauritius	AFRO	Upper middle income	No	ND						
Mexico	PAHO	Upper middle income	ND	ND						
Mongolia	WPRO	Lower middle income	No	No					No	
Montenegro	EURO	Upper middle income	No	No					No	
Morocco	EMRO	Lower middle income	No	No			✓		Yes for all records	
Namibia	AFRO	Upper middle income	Р	Yes, for some vaccines			✓		Yes for some records	
Nepal	SEARO	Lower middle income	Н	No			✓		No	
Netherlands	EURO	High income	Н	No					Yes for some records	
New Zealand	WPRO	High income	P/H	Yes, for some vaccines						
Nigeria	AFRO	Lower middle income	P/H	Yes, for some vaccines				✓	No	
North Macedonia (Republic of)	EURO	Upper middle income	No	ND						
Norway	EURO	High income	P/T/H	Yes, for some vaccines	✓		✓		Yes for all records	
Oman	EMRO	High income	No	ND						
Pakistan	EMRO	Lower middle income	P/H	ND						
Panama	PAHO	High income	No	ND						
Paraguay	PAHO	Upper middle income	T	No				✓	No	
Peru	PAHO	Upper middle income	ND	ND						
Philippines	WPRO	Lower middle income	P/H	No			✓		Yes for all records	
Poland	EURO	High income	Р	Yes, for some vaccines						
Portugal	EURO	High income	P/H	Yes, for some vaccines					Yes for some records	
Romania	EURO	High income	Р	No			✓	✓	No	

						Reimbursement by a third-party					
Country	Region	Income level	Administration in pharmacies	Prescribing by pharmacists	Yes, by public (state-run) health systems or insurers	Yes, by private health systems or insurers	No, the service is paid by the customer	No, the service is provided free of charge (i.e., the pharmacy takes on the cost of the service)	Access (reading rights) to vaccination registries		
United States of America	РАНО	High income	P/T/H	Yes, for some vaccines	✓	✓			Yes for some records		
Uruguay	PAHO	High income	No	No					No		
Venezuela	PAHO	Upper middle income	Р	No							
Yemen	EMRO	Low income	P/H	No		✓	✓		Yes for some records		
Zambia	AFRO	Lower middle income	No	ND							
Zimbabwe	AFRO	Lower middle income	No	ND							

ND: No data

P: Pharmacist

T: Pharmacy technician

H: Other healthcare professionals

International Pharmaceutical Federation

Fédération Internationale Pharmaceutique

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