

# An overview of current pharmacy impact on immunisation

A global report

2016



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## Colophon

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## Executive summary

The role of pharmacists in immunisation and vaccination varies across the world; in some countries pharmacists are primarily involved in ensuring the safe supply and dispensing of vaccines, as well as advocating for immunisation, while in other countries they are empowered to play a more active role, as they are legally authorised to administer vaccinations, manage patients' vaccination schedules and/or organise vaccinations activities and campaigns.

It is estimated that ten million lives per year could be saved by increasing access to medicines and vaccinations. Community pharmacists are therefore in a strong position to provide a major contribution to public health due to their accessibility, distribution and available medicines expertise. Pharmacists are also highly trusted healthcare professionals and can therefore significantly improve communication channels and provide public reassurance on product quality.

We conducted a survey, disseminated to 137 FIP member organisations, to gather a better understanding of the current role of pharmacists in immunisation across the world and the impact of these activities.

We also provide here a closer look at the immunisation activities undertaken in eleven different countries and territories presented as case studies.

Vaccination policies vary across the world; the legal authority to perform immunisation activities currently varies significantly across countries and the integration of community pharmacies and pharmacists in national vaccination policies tends to develop as a gradual process over time. Strategic and integrated partnerships between healthcare professionals are increasingly common and the role of pharmacists as educators, facilitators and immunisers is becoming more readily recognised.

Several countries authorise vaccination in pharmacies and/or by pharmacists (for example in Argentina, Australia, Philippines, South Africa, UK and USA); this practice has been initiated, in the majority of the cases, with pharmacy-based vaccinations against influenza and then expanded to include other vaccines from the immunisation schedule. In most cases, it is associated with specific requirements such as pharmacist training, management of vaccination records and specifications on premises, equipment and waste management.

Based on the sample of countries presented in this report, 940 million people live in countries where over 193,000 community-pharmacies can potentially offer access to vaccination services. In this sample alone, we further estimate that currently, pharmacist-administered vaccination services have the potential to reach a total global population of 655 million. These estimates are based on our sample of 45 countries and territories; the potential in health gain to have pharmacy-led outreach to global populations is clear and this report suggests that community-based pharmacies are safe and high quality vaccination centres. Providing direct administration of vaccines, using pharmacists and pharmacies, is a highly effective public health strategy for health systems and healthcare planners, complementing the existing service offerings for immunisation.

Pharmacists are trusted healthcare professionals and as such can offer strong advocacy for building societal trust in vaccines as essential medicines. Added to this is the pharmacy-based opportunity for promoting immunisation in communities linked with the easy access to vaccination that community pharmacies bring and the outreach opportunities for healthcare planners.

On the technical side, and highly significant, is the medicines expertise embedded in the vaccination supply chain and storage of cold-chain products; the safety and quality assurance that society demands of vaccines also has significant input from pharmacists. Pharmacists offer convenience, product safety, advocacy support and an overall highly impactful contribution to the public health challenges of immunisation and vaccination policies.

The continuing trend to authorise pharmacists to provide direct access to immunisation allows policy makers to ensure additional resilience for national public health systems. Unexpected outbreaks of preventable communicable disease (from influenza to events such as H1N1) will happen again, somewhere, at some time, and pharmacists should be considered as invaluable contributors, together with our healthcare professional colleagues, in the delivery, access and administration of vaccines also during emergencies.

# 1 A Focus on Immunisation

Authors:

Helena Rosado and Ian Bates, FIP Collaborating Centre at UCL and FIP*Ed* Education Development Team.

## 1.1 Introduction

In 1796, Edward Jenner undertook an experiment on eight-year old James Phipps that was to change the world of infectious disease. The resulting story about this first instance of immunisation against smallpox is well known. The outcomes of this innovation would be published two years later and coined by Jenner as “vaccination”, after the Latin word *vacca* for cow.<sup>1,2,3</sup> The vaccine era had begun.

In 1980 the World Health Organization (WHO) declared smallpox an eradicated disease. This was the result of coordinated public health efforts by many people, but vaccination was an essential component.<sup>4</sup> Today it is estimated that eradication of smallpox currently saves approximately 5 million lives each year.<sup>5</sup> Although smallpox has been the only successfully and fully eradicated infectious disease to date, other diseases may also be potentially eradicated provided that effective vaccination programmes, treatments and diagnostics are available.

Between 1990 and 2015, the WHO Millennium Development Goal (MDG4)<sup>6</sup> aimed to reduce child mortality by implementation of robust strategies such as national and global Expanded Programmes for Immunization (EPI).<sup>7</sup> Later in 2012, the Global Vaccine Action Plan (GVAP) 2011-2020 was endorsed by 194 WHO Member States to stimulate universal access to immunisation.<sup>8,9</sup> Poliomyelitis, in particular, is one of the infectious diseases targeted for eradication, although there are still significant global challenges to be addressed in this area.<sup>8,9,10</sup> Pharmacists have an essential public health role by acting as educators and advisers, facilitating and participating in national and global routine immunisation strategies and practices and/or delivering pharmacy-based vaccinations - these have already been successfully implemented in various countries around the world.

This report presents and summarises the current global trends on the role of pharmacists in immunisation.

## 1.2 Key concepts

### 1.2.1 Immunisation and vaccination

Immunisation is the process whereby an individual becomes immune against an infectious disease either by natural contact with an infectious agent or by vaccination (administration of a vaccine to stimulate immunisation). Although immunity against an infectious disease may not be complete, people who are immunised or vaccinated are more likely to resist to an infection.

Vaccines are biological preparations containing one or more active and relatively harmless antigens. These are obtained by attenuating or inactivating microorganisms which cause infectious diseases, their products or derivatives. When inoculated, the antigens induce active specific immunity protection against the disease caused by the infectious agent where the antigen derived from. If an immunised person comes into contact with the microorganism, the body will recognise the antigen and produce defences against the vaccine-preventable disease.

The WHO estimates that vaccination saves between 2 to 3 million lives each year across all age groups;<sup>8,11</sup> it is one of the safest, more efficient and cost-effective measures for preventing, controlling and eradicating life-threatening infectious diseases.



## 1.2.2 Vaccine-preventable diseases

According to the WHO, there are currently over 26 infectious diseases that can be effectively prevented by a vaccine.<sup>11</sup>

Human papillomavirus (HPV)	Lyme disease	Rubella
Cholera	Malaria	Shingles
Dengue	Measles	Smallpox
Diphtheria	Meningococcal meningitis	Tetanus
Haemophilus influenzae type b (Hib)	Mumps	Tick-born encephalitis
Hepatitis A	Pertussis (whooping cough)	Typhoid fever
Hepatitis B	Pneumococcal disease	Tuberculosis (TB)
Hepatitis E	Poliomyelitis	Varicella (Chickenpox)
Influenza (Flu)	Rabies	Yellow Fever
Japanese encephalitis (JE)	Rotavirus gastroenteritis	

## 1.2.3 Incidence, prevalence, coverage and surveillance

There are various factors that can have a significant impact on the incidence and prevalence of vaccine-preventable diseases. Microbes can spread very easily and rapidly, particularly in children, and their generally more vulnerable immune status also makes them less likely to efficiently fight against an infectious disease. Infection was the major cause of child death before the global implementation of routine vaccination programmes which currently effectively protect children from these diseases.<sup>6,10</sup> Moreover, the increase in travelling (approximately 1 million/day) and the significant number of people at-risk (elderly, chronic disease and immunocompromised patients, etc.) also has a considerable impact on the incidence and prevalence of vaccine-preventable diseases.<sup>12</sup>

There is significant evidence that national immunisation programmes have an impact on infection prevalence;<sup>13</sup> rates of vaccine-preventable diseases are very low where vaccinations programmes are very well established, particularly in developed countries where there is easier access to vaccines and vaccination services. Vaccination has contributed, for example, to the eradication of smallpox, the decrease in the global incidence of polio by more than 99%, and neonatal tetanus by 94%.<sup>9</sup>

Changes in infection incidence and prevalence are strongly associated with immunisation rate and coverage; these parameters are also primary indicators of success in implementation of national and global vaccination programmes. Nevertheless, low immunisation rates and coverage are still major public health concerns and there is a need to stimulate global efforts to increase vaccination and to evaluate the impact of these initiatives. Adequate surveillance is crucial to identify people and populations at risk of contracting an infectious disease and to oversee any significant changes in levels of vaccine-preventable diseases.

## 1.2.4 Why is vaccination and immunisation important?

The basic principle for the elimination and/or eradication of any communicable disease by vaccination is to have an effective vaccine and to act on the maximum number of individuals who are susceptible to the disease. From an epidemiological perspective, individual actions are not sufficient and therefore effective promotion through vaccination campaigns is also essential to encourage/stimulate an effective response.

In addition to personal protection, vaccination also brings benefits to the whole community; when the majority of a population is immunised, transmission of disease is interrupted. This is particularly important to protect those individuals who are unable to be vaccinated due to health reasons (e.g. people with allergies or immunocompromised patients) or who did not respond to immunisation.

A number of infectious diseases have become extremely rare because of vaccination (e.g. poliomyelitis);<sup>8,9</sup> there are currently great efforts to efficiently diagnose and treat several infectious diseases which, together with successful vaccination programmes and strategies, may lead to eradication of other diseases. However, there remain challenges in some societies and immunisation cover has not always been fully embraced by some.

## 1.2.5 Immunisation barriers and challenges

Barriers to immunisation may have a significant impact on vaccination rates and, consequently, to the incidence and prevalence of vaccine-preventable diseases. They are also likely to affect the implementation of effective strategies for vaccination and surveillance as well as the accomplishment of national and global immunisation goals. It is therefore essential to better understand these barriers and challenges to enable the development of more tailored and efficient interventions to improve immunisation. A number of studies have focused on investigating the main factors that affect vaccination rates and the best strategies to overcome them (Table 1).

Table 1: Perceived barriers and challenges to immunisation.

Perceived barriers and challenges
<b>Individual factors</b>
Misinformation/lack of accurate information about vaccination <sup>14,15,16</sup>
Lack of understanding of the importance/benefits of vaccination <sup>14,17</sup>
Concerns about the risks and adverse effects of vaccination <sup>14,16,18</sup>
Belief that vaccinations cause infectious disease and/or other health conditions (e.g. autism) <sup>14,19</sup>
Belief that vaccines are not effective and/or do not provide sufficient protection against infection <sup>19</sup>
Cultural and religious beliefs <sup>14</sup>
Fear of injections <sup>14,19</sup>
Language and communication barriers <sup>16</sup>
Poor communication with/by vaccination providers <sup>17</sup>
<b>Vaccination process</b>
Lack of a strategic and integrated response from all healthcare professionals <sup>19</sup>
Complex vaccination schedules <sup>14</sup>
Missed vaccination appointments <sup>14</sup>
Forgetting that additional or booster vaccines are required <sup>14</sup>
Reduced/limited accessibility to vaccination providers <sup>19</sup>
Difficulty to schedule vaccinations appointments <sup>17</sup>
Lack of accurate and complete immunisation records <sup>14</sup>
<b>Vaccination system</b>
Limitations in vaccination storage or capacity <sup>14</sup>
Cost and lack of/inconsistent vaccine reimbursement schemes <sup>14,16,20,21</sup>
Factors affecting the supply and distribution of vaccines (e.g. lack of manufacturing capacity, misdistribution) <sup>14</sup>
Financial constrains (particularly in situations of financial crisis and severe austerity measures leading to significant cuts to the healthcare system) <sup>20</sup>
Legal constraints <sup>20</sup>
Lack of political commitment <sup>22</sup>
Legislation, regulation or administrative constraints <sup>20,23</sup>
Humanitarian emergencies - refugees, asylum-seekers and migrants situations <sup>24,25,26</sup>

Proposed strategies to overcome barriers/ challenges
Individual factors
<p>Improve communication methods, inform and motivate communities <sup>15</sup></p> <p>Increase access to vaccine information and adequate communication by creating robust distribution systems that effectively reach their audiences <sup>16,18</sup></p> <p>Organise effective advocacy and promotional initiatives across the healthcare sector <sup>15,16,22</sup></p> <p>Provide education and training opportunities for healthcare professionals and to the public <sup>15,16</sup></p> <p>Deliver and facilitate risk communication and evidence-based communication <sup>18</sup></p> <p>Effectively communicate the risks and benefits of vaccination <sup>14</sup></p> <p>Characterise existing beliefs by questioning, address concerns and encourage questioning <sup>18</sup></p> <p>Build public trust by keeping information simple, clear, credible and consistent across healthcare sectors <sup>16,18,22</sup></p>
Vaccination process
<p>Improve access to vaccination services - offer vaccinations at multiple locations and times <sup>16,19,23</sup></p> <p>Improve collaboration and partnership between all healthcare professionals <sup>19</sup></p> <p>Implement robust reminder/recall systems shared by all healthcare professionals <sup>14,16</sup></p> <p>Improve vaccination record systems <sup>14</sup></p>
Vaccination system
<p>Improve vaccination infrastructure <sup>14</sup></p> <p>Improve legislation and regulation interventions involving changes in vaccination policies <sup>23</sup></p> <p>Establish well defined vaccination policies <sup>19</sup></p> <p>Obtain political commitment to emphasise the importance of vaccination <sup>22</sup></p> <p>Implement fair reimbursement systems <sup>14,16</sup></p> <p>Strengthen and improve surveillance and monitoring of vaccination coverage rates <sup>23-26</sup></p> <p>Establish role models, vaccination advocates and champions; involve leaders and senior staff to encourage vaccination <sup>23</sup></p> <p>Measure and feedback/report vaccination coverage rates <sup>23</sup></p>

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## 2 Pharmacists' contribution to immunisation

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### 2.1 Introduction

Pharmacists can provide a major contribution to public health by playing active roles in immunisation. The accessibility and distribution of community pharmacies make them a first point of contact with patients, providing an excellent opportunity to expand and increase access to immunisation services. Another major advantage is the convenient opening hours of community pharmacies; this can be very attractive to both working and non-working individuals and particularly important in rural, isolated and medically underserved areas, where access to vaccination points can be very challenging.

In some jurisdictions in Canada, flu vaccination rates have risen dramatically as a consequence of the increased service accessibility and convenience offered by community pharmacies.<sup>1</sup> In Portugal, since the first year of implementation of the service, around 40% of all sold flu vaccines are administered in community pharmacies.<sup>2</sup> In USA, ten years after the implementation of pharmacy-based vaccination, vaccination rates more than doubled in young adults also reinforcing the advantages of the service provided.<sup>3</sup>

It is estimated that ten million lives per year could be saved by increasing access to medicines and vaccinations.<sup>4</sup> For many years, pharmacists supported immunisation efforts through advocating and promoting vaccination to participating in the supply chain management of vaccines but, given regulation, were not engaged in the provision of vaccination services - these being exclusive to hospitals, doctor's surgeries or health centres. Today, pharmacists in many countries and territories are involved in immunisation activities through administering vaccines.

The role of pharmacists as educators, facilitators and immunisers is particularly important during pandemics (e.g. influenza) and/or other challenging situations that may significantly affect the morbidity and mortality of the general population.<sup>5</sup> Vaccination policies tend to vary across the world; the legal authority to perform immunisation activities can vary significantly across countries and territories and the integration of community pharmacies and pharmacists in the vaccination policy tends to develop as a gradual process over time. Nevertheless, a significant number of countries and territories have been actively involved in this type of activities and helping to tackle a significant number of vaccination barriers and challenges.

Community pharmacies are in a strong position to lead on vaccination advocacy and promotion campaigns, effectively communicating the risks and benefits of vaccination and educating patients and the community about immunisation. Their high visibility and accessibility positions community pharmacists at the heart of the healthcare system and in a strong position to deliver, communicate and disseminate positive messages about vaccination. It is estimated that, only in the European Union, 46 million people visit a community pharmacy every day; this translates into around 400,000 community pharmacists contributing to the health of over 500 million people.<sup>6</sup>

Pharmacists can also more easily identify patients at higher risk and specific target groups for vaccination, providing the necessary advice and actively participating in reminder and recall systems to ensure that vaccination schedules are met and regional/global goals achieved.

The Canadian Pharmacists' Association (CPhA) strongly encourages pharmacists to take an active role on advocacy and immunisation promotion activities. The profession gained the acceptance from the public, with 88% of Canadians trusting pharmacists to provide advice on vaccinations. From a public health perspective, a national immunisation strategy is one of the three top advocacy priorities for CPhA.<sup>7,8</sup>

Pharmacists can also be very much involved in vaccine supply policies, from manufacturing to procurement, storage and distribution. Inappropriate procedures may compromise the supply chain and put vaccines at risk of degradation. For this reason, explicit legal requirements, comprehensive guidelines or recommendations as well as robust procedures should be in place during the process. Pharmacists can be pivotal to ensure that high

quality cold chain storage systems are established and efficiently maintained throughout the whole supply chain.

In the UK, pharmacists are actively involved in the supply chain. In primary care in particular, pharmacists can be responsible for the re- distribution of vaccines in areas where there are fewer vaccines than required. In Scotland, community pharmacies successfully control the complete supply process of all the seasonal flu vaccines which are then distributed to doctor's surgeries, from procurement and purchasing to distribution and delivery, ensuring the maintenance of the cold chain.<sup>9</sup>

Throughout the years, a number of countries and jurisdictions have allowed pharmacists to play a key role in administering vaccines. A resolution from November 1958 authorised pharmacists in Argentina to administer intramuscular or subcutaneous injections under medical indication. Later, this regulation was extended and ratified to incorporate specific details on vaccination in pharmacies and by pharmacists as well as specifications for each of Argentina's 24 jurisdictions (see case-study Part 3).

In 1973, pharmacists in Tunisia were authorised to administer injections, including vaccines, under the presentation of a medical prescription. In addition, pharmacy technicians were also authorised to administer injections under the pharmacist's responsibility, provided they held a professional aptitude certificate (both theoretical and practical components) issued by the Ministry of Public Health. The administration of vaccines could only be undertaken in pharmacies with the use of appropriately sterilised material and equipment. A vaccination record was also required, including details on the prescribing physician, the patient's name, the type of product injected and the mode of administration.<sup>10</sup>

In USA, in 1994, a group of 50 pharmacists undertook the first organised immunisation training for pharmacists, held in Seattle, Washington. Later in 1996, the American Pharmacists Association (APhA) House of Delegates passed a resolution calling for pharmacists to assume a key role as vaccination advocates, facilitators and/or immunisers. During the latter half of 2009, amid fears of a H1N1 pandemic, several states enabled pharmacists to administer vaccinations together with other health professionals. This event highlighted the important role of pharmacists as immunisation providers and was the stepping stone to generalise pharmacy-based vaccination across all 50 states. Today, pharmacy-based vaccination in USA is extremely successful, increasing significantly vaccine uptake throughout the country (see case study Part 3). Other country/territory specific examples are described in Part 3 of this report.

The role of the pharmacists can be particularly important for the prevention, control and management of high-incidence vaccine-preventable infections as well as during disease outbreaks and pandemics. Several studies provide significant evidence of the benefits of the various potential immunisation roles that can be assigned to pharmacists, including collaborative and multi-disciplinary roles: from education, coordination and communication, to prevention and containment, procurement, distribution and vaccination as well as recording, monitoring and assessing vaccination strategies.<sup>11,12</sup>

For seasonal influenza, for example, a resolution of the Executive Board of the WHO recommended the establishment and implementation of vaccination strategies, particularly aimed at all people at-risk, to increase seasonal influenza vaccination coverage to 75% or higher by 2010.<sup>13,14</sup> Throughout the years, it has been challenging to translate these recommendations into action. Increasingly, pharmacists have an essential role in immunisation activities to ensure that these goals are met.

Since the beginning of the 21<sup>st</sup> century, pharmacy-based vaccination services have developed at a rapid pace and are now well established in countries such as the USA (1994-2009), Portugal (2007) and Australia (2014-2016). Nationally or regionally, the role has been supported and encouraged by several groups and associations and is gaining notable acceptance and endorsement from the public, governments and other healthcare professionals across the world.<sup>7,9,15,16</sup>

## 2.2 Global outlook – a survey

The role of pharmacists in immunisation and vaccination varies across the world; in some countries pharmacists are legally allowed to administer vaccinations, manage patients' vaccination schedules and/or organise vaccinations activities and campaigns; in other countries, however, pharmacists are not able or authorised to play an active role in immunisation. This section of the report presents the outcome of a global survey which was disseminated to 137 FIP membership organisations and (at the time) applicant organisations.

The aim of the Report survey was to gather a better understanding of the role of pharmacists in immunisation across the world and the impact of these activities. The set and format of the questions was developed by the University College London FIP Collaborating Centre and was validated by a selected group of expert representatives from FIP member organisations; the survey included six main questions on the various roles of pharmacists in immunisation (see [Appendix](#)). The questions focused on 6 main subjects: advocating for immunisation (Q1), administering vaccines (Q2), training the pharmacy workforce for immunisation/vaccination services (Q3), access to vaccination records (Q4), additional services related to vaccinations (Q5) and main limitations to the development of pharmacists' role in immunisation (Q6). Responses were collected during February and March 2016. The data collected was coded and entered into a database for subsequent analysis. Any incomplete data fields for specific variables are accounted for in all the reported per cent numbers in this section.

### 2.2.1 Demographics

We surveyed 137 FIP member organisations and received responses from 45 countries and territories (33% response rate; 33% of FIP Member Organisations; 23% of WHO Member States). Figure 1 shows the distribution of the countries and territories that responded to our survey as well as additional FIP member organisations. Based on the sample of 45 countries and territories surveyed, a higher percentage of countries from Europe and The Americas returned completed surveys compared to other WHO regions. In contrast, a lower percentage of South East Asia countries responded to the survey (see [Appendix](#)).

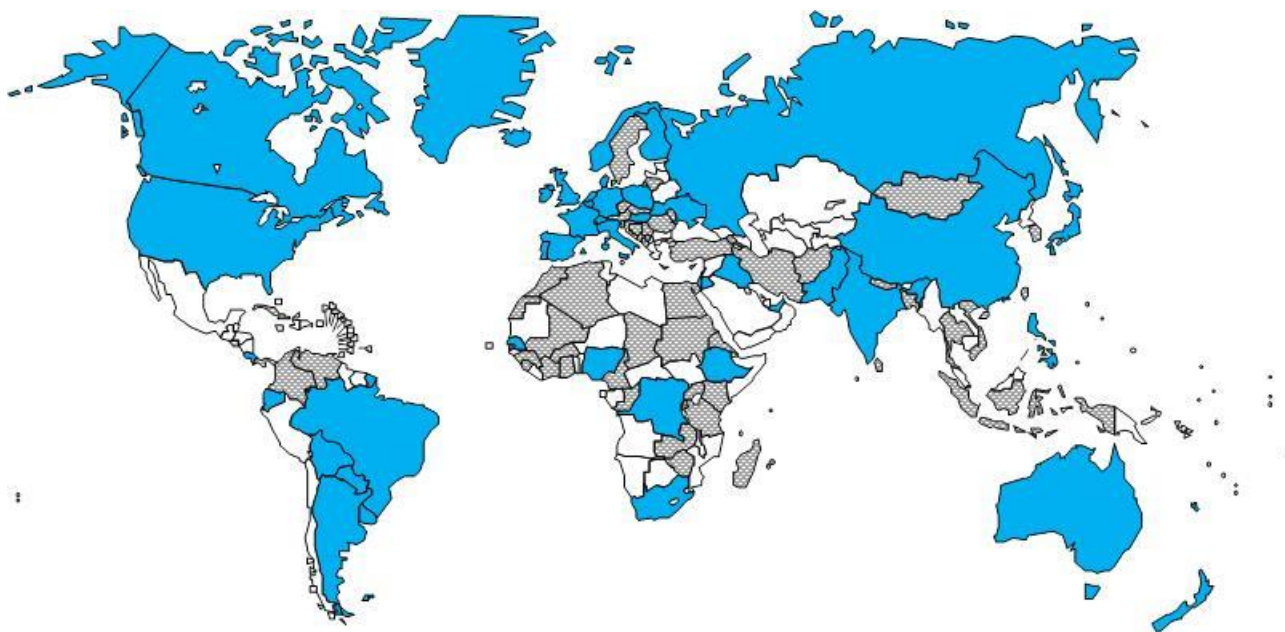


Figure 1: FIP member organisations and countries/territories responding to survey.

Legend:

- Countries/Territories and FIP Member Organisations responding to survey
- ▨ FIP Member Organisations not responding to survey
- Non-FIP Member Organisations



In our country-level sample, there were a total of approximately 1.7 million pharmacies represented (from 44 countries with verifiable data), with an average of over 5,000 local population per pharmacy (this excludes two country outliers, Democratic Rep. of Congo and Ethiopia, which respectively had 101,000 and 141,767 population counts per pharmacy; these countries, as with many African countries, have acute shortages of healthcare personnel and facilities). This illustrates the outreach and access demographics that community pharmacies, as health care environments, can offer public health planners in relation to immunisation programmes (Figure 2).

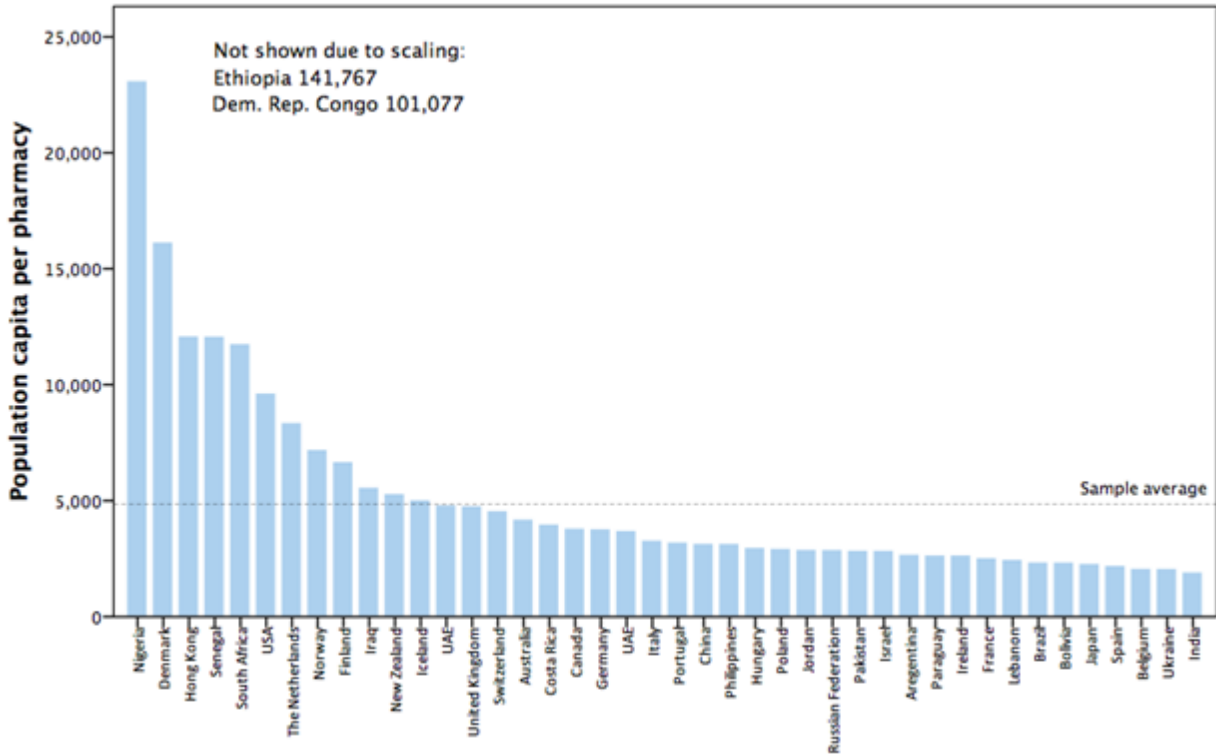


Figure 2: Distribution of population capita per pharmacy in the country-level sample from this report.  
Source: [FIP-RPS Global Workforce Observatory 2015](#).

Table 1 lists the 45 countries and territories that responded to our survey and provides a general overview of the activities undertaken in each (responses to Q1 to Q4). Country/Territory specific information is summarised in the [Appendix](#) section.

Table 1: General overview of the immunisation activities undertaken in each of countries/territories that responded to our survey (responses to Q1 to Q4).

Countries	Advocacy for vaccination	Vaccination administration	Training required	Access to Records
Argentina	Y	P	Y	N
Australia	Y	PH	Y	Y
Belgium	Y	N	N	Y
Bolivia	Y	H	N	N
Brazil	Y	N	N	Y
Canada	Y	PH	Y	Y
China (People's Republic)	Y	N	N	N
Congo (Democratic Republic)	Y	H	Y	N
Costa Rica	Y	P	Y	Y
Denmark	Y	PH	Y	Y
Ecuador (Quito's province)	N	N	N	N
Ethiopia	Y	N	N	N
Finland	Y	H	N	N
France	Y	N	N	Y
Germany	N	N	N	Y
Hong Kong, People's Republic of China	N	N	N	N
Hungary	N	N	N	N
Iceland	N	H	N	N
India	N	N	N	-
Iraq	Y	N	N	N
Ireland	Y	P	Y	Y
Israel	N	N	N	-
Italy	Y	N	N	N
Japan	Y	N	N	N
Jordan	Y	-	-	-
Lebanon	N	H	N	N
Netherlands	Y	H	N	Y
New Zealand	Y	P	Y	N
Nigeria	Y	N	Y	Y
Norway	N	N	N	N
Pakistan	Y	H	N	Y
Paraguay (Asunción)	N	N	N	N
Philippines	Y	PH	Y	N
Poland	Y	N	N	N
Portugal	Y	PH	Y	Y
Russian Federation	Y	N	N	N
Senegal	Y	N	Y	N
South Africa	Y	PH	Y	Y
Spain	Y	N	Y	N
Switzerland	Y	PH	Y	Y
United Arab Emirates	N	N	N	N
Ukraine	N	N	N	N
United Kingdom	Y	PH	Y	Y
United States of America	Y	PH	Y	Y
Uruguay	N	N	N	N

## Legend

Y	Yes	H	Other healthcare professional
N	No	PH	Pharmacist and other healthcare professional
P	Pharmacist	-	No response

## 2.2.2 Advocacy activities

From all respondents, 71% (32 countries and territories) reported some level of engagement in support and advocacy activities connected with immunisation service provision. Of those countries that did support immunisation activities, distributing leaflets and providing information were the most common activities (with around 88% of these respondents engaged in these types of activities). More active, patient-facing activities were less common, with campaigning (63% of respondents) and identifying and advising higher risk patients (53% of respondents) being more common. Using pharmaceutical expertise for advising on health committees or policy was least utilised by country respondents (31% of respondents).

Table 2 shows the relative frequencies of promotional activities undertaken by respondent countries and territories as per cent of all responses. Figure 3 highlights the world distribution of pharmacies/pharmacists undertaking immunisation advocacy activities.

Table 2: Relative frequencies of promotional activities undertaken by respondent countries and territories.

Support and advocacy activities	% responses (n)
Provide information & advice	21 (26)
Distribute leaflets	22 (28)
Engage with campaigns	16 (20)
Identify and advise high risk patient groups	14 (17)
Engage in multi-disciplinary campaigns	10 (12)
Keep vaccination status/reminders for patients	10 (12)
Serve or advise immunisation committees/groups	8 (10)
Total responses	100 (125)

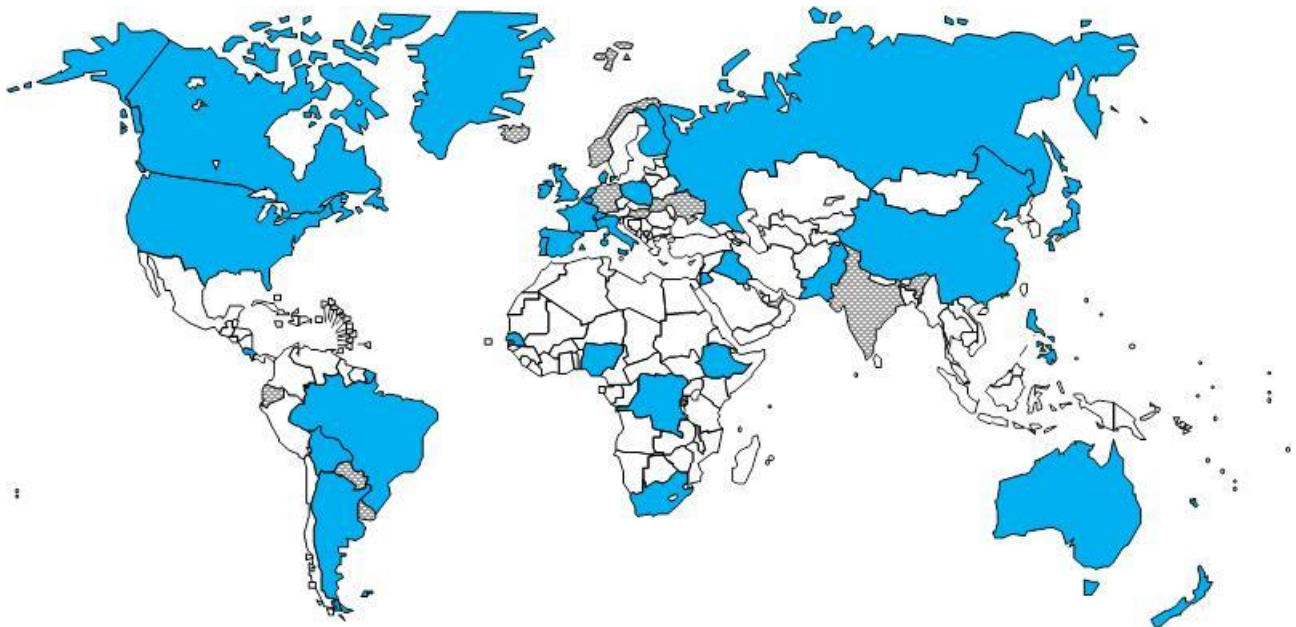


Figure 3: Countries and Territories where pharmacies/pharmacists undertake immunisation advocacy activities.

Legend:  
 ■ Yes    ▨ No    □ Data not obtained in this survey

### 2.2.3 Administration of vaccines

The administration of vaccines was less common in our sample, with 29% (13) of respondents stating that pharmacist-administration is possible. However, 44% (20) stated that using pharmacies (as accessible healthcare premises), including both pharmacists and other healthcare professionals administering vaccines, was possible in their countries. Table 3 summarises this, with the list of countries where administration of vaccines is possible shown in Table 4.

Table 3: Administration of vaccines in pharmacies and/or by pharmacists.

Countries and territories where administration of vaccines in pharmacies is allowed (in our sample)	% (n)
Yes (by pharmacists and other HCPs)	29 (13)
Yes (but only by other HCPs)	16 (7)
No	55 (25)
Total	100 (45)

Table 4: Countries where administration of vaccines in pharmacies and/or by pharmacists is allowed.

Country	Administration in pharmacies	Administration by pharmacists
Argentina	Yes	Yes
Australia	Yes	Yes
Bolivia	Yes	-
Canada	Yes	Yes
Congo (Dem Rep)	Yes	-
Costa Rica	Yes	Yes
Denmark	Yes	Yes
Finland	Yes	-
Iceland	Yes	-
Ireland	Yes	Yes
Lebanon	Yes	-
Netherlands	Yes	-
New Zealand	Yes	Yes
Pakistan	Yes	-
Philippines	Yes	Yes
Portugal	Yes	Yes
South Africa	Yes	Yes
Switzerland	Yes	Yes
UK	Yes	Yes
USA	Yes	Yes
Total	20	13

In this sample, around 20% of all country-level pharmacies (approximately 193,000) are being used as community-based immunisation centres, with an outreach to a combined population size of 940 million people. In addition, around 120,000 pharmacies in this sample (14% of all represented) have the potential for pharmacist-provided vaccination administration services (serving a collective population of around 655 million people).

### 2.2.3.1 Synergy between vaccine administration and advocacy activities

It is also clear from this sample that there is an association between advocacy and support for vaccination activities and being able to legally provide administration in pharmacy premises (by either pharmacists or other healthcare professionals). Table 5 (and Figure 4) shows a generally higher level of engagement associated with vaccination advocacy activities and being able to physically provide the opportunity for administration of vaccination.

Table 5: Association between advocacy and support for vaccination activities.

	Countries and territories allowing vaccines to be administered in pharmacies or by pharmacists	
	Column % (n)	
	No	Yes
Distribute leaflets	64% (9)	94% (16)
Provide information and advice	78% (11)	94% (16)
Engage with campaigns	50% (7)	77% (13)
Multi-disciplinary campaigns	29% (4)	47% (8)
Keep vaccination status/reminders for patients	29% (4)	47% (8)
Identify and advise high risk patient groups	28% (4)	77% (13)
Serve or advise immunisation committees/groups	14% (2)	47% (8)
Count (country cases responding)	14	17

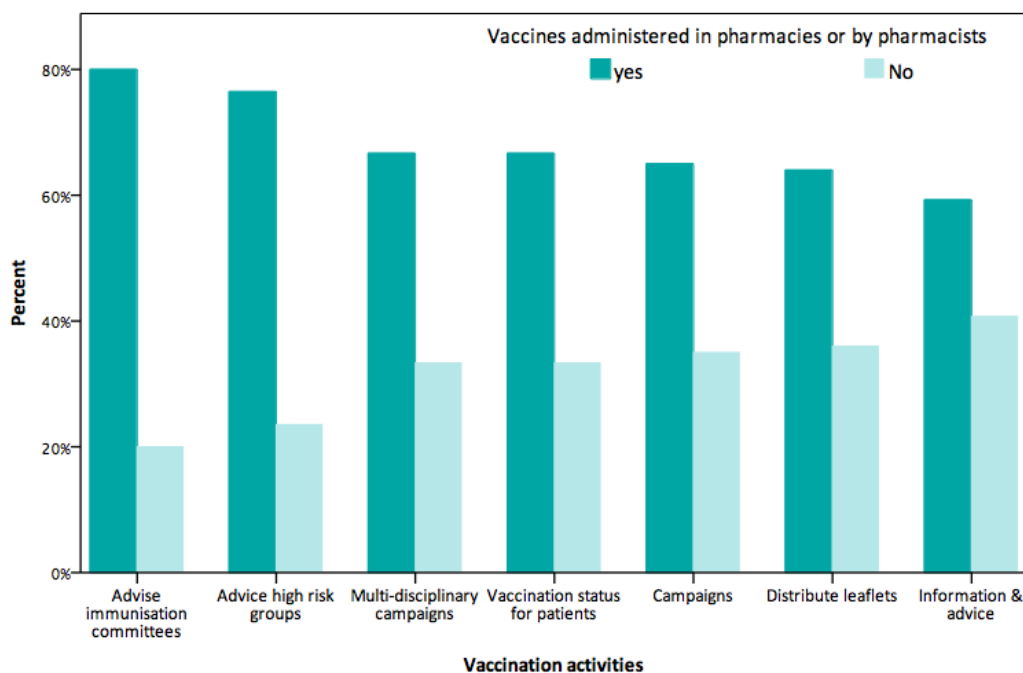


Figure 4: Vaccination activities undertaken by pharmacists/pharmacies by vaccination provision status.

The indication is that where pharmacists are engaged with actual administration, there is a deeper engagement with a wider scope of activities associated with public health delivery. This is not wholly surprising, but does provide some evidence that allowing pharmacists to vaccinate, or using pharmacies as accessible healthcare premises for vaccination, can enhance the public health messaging and provide greater opportunity for public health provision in relation to vaccination. In particular, there is a greater tendency for pharmacies, where vaccination services are delivered, to be engaged with multi-disciplinary campaigning activities and - significantly - to be identifying and advising high-risk patient groups, which is a key strategy for public health policy for vaccination access.

### 2.2.3.2 Requirements for administration of vaccines

The question of specific requirements (for standards and training) was asked to our respondents. This was subdivided into specific requirements for the use of accessible premises as vaccination delivery centres (i.e. pharmacies, for example legal and safety issues, guidelines, etc.) and also access for individual training for pharmacists in those countries where administration is permissible. Table 6 shows these two proportions (noting a different base count for each). Of those who responded to having legal basis for administering vaccines, training was deemed mandatory in 8 of these countries (representing about 57% of those able to provide vaccination).

Table 6: Association between specific requirements for administration of vaccines in pharmacies and access to training for vaccine administration.

	Countries and territories with specific requirements for administration of vaccines in pharmacies (legal, guidelines, training, etc.) % (n)	Countries and territories where pharmacists can access training for vaccine administration % (n)
No	33% (8)	62%(28)
Yes	67% (16)	38% (17)
Total (country cases responding)	100% (24)	100% (45)

For the majority of countries in our sample, formal training for vaccination administration and services is a post-registration activity (79%) although some indicated that vaccination administration education was part of initial education and training (31%, n=6). There is scope here for a review of how access to training (particularly for physical skills) is being organised as part of overall professional education; making better links with education and training will strategically have a greater impact on widening the access to vaccination through pharmacies and pharmacists as a routine service provision.

Currently, in our sample, mandatory and specified pharmacist training is required in:

- Argentina
- Australia
- Canada
- Congo (Dem. Rep.)
- Denmark
- Ireland
- Philippines
- Portugal
- Senegal
- South Africa
- Spain
- UK
- USA

### 2.2.4 Recording of immunisation

For those cases where vaccination in pharmacies (or by pharmacists) is available, the recording of vaccination details is variable, with only 8 cases reporting “mandatory” record keeping (out of 20 cases where vaccination is permissible in pharmacies). Furthermore, accessing vaccination records and immunisation data for patients also seems to be variable with only 10 cases reporting a system for accessing immunisation data (50% of cases with national immunisation rights). Accessing patient medical data is becoming more of an issue for many countries, whereby it is argued that community-based clinical pharmacy potential can only be fully realised with equitable access to relevant patient medical data; vaccination as a pharmaceutical care service is becoming more prevalent and this is an area that could be utilised as a mechanism to advocate for fuller access to relevant medical data.

### 2.2.5 Perceptions of limits and challenges.

Figure 5 (and Table 7) illustrates the perceptions of acceptance and support on pharmacy-led vaccinations services from this sample of country cases, displayed by those countries and territories that have established vaccination services and those without. It is of interest that countries with accepted services generally have a more positive attitude (showing as fewer limitations in Figure 5) and is perhaps not wholly surprising; at the same time, these cases are also characterised by patient (and government) acceptability being stronger and with having less anxiety about economics and other healthcare professionals. The limitations of training needs and the issue of “confidence” were similar in both groups.

Table 7: Association between perceptions of acceptance and support on pharmacy-led vaccination services.

Row % (n)	Countries and territories allowing vaccines to be administered in pharmacies or by pharmacists	
	No	Yes
No perceived limitations or barriers	17% (1)	83% (5)
Limited acceptance by government	64% (18)	36% (10)
Limited acceptance by other HCPs	60% (12)	40% (8)
Limited support economically	42% (8)	58% (11)
Limited acceptance by patients	80% (4)	20% (1)
Limited due to training needs	50% (8)	50% (8)
Limited due to lack confidence by pharmacists	46% (6)	54% (7)

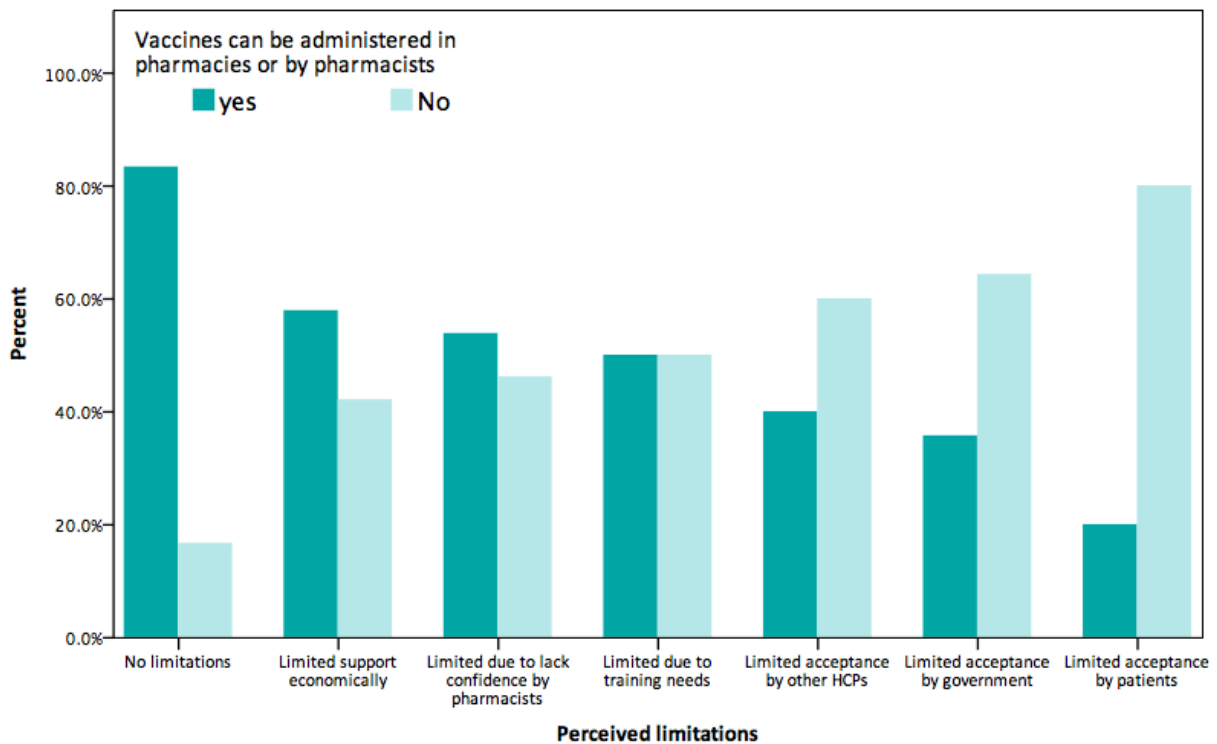


Figure 5: Perceptions of limitations or barriers on acceptance and support for pharmacy-led vaccination services.

Supplementary data can be found in the [Appendix](#) section.

## 2.2.6 Summary and conclusions

There is variance, globally, in the engagement of pharmacists in direct vaccination and immunisation services, with a rising proportion of countries that have legislation in place to allow administration in pharmacies and by pharmacists. This policy increases the accessibility of wider vaccination cover for populations and enhances vaccination programmes by allowing patients to have a wider medicines review or ask for other healthcare advice. In this sample alone, we estimate that community pharmacy-based access to vaccination is currently available to over 940 million people (assuming all pharmacies take the opportunity to provide these available immunisation services). Furthermore, pharmacist-administered vaccinations are available to 655 million people (with similar assumptions).

It is clear from this sample that those pharmacies/pharmacists who are providing direct vaccination services are also more engaged with a wider range of public health activities and with higher risk patient groups and other healthcare professionals; these respondents also tend to have a more positive attitude about removing restrictions and barriers and indicate better patient acceptance. The country-case studies provided (Part 3) provide support for this association, and there is a clear theme of proactivity that runs through those countries that have embraced, legally and professionally, the concept of widening access to vaccines and immunisation services, often working closely with fellow healthcare professionals.

In most countries that allow provision of vaccination services in pharmacies, there is a strong element of mandatory training or at least access to training to support the activity. Education and training of the pharmacy workforce is a key strategic lever towards making direct vaccination services acceptable for governments and other healthcare professionals.

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### 3 Case-studies

#### Timeline of events for the development of vaccination services in community pharmacies in eleven of the countries/territories surveyed in this study

The legal authority to perform immunisation activities, including administration of vaccines, can vary significantly across countries and territories. The integration of community pharmacies and pharmacists in the vaccination policy tends to develop as a gradual process over time. This timeline highlights the gradual changes of this expanded area of pharmacy practice, with rapid developments taking place particularly in the last decade.

1983 Argentina	Legal requirements specified for vaccine administration in pharmacies and/or by pharmacists.
1991 South Africa	Private training institutions start offering vaccination training opportunities to pharmacists.
1994 USA	Pharmacists in Seattle, Washington, trained for the first time to administer vaccinations.
1996 USA	A total of 14 States authorised pharmacists for influenza vaccination.
2002 UK	Legal authorisation for pharmacy-based vaccine administration.
2007 Portugal	Legal expansion of the scope of services provided by pharmacies and pharmacists, including vaccine administration.
2008 UK	Increase in focus on pharmacists delivering commissioned immunisation services.
2008 Portugal	Initial pharmacists' training delivered based on the American Pharmacists' Association model. Development of recommendations for pharmacy-based vaccination by the Portuguese National Association of Pharmacies.
2009 USA	All 50 States legally authorised vaccine administration by pharmacists.
2010 Portugal	Amendment of legislation to include further details on pharmacy-based vaccination.
2011 Ireland	Legal authorisation for pharmacy-based vaccine administration.
2012 Portugal	Mandatory electronic vaccination records were adopted.
2013 Portugal	Publishing of new guidelines by the Portuguese Pharmaceutical Society for the training of pharmacists in immunisation with competency certification.
2013 USA	The concept of the "immunization neighborhood" is implemented to define the close collaboration, coordination, and communication between all immunisation stakeholders.
2014 Australia	Pharmacy Board of Australia announced vaccination as part of pharmacists' current practice. Pharmacy-based vaccination initiated in Queensland (Pilot).
2014 Philippines	Vaccine administration rights granted to trained pharmacists.
2015 Switzerland	Pharmacy-based vaccine administration authorised in 2 Cantons followed by 4 more later in the same year.
2015 Australia	Trained pharmacists in South and West Australia administer flu vaccinations.
2015 Ireland	Amendment to the 2011 legislation enabling pharmacists to also administer pneumococcal and herpes zoster (shingles) vaccines.
2015 Switzerland	Pharmacists invited for the first time to serve on immunisation advisory committees.
2016 Australia	Victoria was the final state jurisdiction to introduce vaccinations in pharmacies.
2016 Ireland	Plan to deliver training to pharmacists to enable administration of pneumococcal and herpes zoster (shingles) vaccines.
2016 Philippines	Pharmacists' training to administer vaccines and development of guidelines and protocols for vaccination by pharmacists.
2016 USA	All Accreditation Council for Pharmacy Education (ACPE)-accredited schools of pharmacy required to include immunisation training in their undergraduate curricula.
2017 Switzerland	Plans to integrate comprehensive immunisation training at undergraduate level.

Indicators	<a href="#">AR</a>	<a href="#">AU</a>	<a href="#">BE</a>	<a href="#">FR</a>	<a href="#">IE</a>	<a href="#">PH</a>	<a href="#">PT</a>	<a href="#">SA</a>	<a href="#">CH</a>	<a href="#">UK</a>	<a href="#">USA</a>
											
Population (millions)	42.98	23.5	11.2	66.5	4.6	98.4	10.4	54.0	8.2	64.1	316.5
Population > 65 years (% total)	11	14.7	18.0	18.7	12.1	3.9	20.1	5	18	17.5	14.0
Health Expenditure (% GDP)	7.3	9.4	11.2	11.7	8.9	4.4	9.0	8.9	11.7	9.1	17.1
Number of community pharmacies	20,000	5,456	4,950	22,510	1,807	32,443	2,885	3,136	1,774	14,361	32,500
Immunisation advocacy activities	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vaccine administration by pharmacists	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Management of vaccination records	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Training of pharmacists	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

AR: Argentina; AU: Australia; BE: Belgium; FR: France; IE: Ireland; PH: Philippines; PT: Portugal; SA: South Africa; CH: Switzerland; UK: United Kingdom; USA: United States of America

## 3.1 Argentina



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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1,2</sup>	42.98
Population > 65 years (% Total) <sup>1,2</sup>	11
Health expenditure (% GDP) <sup>1,2</sup>	7.3
Number of community pharmacies <sup>3</sup>	20,000

### 3.1.1 Advocating for immunisation and promoting immunisation services in pharmacies

Pharmacists in Argentina participate in a range of activities including distributing vaccination leaflets and providing information and advice to the public about the importance of vaccination. There is a great encouragement to comply with vaccination in all age groups and pharmacists actively organise and participate in multi-disciplinary immunisation campaigns. One of the objectives of the [National Programme for Control of Vaccine-Preventable Diseases \(ProNaCEI\)](#) is to promote, establish, maintain and disseminate standards for the treatment of vaccine-preventable diseases to reduce morbidity and mortality in Argentina. In order to improve the delivery of immunisation services, the Ministry of Health acquires and distributes vaccines from the National Vaccination Schedule; the administration of these vaccines is free and mandatory across the country in the attempt to achieve national vaccination coverage equal or greater than 95%.<sup>4</sup>

Every year, the Argentinian government also guarantees free access to flu vaccines across the country to young children up to 2 years old, pregnant women and people over 65 and/or with risk factors. The [National Institute of Social Services for Pensioners \(PAMI\)](#) was created in 1971 with the intent to provide medical, social and welfare assistance to a population requiring specific care; it provides a range of public health services for people below 25 or over 65 years old, pensioners and people with disabilities. The PAMI Influenza Vaccination Campaign takes place every year during autumn and winter. Pharmacists have the important role in this campaign of verifying patients' immunisation status and reminding them when their next vaccination is due; they also identify and advise high risk patient groups and administer the vaccines. In 2015, more than 5,000 pharmacies, distributed across the national territory, administered 480,000 vaccines to members of PAMI free of charge. No prescription was required for the pharmacy-based administration of influenza and pneumococcal vaccines to people over 65. The jurisdiction with best performance was Mar del Plate where 88% of the vaccines supplied by the Ministry of Health were administered in pharmacies; high vaccination rates were also achieved in Morón, Capital Federal, San Justo, La Plata, Lanús, Luján and Rosario where pharmacies administered over 70% of total distributed vaccines. Regarding the number of administered doses, 209,000 vaccinations were administered in the province of Buenos Aires, with Mar del Plata achieving the highest number of vaccinations, followed by Córdoba with 59,000, Santa Fe 68,000 and the Capital Federal with 34,000 thousand vaccinations<sup>5</sup>. The PAMI campaign has been running successfully for 19 years and in pharmacies since 2010 with patients providing a very positive feedback about the services provided.

### 3.1.2 Administration of vaccines in pharmacies

In Argentina, the title of pharmacist currently enables the administration of vaccines although there are differences between the 24 jurisdictions. The [Resolution 1732/58](#) of La Plata, Buenos Aires, November 1958, initially authorised pharmacists to administer intramuscular or subcutaneous injections under medical indication. Later, in May 2011, this regulation was extended (Res. 1460/11) to incorporate intradermal injections with the specific interest to enable vaccination by this route.<sup>6</sup>

In September 1983, the [Law 22909](#) specifically stated that vaccination was authorised in pharmacies, under a prescription requirement as well as other specifications such as recording of the vaccination procedure and details.<sup>7</sup> Throughout the years, pharmacies across jurisdictions in Argentina have implemented vaccination services; these must comply with the minimum requirements for vaccination centres when incorporating immunisation services for the community. The requirements are set out in [Resolution MSP 67/95](#) of 10 May 1995 of the [National Law for Pharmacy Practice 17565/67](#) and in specific standards for each jurisdiction.<sup>8</sup> The various legal documents include detailed specifications on the premises, equipment, material and waste management. The [COFA Standard No. 4/04](#) of 26 February 2004 describes the standards and provides guidelines and recommendations for the administration of vaccines and injectable medicines in pharmacies.<sup>9</sup>

Administration of vaccines in:	
Community pharmacies	Public hospitals, health centres
Healthcare professional(s) administering vaccinations	
Pharmacist	Doctor In some jurisdictions (e.g. Mendoza) a pharmacist, a nurse and/or other healthcare professional is also required.
Legal accountability	
Pharmacy owner or Adjunct Pharmacist	Professional administering the vaccine
Vaccination provided	
<p>National Vaccination Schedule (mandatory):</p> <ul style="list-style-type: none"> <li>• HB (Hepatitis B)</li> <li>• Hib (Haemophilus influenzae type b)</li> <li>• Pneumococcal disease</li> <li>• DTP and DTPa (Diphtheria, Tetanus, Pertussis)</li> <li>• Rotavirus</li> <li>• Influenza</li> <li>• HA (Hepatitis A)</li> <li>• SRP (Measles, Rubella, Mumps)</li> <li>• Varicella</li> <li>• VPH (Papilloma virus)</li> <li>• FA (Yellow fever - only jurisdictions at risk)</li> </ul> <p>The above vaccines can be administered according to the recommended age and vaccination schedule.</p> <p>Other vaccinations are only available in public hospitals and health centres.</p>	<p>National Vaccination Schedule (mandatory):</p> <ul style="list-style-type: none"> <li>• BCG (Tuberculosis)</li> <li>• HB (Hepatitis B)</li> <li>• Hib (Haemophilus influenzae type b)</li> <li>• Pneumococcal disease</li> <li>• DTP and DTPa (Diphtheria, Tetanus, Pertussis)</li> <li>• OPV (Polio)</li> <li>• Rotavirus</li> <li>• Influenza</li> <li>• HA (Hepatitis A)</li> <li>• SRP (Measles, Rubella, Mumps)</li> <li>• Varicella</li> <li>• VPH (Papilloma virus)</li> <li>• FA (Yellow fever - only jurisdictions at risk)</li> <li>• FHA (Argentinian haemorrhagic fever - only jurisdictions at risk)</li> </ul> <p>Other vaccines:</p> <ul style="list-style-type: none"> <li>• Cholera</li> <li>• Leptospirosis</li> <li>• Meningococcal meningitis</li> <li>• Rabies</li> <li>• Typhoid fever</li> </ul>

Administration of vaccines in:	
Community pharmacies	Public hospitals, health centres
Vaccination requirements	
<p>Prescription: Not required for vaccinations included in the National Vaccination Schedule (except if the child's age is different from the recommended vaccination age or is under a specific treatment). Prescription required for all other vaccinations.</p> <p>Certified/accredited pharmacist training: Yes</p> <p>Vaccination record: Yes</p> <p>Specifications on premises, equipment, material and waste management: Yes</p> <p>Other: implementation of immunisation protocols, good practice, standing orders and guidelines. Some requirements depend on jurisdiction.</p>	<p>Prescription: Not required</p>
Vaccination rates	
<p>No official pharmacy national vaccination rates data; only for pharmacies participating in PAMI vaccination campaigns.</p>	<p>Official data from the Ministry of Health published in 2013 regarding public vaccinations only:<sup>2</sup></p> <ul style="list-style-type: none"> <li>• Vaccination coverage rate for the 3rd dose of quintuple vaccine (DPT-Hib-HepB) in children &lt; 1 year – 93.9%.</li> <li>• Vaccination coverage rate for the 3rd dose of polio vaccine in children &lt; 1 year – 90.0%.</li> <li>• Vaccination coverage rate for BCG vaccine (unique dose) in children &lt; 1 year – 100%.</li> <li>• Vaccination coverage rate for the triple viral vaccine (Measles- Rubella-Mumps) in children &lt; 1 year – 93.6%.</li> </ul>
Vaccination supply	
<p>Vaccines included in the National Vaccination Schedule are purchased directly from pharmaceutical industries or wholesalers by the Ministry of Health (usually by tender) and supplied free of charge to pharmacies. Other vaccines are purchased by pharmacies directly from pharmaceutical industry/wholesalers.</p>	<p>Vaccines included in the National Vaccination Schedule are purchased directly from pharmaceutical industries or wholesalers by the Ministry of Health (usually by tender) and supplied free of charge to public hospitals and health centres. In addition, cholera, leptospirosis, meningococcal meningitis, rabies and typhoid are also provided free of charge.</p>
Vaccination payment and reimbursement	
<p>Patients pay for the pharmacy service which includes administration of the vaccine. Reimbursement programmes with the social insurance may apply. Influenza and Pneumococcal vaccines are administered free of charge to children between 6 and 24 months, pregnant women, at-risk patients and people over 65, PAMI and the Medical Work Assistance Institute of the Province of Buenos Aires (IOMA) associates.</p>	<p>Vaccines included in the National Vaccination Schedule are administered free of charge. Influenza and Pneumococcal vaccines are administered free of charge to children between 6 and 24 months, pregnant women at-risk patients and people over 65 or PAMI and IOMA associates.</p>

### 3.1.3 Training of the pharmacy workforce

Pharmacists who wish to administer vaccines in their pharmacy premises must ensure the certification and the approval of refresher courses in the immunisation subject, approved by the competent authorities, including the COFA and by the various Colleges which make specific courses available. Colleges in Argentina are regional associations (i.e. branches of COFA). All healthcare professionals providing vaccination services must have the required knowledge and apply the current vaccination standards for the administration of vaccines, cold chain and biosafety. There is a range of training courses available across the 24 jurisdictions and therefore contents

may vary significantly. A standard training course may include, for example, 60 hours of face-to-face and/or distance learning on vaccine preservation and confiscation, what to do in case of a power outage, vaccine administration techniques, new vaccines and strains, warnings and precautions, surveillance of events supposedly attributable to vaccination and immunisation (ESAVI) and anaphylaxis. Although refresher requirements are not defined, annual updates on the training contents are provided.

Training of the pharmacy workforce	
Contents	Contents vary significantly across the different training providers and may include general immunisation concepts, National Vaccination Schedule, handling and storage of vaccines, administration of vaccines and injectable medicines; allergic reactions and anaphylaxis.
Certification/accreditation	Training is accredited by the Pharmaceutical Confederation Argentina (COFA) and by the various Colleges which make specific courses available.
Providers	Various Colleges and Associations across Argentina
Requirement	Mandatory
Level	Continuous Professional Development
Training duration	Depends on the training course and provider
Cost	Paid by employers or individual pharmacists. Costs can vary with the training provider. The online training for the PAMI campaign is free and with certification.
Refresher requirements	None

### 3.1.4 Tools and resources available to pharmacy professionals

The [National Administration of Medicines, Food and Medical Technology \(ANMAT\)](#) provides a range of up-to-date information on immunisation including the strains recommended for influenza vaccines for each vaccination season, the available vaccine trademarks and batches as well as alerts on withdrawals and/or transient shortages. There is also information on the National Immunisation Standards and Communication of Adverse Events Supposedly Attributable to Vaccines and Immunisation (ESAVI).<sup>10</sup>

The [COFA website](#) also provides a range of tools and resources to support pharmacy professionals in immunisation activities, including e-learning courses, information on vaccinations, ANMAT alerts and reports of adverse reactions.<sup>3</sup> Moreover, a number of colleges and associations also offer specific support and information for pharmacists and other healthcare professionals providing immunisation services in each jurisdiction across Argentina. The [Information Centre of Pharmaceutical Drugs \(CIMF\)](#) of the College of Pharmacists of the Buenos Aires Province is the responsible for assisting pharmacists and other health professionals who require information to resolve situations arising from the daily practice. It promotes the rational use of medicines through relevant, up-to-date information and databases which are duly processed and efficiently evaluated.<sup>11</sup>

The Ministry of Health, through the [Department for Control of Vaccine-Preventable Diseases \(DiNaCEI\)](#), provides information and advice to all healthcare professionals providing immunisation services; the website includes education and training resources, guidelines and recommendations, alerts, as well as information and resources for vaccination campaigns such as graphic and audio-visual materials.<sup>4,12</sup>

### 3.1.5 Vaccination records

Vaccination records are mandatory in the public sector in Argentina although there is currently no systematic recording in the private sector, including pharmacies. Nevertheless, as defined in the COFA Standard No. 4/04 of 8 October 2012,<sup>9</sup> pharmacies must keep a register of vaccines and injectable medicines administered, organised by month of administration and individualising the identification number, age and gender of the patient, the type and dose of vaccine administered. Vaccinations must also be recorded in a specific [vaccination card](#) which should be given to each patient. Individual certificates of immunisation for children,

adolescents and adults are available from the Ministry of Health website and there is also an international certificate of vaccination or prophylaxis. At present, any recorded vaccination information is not shared across pharmacies; there is also no interaction between the private and public sector. Official data published by the Ministry of Health relates only to the public sector since data from pharmacy-based vaccinations is not officially used nor analysed.

Vaccination records	
Details recorded	<p>Details recorded in the pharmacy register:</p> <ul style="list-style-type: none"> <li>• Individual details: ID number, age and gender</li> <li>• Product details: name/type of vaccine</li> <li>• Administration service details: administration dose and date</li> </ul> <p>Details recorded in patients' vaccination cards:</p> <ul style="list-style-type: none"> <li>• Individual details: name, ID number and address</li> <li>• Product details: name/type of vaccine</li> <li>• Administration service details: administration dose and date, signature and stamp of the professional responsible for the administration, seal of the pharmacy establishment.</li> </ul>
Record format	Paper
Record requirement	Mandatory in the public sector (COFA Standard No. 4/04 of 8 October 2012) <sup>9</sup>
Record storage	In the pharmacy where the administration of the vaccine took place; records must be organised by month of administration.
Record sharing	Vaccination records are not shared
Use of recorded information	Safety and malpractice inspection, surveillance of events supposedly attributable to vaccination and immunisation (ESAVI) or ministerial control inspection.
Minimum record keeping	10 years

### 3.1.6 Advocating for immunisation services in community pharmacies, limitations and challenges

One of the main limitations for further development of pharmacy-based vaccination in Argentina is the limited acceptance and support by the government and by the health system. Currently, pharmacies do not possess suitable vaccine stock for the National Immunisation Programme; moreover pharmacy-based vaccination services are paid by the public and reimbursement programmes only apply in certain situations.

It would also be of value to increase advocacy and promotion of vaccination in pharmacies in Argentina. After the polio epidemic in Argentina, vaccination services were available in all pharmacies; however, the country has seen a decrease in this type of activities since then. There is, to some degree, a lack of confidence by pharmacists to perform immunisation services and activities and therefore robust and integrated pharmacy training would be essential.

At present, in some endemic areas of haemorrhagic fever, pharmacists work very actively and co-ordinately in awareness campaigns with remarkable success; the vaccine is supplied in a 10 multi-dose pack and therefore pharmacists must ensure that they recruit and provide the service to 10 individuals when one pack is opened. Effective immunisation activities such as this should be expanded throughout the country.

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## 3.2 Australia



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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1</sup>	23.5
Population > 65 years (% Total) <sup>1</sup>	14.7
Health expenditure (% GDP) <sup>1</sup>	9.4
Pharmaceutical spending (% Health expenditure) <sup>1</sup>	15.4
Number of community pharmacies <sup>2</sup>	5,456

### 3.2.1 Advocating for immunisation and promoting immunisation services in pharmacies

Pharmacists promote immunisation activities using posters and leaflets as well as on television and radio advertising spots. Pharmacists in Australia are actively involved in immunisation advocacy activities, for example, identifying and advising vulnerable individuals based on their profile and referring them to their physicians to get the vaccine prescriptions. However, historically pharmacists have been excluded from the National Immunisation Program (NIP), which provides funding to jurisdictional governments to procure vaccines listed on the NIP schedule mainly in GP clinics. Thus, the national immunisation campaign has had less of a focus on community pharmacy in comparison to clinics run by nurses and general practitioners.

Pharmacists are encouraged to identify patients that may be at-risk of vaccine-preventable disease and counsel on 'catch-up' vaccination. However, currently, pharmacists do not have access to the Australian Immunisation Register, which records vaccinations administered by doctors and nurses, and therefore pharmacists cannot remind patients' when their next immunisation schedule is due.<sup>3</sup>

### 3.2.2 Administration of vaccines in pharmacies

In Australia, pharmacy based immunisation services is a new service which commenced in 2014, starting with the Queensland Pharmacist Pilot (QPIP). The pilot provided immunisation services for more than 35,000 adults over a two year period.<sup>3</sup> Western Australia (WA) was the first jurisdiction to pass legislation enabling pharmacists to administer the influenza vaccine, followed by South Australia (SA) and New South Wales (NSW) in 2015.

Most recently, in 2016, amendments were made to the Poisons Regulations to allow appropriately trained pharmacists to provide immunisation against influenza in adults over the age of 18 in Tasmania (TAS), Australian Capital Territory (ACT) and Victoria (VIC). In addition, approved pharmacists in Victoria will have access to the National Immunisation Program and the Victorian Government Parent Whooping Cough Immunisation program by 2017.<sup>4</sup>

The legislative requirements governing the administration of vaccines differ between States and Territories. In general, pharmacist immunisers must not be responsible for any other professional activity while providing vaccinations in a pharmacy, including dispensing. Also, guidelines stipulate that a pharmacy staff member who is appropriately trained in first aid and CPR must visually observe the patients who have been vaccinated for 15 minutes post-vaccination. The pharmacist or health care professional administering the vaccine is legally accountable for the service e.g. pre-vaccination screening; administration of vaccine.<sup>5</sup>

Vaccines must be administered in accordance with standards outlined in the current edition of the Australian Immunisation Handbook ([www.immunise.health.gov.au](http://www.immunise.health.gov.au)). While the requirements are jurisdictionally based there are specifications to deliver the service, legislation to enable pharmacists to administer vaccines, guidelines that stipulate pharmacy premise and consultation room requirements, cold chain management, record management, staff training and adverse event management.<sup>5</sup>

Administration of vaccines in primary care in:	
Community pharmacies	Healthcare centres
Healthcare professional(s) administering vaccinations	
Pharmacist or nurse	Doctor or nurse
Legal accountability	
Pharmacy manager and immunising pharmacist	N/A
Vaccination provided	
Determined by jurisdictional legislation <ul style="list-style-type: none"> <li>• Australian Capital Territory, New South Wales, South Australia, Western Australia, Tasmania – influenza</li> <li>• Northern Territory, Queensland– Influenza, measles, pertussis</li> <li>• Victoria – Influenza, pertussis</li> </ul>	<ul style="list-style-type: none"> <li>• BCG (Tuberculosis)</li> <li>• VHB (Hepatitis B)</li> <li>• Hib (Haemophilus influenzae b)</li> <li>• DTPa (Diphtheria, Tetanus, Pertussis / Whooping Cough)</li> <li>• VIP (Polio)</li> <li>• Pn13 (Streptococcus pneumoniae)</li> <li>• MenC (Neisseria meningitides C)</li> <li>• VASPR (Measles, Mumps, Rubella)</li> <li>• HPV (Human papillomavirus)</li> </ul> Travellers' vaccines are available in some specialised healthcare units.
Vaccination requirements	
Prescription: No Certified/accredited pharmacist training: Yes Vaccination record: Yes Specifications on premises, equipment, material and waste management: Yes (differs between jurisdictions)	Prescription: No if provided under the National Immunisation Program. Flu vaccination is also available for high-risk groups for free and not subject to a prescription. Certified/accredited training for nurses: Yes Vaccination record: Yes Specifications on premises, equipment, material and waste management: Yes
Vaccination rates	
Currently not required on the Australian Immunisation Register so exact data not available.	National average of over 90% coverage for most childhood vaccines.
Vaccination supply	
Vaccines are purchased directly from pharmaceutical wholesalers or negotiated directly with the pharmaceutical manufacturer.	Vaccines are purchased directly from pharmaceutical manufacturer by the Federal Government through a tender process.

Administration of vaccines in primary care in:	
Community pharmacies	Healthcare centres
Vaccination payment and reimbursement	
Patients pay privately for vaccines and for the pharmacy service that includes administration of the vaccine.	Flu vaccines are free of charge for patients eligible under the National Immunisation Program. General practice may charge the patient a co-payment for the service.  Travel vaccines are not available through all medical centres. There are some practices that specialise in travel immunisation or alternatively, doctors may provide the patient with a prescription where the patient will need to purchase the vaccine from a pharmacy and return to the practice to have the vaccines administered.

### 3.2.3 Training of the pharmacy workforce

In late 2013, the Pharmacy Board of Australia, which develops standards, codes and guidelines for the pharmacy profession in Australia, confirmed that the administration of vaccines was within the scope of practice of a pharmacist.<sup>6</sup> The recognition by the Board followed the work done by the Advanced Pharmacy Practice Framework Steering Committee, a profession wide multi-stakeholder group, in developing a set of competencies for immunisation by pharmacists which was derived by comprehensively mapping the Australian National guidelines for immunisation education for registered nurses and midwives (2001) with the Canadian Immunisation competencies for health professionals (2008) and reverse mapping with the National competency standards framework for pharmacists in Australia (2010).<sup>7</sup>

The Australian Pharmacy Council (APC) subsequently developed [Standards for the Accreditation of Programs to support Pharmacist Administration of Vaccines](#) (the APC Standards) and Pharmaceutical Defence Limited announced that professional indemnity was offered for pharmacists providing vaccination services. The current Standards, including performance criteria and examples of evidence that must be provided are available here: <https://www.pharmacycouncil.org.au/library/standards/>

The Pharmacy Guild of Australia and The Pharmaceutical Society of Australia developed practice guidelines for pharmacists' immunisation services to ensure consistent service delivery. In general the areas of training that should be covered include:

- Relevant policies, procedures
- How to access all relevant resources, references and forms
- Roles and responsibilities of the staff involved in vaccination service
- Information about vaccines provided under the vaccination service
- Monitoring requirements for the vaccination service
- Adverse events that may occur from a vaccination
- Roles and responsibilities during an emergency situation arising from a vaccination
- Privacy and confidentiality requirements of vaccination programmes.

Pharmacists must maintain current first aid, CPR and anaphylaxis certificates in order to provide the service. In addition, it is recommended that the staff assisting the vaccinator should also complete the anaphylaxis, CPR and first aid courses, to help in the case of any adverse events. In some jurisdictions, it is required that in addition to the pharmacist administering influenza vaccine, a second pharmacy staff member who is appropriately trained must also be present.<sup>7</sup>

Education and Training Requirements for Immunisation Pharmacists				
State	APC Standards	State Government Approval	Refresher training	Other relevant information
NSW	Training must be approved by APC	No	No	-
ACT	Must meet APC Standards	No	No	Must maintain ongoing competence to administer vaccines.
NT	If course not administered by NT Government	Yes	Every 3 years	Pharmacist must complete the NT Department of Health "NT About Giving Vaccines (AGV)" or other course which meets APC accreditation and approved the Chief Health Officer
QLD	Must meet APC Standards	No	Yes – measles vaccine only (refer under relevant information)	Where the time elapsed since initial practical training is more than 12 months and where a pharmacist has not administered at least two subcutaneous measles vaccines in the preceding 12 months, practical refreshment of this subcutaneous injection technique and review of the measles vaccine must be undertaken before administration of a measles-containing vaccine.
SA	Not required to meet APC Standards	Yes	Every 3 years	Participate in immunisation CPD activities
WA	Not required to meet APC Standards	Yes	No	-
TAS	Not required to meet APC Standards	Yes	Must complete 6 hours of immunisation CPD each year	Pharmacists must submit an annual application form to the Tasmanian Government
VIC	Must meet APC Standards	Yes	-	Further training requirements have not yet been announced by Victorian Government As of 8 June 2016.

Currently immunisation training is available post-registration; however intern pharmacists are able to undertake training. In Australia, the pharmacy intern will have completed the pharmacy degree and must undertake further exams and training in the workplace before qualifying as a registered pharmacist. ACT, NSW and QLD intern pharmacists are able to vaccinate under the supervision of a pharmacist who holds a full registration and has completed a recognised immunisation training course.

In the future, the Pharmacy Guild of Australia envisages that immunisation training will be delivered as part of the pharmacist university study course.

Training of the pharmacy workforce	
Contents	Education and administration of vaccines and injectable medicines Basic life support (automated external defibrillation is optional) First aid training
Certification/accreditation	Administration of vaccines and injectable medicines training is recognised and certified by the Australian Pharmaceutical Society.
Providers	Pharmaceutical Society, The Pharmacy Guild of Australia, State Government and other education and training courses that meets jurisdictional requirements.
Requirement	Compulsory
Level	Post-registration (however some pharmacy universities are incorporating into their syllabus).
Training duration	Duration can vary with the training provider.
Cost	Paid by employers or individual pharmacists. Costs can vary with the training provider. PSA and Guild cost for training course: \$550.00.
Refresher requirements	Refer to above table Basic life support – Every 3 years (SA annually).

### 3.2.4 Tools and resources available to pharmacy professionals

The Pharmaceutical Society of Australia and The Pharmacy Guild of Australia provide training courses, webinars and guidelines alongside recommended reference texts such as:

- ‘The Australian Immunisation Handbook’
- ‘National Vaccine Storage Guidelines – Strive for 5’.

### 3.2.5 Vaccination records

When a vaccine is used in the vaccination service of a pharmacy, the record must be retained between seven years from the date of vaccination, apart from the region of Western Australia where the duration is two years. The record may be made electronically in dispensing software or in specific recording software such as the GuildCare Vaccination Recording program. However, it is important to note that a copy of the patient-signed consent form must be retained by the pharmacy and stored in a secure place, regardless of whether other vaccination information is stored electronically.<sup>8</sup>

Vaccination records	
Details recorded	Individual details: patient’s name, address, age, contact details, family doctor’s contact details, date and time of injection administration. Product details: brand, batch, expiry date. Administration service details: name of the professional who initiated and administered the vaccine, the address and contact number of the pharmacist who initiated and administered the vaccine, the accreditation certificate number of the pharmacist who initiated and administered the vaccine and the unique identifying/reference number allocated to administration of the vaccine by the pharmacist and site of administration.
Record format	Electronic and paper format
Record requirement	Mandatory
Record storage	Pharmacy electronic system or paper based if jurisdiction allows

Vaccination records	
Record sharing	ACT - Vaccination records are reported to the ACT Health Department annually. All other jurisdictions do not share records at this point in time
Use of recorded information	Data is used to analyse uptake and demographics of patients who utilised the service.
Minimum record keeping	Tasmania – Seven years WA - Two years NSW - Seven years ACT - Seven years SA - Seven years
Other information	Other information may be recorded in the software, such as the presence of chronic diseases or pregnancy.

### 3.2.6 Outcomes

The data below is based on information from pharmacies utilising Guildcare reporting software.

Outcomes of Flu Vaccination Campaigns		
Campaign year		
2014	2015	2016
Number of participating pharmacies (% total number of pharmacies)		
<2%	7%	14%
Number of pharmacies reporting data		
<2%	7%	14%
Average number of flu shots administered per pharmacy		
115	100	96
Vaccinations administered by pharmacists (% total pharmacy administered vaccines)		
80%	80%	80%
Patient overall service satisfaction		
>98%	>98%	>98%

As not all pharmacies use this software the total numbers of participating pharmacies and vaccinations delivered may be greater than reported.

Since 2014 when trials of pharmacist delivered influenza vaccination began in Queensland, other jurisdictions have gradually initiated pharmacy based immunisation services and began to utilise the software. During and prior to 2014 many pharmacies ran Nurse vaccinator clinics, within the pharmacy, delivering influenza vaccines to patients. 2016 is the first season where most states and territories in Australia have allowed pharmacist delivered influenza vaccination.

### 3.2.7 Advocating for immunisation services in community pharmacies, limitations and challenges

In Australia, currently community pharmacies do not receive any financial support from the government for provision of immunisation services and as such the service is fully funded by community pharmacies and patients are charged a private price. Some banner groups have chosen to engage doctors and immunising

nurses so that they can claim the administration of the vaccine on the Medicare Benefits Scheme (MBS), rather than using a vaccinating pharmacist who cannot claim the service on the MBS. This has created competition between pharmacies on price - those claiming on the MBS can provide an influenza vaccination service for approximately \$9 - \$10 per service and those who provide a privately funded service charge \$20 - \$30 per service.

Other issues include:

- Pharmacist and pharmacy assistant staffing, especially in rural and remote areas;
- Risk of jeopardising the relationship that they have with the doctors, particularly in rural and remote areas;
- Availability of the influenza vaccine;
- Pharmacy premise meeting legislative requirements to provide a vaccination service.

The foremost issue in launching the pharmacy based immunisation service has been resistance from other immunising health professionals, especially doctors and nurse immunisers. Nonetheless, progress has been made in developing pharmacy based immunisation with scope to expand to other common vaccines in children as well as in adults. It would be of great benefit if the Health Authorities shared immunisation records with pharmacies and allowed access to the Australian Immunisation Register.

### 3.2.8 References

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2. Pharmacy Board of Australia (PBA). 2016. Data. Online Access: <http://www.pharmacyboard.gov.au/About/Statistics.aspx> [Accessed 01 May 2016].
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5. Australian Government Department of Health. 2016. Immunise Australia Program. Online Access [www.immunise.health.gov.au](http://www.immunise.health.gov.au). [Accessed 07 May 2016].
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7. Australian Pharmacy Council. 2016. Standards. Online Access: <https://www.pharmacycouncil.org.au/library/standards/> [Accessed 03 June 2016].
8. The Pharmacy Guild of Australia. 2016. Guild Clinical Training. Guidelines for Conducting Pharmacist Initiated and Administered Vaccination Service within a New South Wales Community Pharmacy Environment. Online access: <http://www.guild.org.au/docs/default-source/nsw-branch-public/training-events/guild-training/final-guidelines-for-conducting-vaccination-services-within-community-pharmacy-080416.pdf?sfvrsn=0> [Accessed 10 June 2016].



## 3.3 Belgium



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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1,2</sup>	11.2
Population > 65 years (% Total) <sup>1,2</sup>	18.0
Health expenditure (% GDP) <sup>1,2</sup>	11.2
Number of community pharmacies <sup>3</sup>	4,950

### 3.3.1 Advocating for immunisation and promoting immunisation services in pharmacies

Belgian community pharmacies have always been very much involved in immunisation advocacy. Since the end of the 20<sup>th</sup> century, all childhood vaccines are administered in pre-school and school health centres, with pharmacists playing only a minor role. Adult boost vaccines are very often administered by physicians (GP's) who are provided with the products directly from the regional authority.

The only real exception is seasonal influenza where pharmacists keep playing a very important role for non-institutionalised patients. For instance, during the autumn of 2007, a pilot campaign led by the APB encouraged community pharmacies to actively contribute to raising awareness about the benefits of vaccination against influenza, particularly in diabetic patients.

Later in 2009, in a similar initiative, Belgian pharmacists assisted in identifying diabetic patients based on their medication history and referred patients to their physicians to obtain an influenza vaccine prescription using a specific form. The results of these initiatives were encouraging; between 2006 and 2009 there was an increase in flu vaccination rates for the general population, from 14.8% to 17.3%. Among diabetic patients, the vaccination rate increased from 45.6% to 48.6%; for diabetic patients younger than 50 years old the vaccination rate increased from 12.7% to 16.6%.<sup>4,5</sup> In each of these campaigns, pharmacists aligned with the national or regional vaccination programmes, particularly aimed at chronically ill, pregnant women, or healthcare personnel.

### 3.3.2 Administration of vaccines in pharmacies

The current legislation in Belgium does not authorise pharmacists to administer vaccines to patients. Although there may be a public health advantage (since pharmacists see in the pharmacy at-risk patients who do not consult medical doctors) the pharmacy workforce is hesitant in developing this role. In addition, there is limited support by other healthcare professionals, in particular GPs.

### 3.3.3 Training of the pharmacy workforce

As administration of vaccines does not take place in the pharmacies, no specific immunisation training has yet been organised or planned. There is, however, a yearly communication to pharmacists about the influenza vaccine its composition and high-risk patient groups.

### 3.3.4 Tools and resources available to pharmacy professionals

Pharmacy professionals have two main sources for tools to help them advocating for influenza vaccination: regional authorities often provide posters and brochures; professional associations such as APB often disseminate pharmacy-specific tools (video, print and online).

### 3.3.5 Vaccination records

Currently community pharmacies collect, store and manage electronic records of flu vaccine deliveries. The information is recorded locally, and shared nationally on a voluntary basis (subject to the patients' permission) across community pharmacies. Pharmacists can use vaccination records, for example, to verify and remind patients of their vaccination status and when their next vaccination is due. The management of electronic records for other vaccinations in addition to flu is currently undertaken by physicians and by schools (children vaccinations only); extension to this service to include community pharmacies is under development.

Vaccination records in pharmacies	
Details recorded	Patient's details: name, age, co-medication Vaccine details: name, batch, expiry date Vaccination administration details: prescriber's details
Record format	Electronic
Record requirement	Mandatory
Record storage	Pharmacy electronic system
Record Sharing	Records are nationally shared between pharmacies, on a voluntary basis, after patient's consent
Use of recorded information	Identify patients "at risk" and advise about immunisation Remind patients of their vaccination status and when the next vaccination is due
Minimum record keeping	10 years

### 3.3.6 Advocating for immunisation services in community pharmacies, limitations and challenges

One of the main challenges for the development of pharmacy-based vaccination services is the limited acceptance and support by other healthcare professionals. For example, the Belgian Association of Medical Unions (BVA) presents practical objections identifying pharmacies as busy environments that are not equipped to provide vaccination services.<sup>6</sup> Moreover, there is lack of confidence by pharmacists to perform immunisation services and activities since they are not being fully trained to administer vaccinations.

### 3.3.7 References

1. Organisation for Economic Co-operation and Development (OECD). 2016. Online access: <https://data.oecd.org/> [Accessed 13 Jan 2016].
2. The World Bank Group. 2014. The World Bank Website: Data. Online access: <http://data.worldbank.org/> [Accessed 13 Jan 2016].
3. Association Pharmaceutique Belge (APB). 2016. La pharmacie - Nombre de pharmacies. Brussels: Association Pharmaceutique Belge (APB). Online access: <http://www.apb.be/fr/corp/sante-publique/la%20pharmacie/Pages/nombre-de-pharmacies.aspx> [Accessed 25 Mar 2016].
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6. Belga. 2015. Gripprik door apotheker is niet wettelijk. Online access: [http://www.standaard.be/cnt/dmf20150929\\_01892654](http://www.standaard.be/cnt/dmf20150929_01892654) [Accessed 05 Oct 2015].

## 3.4 France



Contributors:

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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1,2</sup>	66.5
Population > 65 years (% Total) <sup>1,2</sup>	18.7
Health expenditure (% GDP) <sup>1,2</sup>	11.7
Number of community pharmacies <sup>3</sup>	22,510

### 3.4.1 Advocating for immunisation and promoting immunisation services in pharmacies

Pharmacists are encouraged to participate in national immunisation campaigns and to provide information to patients; every year, the Ministry of Health publishes vaccination calendars containing information about vaccination schedules and ages. The ONP, through its organisation [Cespharm](#), disseminates these and produces and distributes leaflets explaining facts about immunisation and its benefits.<sup>4,7</sup>

During September of 2010, a campaign was organised to educate patients about vaccination and to invite them to discuss any immunisation issues with healthcare professionals, including pharmacists. This campaign was co-organised by the [ONP](#) in collaboration with several pharmaceutical associations, scientific societies and the association of pharmaceutical industries ([Leem](#)). Pharmacies were provided with vaccination education materials, posters and leaflets;<sup>4,7</sup> one [poster](#) was specially designed to disseminate the role of pharmacists in immunisation through the message “There is no vaccine against misconceptions; for vaccines go to your doctor or pharmacist”. In July 2016 the ONP published a [booklet](#) containing complete information on immunisation. This brochure was distributed to all pharmacists and stakeholders.<sup>8</sup>

### 3.4.2 Administration of vaccines in pharmacies

The current legislation in France does not authorise pharmacists to administer vaccines to patients and these are undertaken by physicians, midwives or nurses in hospitals, public vaccination centres, mother and child protection centres (for children under 7 years old), occupational health services, and vaccination centres for travellers. Most vaccinations administered by nurses require prescription, except against influenza for which only the first vaccination requires a prescription and except for pregnant women and minor children. Provision of pharmacy-based vaccination would increase accessibility as well as national capacity for response to pandemic risks without compromising the service quality.<sup>9</sup>

### 3.4.3 Training of the pharmacy workforce

Training in immunisation is undertaken during undergraduate pharmacy studies. Voluntary training is available post-registration; however, it does not include training for administration of vaccines since pharmacists are not legally authorised to vaccinate in France.

### 3.4.4 Tools and resources available to pharmacy professionals

[Cespharm](#) provides support to pharmacists and their activities on immunisation by supplying communication tools leaflets and brochures to facilitate information dissemination to patients.<sup>4-6</sup> Information and support is also available from the Ministry of Health through the Institut national de prévention et d'éducation pour la santé (INPES), which is now the [Agence nationale de Santé Publique](#), and the regional public health Agencies (ARS).

### 3.4.5 Vaccination records

Currently community pharmacies collect, store and manage electronic records of all medicines including vaccines. The information is recorded on a voluntary basis (subject to the patients' permission) and nationally shared across community pharmacies; the system was recently extended to hospital pharmacists and physicians. Pharmacists can use vaccination records, for example, to remind patients of their vaccination status and when their next vaccination is due. The management of electronic records for other vaccinations is currently undertaken by physicians and by schools (children vaccinations only).

Vaccination record in pharmacies	
Details recorded	Patient's details: name, age, medication Medicines' (including vaccines) details: name Date of dispensing in the pharmacy
Record format	Electronic
Record requirement	Optional – patients provide details on a voluntary basis
Record storage	Local pharmacy electronic system and on two identical servers in order to allow the sharing
Record Sharing	Records are nationally shared between community pharmacies and hospitals
Use of recorded information	Identify patients “at risk” and advise about immunisation Remind patients of their vaccination status and when the next vaccination is due
Minimum record keeping	21 years

### 3.4.6 Advocating for immunisation services in community pharmacies, limitations and challenges

The National Academy of Pharmacy<sup>9</sup> published an argument supporting the development of pharmacy vaccination services. Currently, around 10 million of people in France purchase their vaccine at the pharmacy and they are then vaccinated by their doctor or nurse without prior consultation. In 2008/2009, the flu vaccination coverage was 65% for patients over 65 years and only 52% in 2013/2014, a percentage significantly below the European target of 75 % in all groups. For this reason the Académie Nationale de Pharmacie (ANP) states that this underlies the need to implement strong public health measures, including vaccination services in pharmacies, in the attempt to improve vaccination coverage in France. In July 2016 the ONP published a [booklet](#) containing complete information on immunisation.<sup>8</sup>

One of the main challenges for the development of pharmacy-based vaccination services is the limited acceptance and support by other healthcare professionals, in particular physicians and nurses. Moreover, there is lack of confidence by pharmacists to perform immunisation services and activities since they are not being fully trained to administer vaccinations.

### 3.4.7 References

1. Organisation for Economic Co-operation and Development (OECD). 2016. Online access: <https://data.oecd.org/> [Accessed 13 Jan 2016].
2. The World Bank Group. 2014. The World Bank Website: Data. Online access: <http://data.worldbank.org/> [Accessed 13 Jan 2016].
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## 3.5 Ireland



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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1,2</sup>	4.6
Population > 65 years (% Total) <sup>1,2</sup>	12.1
Health expenditure (% GDP) <sup>1,2</sup>	8.9
Number of community pharmacies <sup>3</sup>	1,807
Number of registered pharmacists <sup>3</sup>	5,626

### 3.5.1 Advocating for immunisation and promoting immunisation services in pharmacies

Community pharmacists in Ireland have been authorised to administer the influenza vaccination, and have been actively involved in the national seasonal influenza vaccination campaign, since 2011. As the representative group for community pharmacies in Ireland, the Irish Pharmacy Union (IPU) designs, produces and disseminates leaflets and posters to advertise flu vaccinations in pharmacies; it also produces radio ads which are aired during the flu season to highlight the pharmacy vaccination service. The National Immunisation Office (NIO) and the Health Service Executive (HSE) also have their own radio ads and leaflets to highlight the flu vaccination campaign and their message is to get the flu vaccination from the doctor or pharmacist.

### 3.5.2 Administration of vaccines in pharmacies

Pharmacists in Ireland have been legally authorised to administer the seasonal influenza vaccination in registered pharmacies since 2011. The legislation [S.I. No. 525/2011 - Medicinal Products \(Prescription and Control of Supply\) \(Amendment\) Regulations 2011](#) enables trained pharmacists to supply and administer the seasonal influenza vaccine, at registered pharmacies, without the requirement for a prescription.<sup>4</sup> In order to provide this service, pharmacists must have completed accredited Influenza Vaccination training; pharmacists are currently only trained to administer the influenza vaccine to those persons 18 years and older. The legislation also enables pharmacists to supply and administer adrenaline for the emergency treatment of anaphylactic shock arising from the flu vaccine.

In October 2015, an amendment to the legislation was made to enable pharmacists to also administer the pneumococcal vaccine and herpes zoster (shingles) vaccine ([S.I. No. 449 of 2015 - Medicinal Products \(Prescription and Control of Supply\) \(Amendment\) \(No.2\) Regulations 2015](#)).<sup>5</sup> From July 2016 a new modular system of training will be in place to equip pharmacists with the necessary skills and knowledge to safely administer these vaccines. The training takes account of previous training and experience that many pharmacists have from providing an influenza vaccination service.

Administration of vaccines in:	
Registered pharmacies	Doctor's surgery, hospitals outpatient clinics
Healthcare professional(s) administering vaccinations	
Pharmacist	Doctor, nurse
Legal accountability	
The pharmacist administering the vaccine and the superintendent pharmacist are legally accountable for the vaccination service. The pharmacy owner also has specific responsibilities (these are outlined in section 2.2 of the PSI's Guidance on the Provision of Vaccination Services by Pharmacists in Retail Pharmacy Businesses).	The healthcare professional administering the vaccine.
Vaccination provided	
Seasonal influenza, pneumococcal and shingles (>18 years old).	<p>National Immunisation Schedule</p> <ul style="list-style-type: none"> <li>• BCG - Bacille Calmette-Guérin (TB)</li> <li>• 6 in 1 - Diphtheria, Haemophilus influenzae b (Hib), Hepatitis B, Pertussis (Whooping cough), Polio, Tetanus</li> <li>• PCV - Pneumococcal conjugate                             <ul style="list-style-type: none"> <li>• MenC - Meningococcal C</li> </ul> </li> <li>• MMR - Measles, Mumps, Rubella</li> <li>• Hib - Haemophilus influenzae b</li> <li>• 4 in 1 - Diphtheria, Pertussis (whooping cough), Polio, Tetanus                             <ul style="list-style-type: none"> <li>• HPV - Human papillomavirus</li> </ul> </li> <li>• Tdap - Tetanus, low dose diphtheria and acellular pertussis (whooping cough)                             <ul style="list-style-type: none"> <li>• Flu - Influenza</li> </ul> </li> <li>• PPV - pneumococcal polysaccharide vaccine</li> </ul> <p>Other vaccines that may be provided</p> <ul style="list-style-type: none"> <li>• Hepatitis A and B                             <ul style="list-style-type: none"> <li>• Rabies</li> <li>• Rotavirus</li> </ul> </li> <li>• Varicella Zoster                             <ul style="list-style-type: none"> <li>• Cholera</li> </ul> </li> <li>• Tick-borne encephalitis                             <ul style="list-style-type: none"> <li>• Typhoid fever</li> <li>• Yellow fever</li> </ul> </li> </ul>
Vaccination requirements	
Prescription: No Certified pharmacist training: Yes Vaccination record: Yes Specifications on premises, equipment, material and waste management: Yes, as specified in PSI's Guidance on the Provision of Vaccination Services by Pharmacists in Retail Pharmacy Businesses.	Prescription: No
Vaccination rates	
Seasonal influenza (>18 years old): 53,047 patients were vaccinated across 691 community pharmacies in Ireland in the 2014/15 season and 62,514 patients were vaccinated in the 2015/16 season; this is approximately 10% of the total flu vaccinations administered in Ireland (estimate). Other vaccinations: data not yet available.	The national flu vaccination rate during the 2013-2014 campaign reached 59.2% of people aged 65 and over (patients holding a medical card or GP visit card only). In the two previous seasons this rate was just under 57%. Source: HSE



Administration of vaccines in:	
Registered pharmacies	Doctor's surgery, hospitals outpatient clinics
Vaccination supply	
As part of the HSE's Influenza Vaccination Campaign the influenza vaccine is provided free of charge by the Department of Health for those aged 65 years and over, those in 'at-risk' groups and healthcare staff. The HSE National Cold Chain Service provides scheduled deliveries of the vaccine direct to registered pharmacies signed up to the service. Vaccines for individuals outside of these groups are obtained through the private market and paid for by the patient.	The NIO oversees the implementation of the national immunisation programme of the HSE and is responsible for the procurement and distribution of vaccines used in publicly funded programmes. The National Cold Chain Service delivers vaccines for publicly funded programmes to doctor's surgeries, hospitals, Local Health Offices and pharmacies with validated temperature records up to the point of delivery. Other vaccines can be sourced from the vaccine manufacturer or local pharmacy.
Vaccination payment and reimbursement	
'Medical card' holders or 'GP visit card' holders (which are schemes for assistance with medical care) who are over 65 or in an 'at risk' group can receive the vaccine free of charge from pharmacies. Pharmacists then claim a fee for providing this service from the Primary Care Reimbursement Service (which is part of the HSE). Pharmacists are permitted to charge a fee to vaccinate patients that do not have a medical card or GP visit card as well as the cost of the vaccine itself.	The national immunisation programme of the HSE is a publicly funded programme. Travel vaccinations have to be paid for by the patient.

### 3.5.3 Training of the pharmacy workforce in immunisation

Prior to October 2015 pharmacists were only permitted to supply and administer the influenza vaccine. The training requirements up until the 2015/2016 influenza season (September 2015-April 2016) were as follows: pharmacists administering the seasonal influenza vaccine had to successfully complete training approved by the Council of the PSI and accredited by the [Irish Institute of Pharmacy](#) (IIOP). Training requirements were set by the PSI and based on previous vaccination experience. "Ab initio training for first-time vaccinators" consisted of online pre-reading to be completed before attending a full day face to face training course. The face to face course included core practical skills for vaccine administration, information on the influenza virus and vaccine, and training on anaphylaxis management including CPR. At the end of this course pharmacists completed an assessment to achieve a certificate which enabled them to provide a flu vaccine service in their pharmacy.

Where Ab initio training had been completed, the next year, to build on the acquired knowledge and skills pharmacists completed Refresher Level 1 training. This consisted of a self-study online module, plus a live face to face component (half day) on core practical skills of vaccine administration and assessment to build confidence and competence in proper vaccine administration and technique. It also highlighted the vaccine products specific to the year of administration. At the end of this course pharmacists completed an assessment to achieve a certificate of completion. Refresher Level 1 training also included a live component and assessment of CPR and adrenaline administration. Where pharmacists completed both these courses and vaccinated for at least 2 consecutive years they completed Refresher Level 2 training, an online self-study module with assessment to achieve a certificate of completion.<sup>6</sup>

Training of the pharmacy workforce	
Contents	Information on the influenza virus and vaccine; Administration of vaccines and injectable medicines; Anaphylaxis management with cardiopulmonary resuscitation (CPR).
Certification/accreditation	Training accredited through the IOP and approved and recognised by the Council of the Pharmaceutical Society of Ireland.
Providers	Hibernian Healthcare Ltd.; Boots Ireland Ltd.
Requirement	Training is mandatory and depends on previous training and vaccination experience level.
Level	Post-registration
Training duration	Ab initio training for new vaccinators is a one-day face to face event, Refresher Level 1 is a half day event provided by the training providers every July and August. The online reading and Refresher level 2 modules also go live at this time of year with up to date information for the upcoming influenza season which is roughly from September to April in Ireland.
Cost	Ab initio training course and Refresher level 1 training course both include a live, face to face component which is paid for by the pharmacist; Refresher Level 2 is an online course and is provided free of charge via the IOP website.
Refresher requirements	Where Ab initio training has been completed, and the pharmacist has vaccinated in one previous year, Refresher level 1 must be completed. Where Ab initio training has been completed and the pharmacist has vaccinated in two of the previous years, Refresher level 2 must be completed.

This training programme has been superseded due to an amendment in the legislation (SI 449/2015) which came into force in October 2015. This legislation authorises pharmacists to supply and administer two additional vaccines: pneumococcal and herpes zoster vaccine.<sup>5</sup> From July 2016 a new modular training structure will be in place which consists of foundation courses ('CPR', 'Responding to Emergency Situations & Management of Anaphylaxis', 'Parenteral Medicines Administration' and 'Delivery of a Vaccination Service') and online modules related to each vaccine. This new training structure is available through the PSI website. Training courses are currently undergoing accreditation by the IOP, before being approved by the PSI.

Under the new training structure, all online courses will be provided to pharmacists free of charge. CPR training and training on 'Parenteral Medicines Administration' are live face to face courses paid for by the pharmacist.

### 3.5.4 Tools and resources available to pharmacy professionals

The PSI has issued [Guidance on the Provision of Vaccination Services by Pharmacists in Retail Pharmacy Businesses](#) which provides support to pharmacists delivering a vaccination service under the legislation.<sup>6</sup> In addition, the National Immunisation Advisory Committee (NIAC) prepares [Immunisation Guidelines for Ireland](#) which are regularly updated and published by the NIO on behalf of the Department of Health. These guidelines are intended for doctors, nurses, pharmacists, paramedics, those involved in travel health and in the promotion and implementation of Ireland's immunisation programmes.<sup>7</sup> The NIO provides up to date information leaflets for the public and publications, guidelines and information leaflets for healthcare professionals, including [A Practical Guide to Immunisation](#).<sup>8</sup> Current information is available on HSE's [NIO website](#).

### 3.5.5 Vaccination records

The pharmacist who has administered a vaccine under the legislation must record details (set out in the legislation) of each administration in a register kept for that purpose. This record must be preserved by the pharmacy owner for at least eight years; for the first two years this record must be kept at the pharmacy premises and available for inspection. In addition, a copy of the particulars in the vaccine administration record must be forwarded, by electronic means or otherwise, to the HSE and to the patient's GP (where provided by the patient) within seven days of the administration. The details recorded include the name, address, date of birth, gender and personal public service number of the person to whom the product was administered; the name, dosage, marketing authorisation number, batch number and expiry date of the product; the name and registration number of the pharmacist administering the vaccine, the pharmacy's address, the name, address and contact particulars of the GP and confirmation that consent was obtained from the patient prior to administration of the vaccine.

The HSE has developed an online system which compiles statistics and trend analyses of the vaccinations services provided. Future development of this website will include a live electronic health system where health information for all patients, including vaccination data, will be stored and shared enabling pharmacies to confirm, for example, patients' immunisation status.

Vaccination records	
Details recorded	Date of administration, patient's details: name, gender, date of birth, address and personal public service number (if provided); name, address and contact details of their GP (if provided). Vaccine details: name, dosage, expiry date, marketing authorisation and batch number. Vaccination administration details: pharmacist's name and registration number; address of the pharmacy premises where vaccine administered; administration date. Confirmation that consent was obtained from the patient prior to the administration of the product.
Record format	In a register kept for that purpose or if administration details are recorded electronically, there must be a daily print-out which is certified by the pharmacist(s) that administered the vaccine within 24 hours of making the printout.
Record requirement	Mandatory
Record storage	Records relating to the administration of the vaccine, and, if applicable, adrenaline following an anaphylactic reaction to a vaccine must be kept for two years at the pharmacy premises and available for inspection. Records must be stored securely and confidentially for a further 6 years. Information is recorded in a register kept for the purpose by the pharmacy owner; A national record of vaccinations administered by pharmacists is also retained by the HSE.
Record sharing	A copy of the vaccination record must be forwarded to the HSE and to the patient's GP (if details provided by patient); records are not usually shared between pharmacies but can be shared on request with the patient's consent.
Use of recorded information	Records can be retrieved by pharmacists to assess patients' vaccination status.
Minimum record keeping	8 years, 2 of which in the pharmacy premises

### 3.5.6 Outcomes

To date, each year, the PSI has undertaken an evaluation of the seasonal influenza vaccination service provided in pharmacies to analyse trends and to identify any issues needing to be addressed for the following season. During the winter of 2014/2015, 53,047 patients were vaccinated against influenza across 691 pharmacies providing this service. The majority of people seeking pharmacy-led vaccination were considered at-risk

patients (93%) and a significant percentage (23%) had never had this vaccination before. Of the 53,047 vaccines, 46% (24,363 vaccines) were eligible for reimbursement (i.e. at-risk patients with a medical card). It is estimated that in the 2014/2015 flu season, pharmacists administered around 10% of all flu vaccinations in Ireland. This is a significant increase compared to the 9,543 patients vaccinated by pharmacists when they were first authorised in legislation in 2011.<sup>9-11</sup>

In November 2015, the PSI commissioned a project to gain comprehensive feedback from patients on their experience of receiving the seasonal influenza vaccination service in pharmacies across Ireland. 374 patient telephone interviews were conducted with patients who had received the flu vaccine in a pharmacy in the previous month and patient feedback was reported anonymously. 99% of respondents rated their overall satisfaction with the flu vaccination service as either 8, 9 or 10 out of 10, and 99% of respondents said that they would be likely to go to the pharmacist for their flu vaccination again. The main reasons given for attending a pharmacy for a flu vaccination were convenience, efficiency/less waiting time and cost. The evaluation reports can be read in full on [PSI website](#).

Outcomes of Flu Vaccination Campaigns				
Campaign year <sup>9-11</sup>				
2011/12	2012/13	2013/14	2014/15	2015/16
Number of participating pharmacies (% total number of pharmacies)				
484	817	907	691	-
Number of pharmacies reporting data				
1462	944	936	681	-
Number of pharmacy vaccinated patients				
9,543	18,954	40,443	53,047	62,514
Pharmacy vaccinated patients never vaccinated before (% pharmacy vaccinated patients)				
-	27%	24%	23%	13%
Pharmacy vaccinated at-risk patients (% pharmacy vaccinated patients never vaccinated before)				
-	80%	85%	83%	96%

### 3.5.7 Advocating for immunisation services in community pharmacies, limitations and challenges

Initially some pharmacists were hesitant to participate in the flu vaccination service, mainly with concerns about GPs' views on service provision. However, each subsequent year, more pharmacists have participated in this service, and PSI evaluations have shown that pharmacists are providing a safe and effective service which meets the satisfaction of the patients. This service has also been shown to increase the uptake of the flu vaccination in the population.

One of the main challenges associated with vaccination in pharmacies is the cost of service provision; there is a mandatory training requirement for pharmacists administering vaccines and, in addition, a stock of adrenaline has to be kept in pharmacies at all times to be administered in case of emergency treatment of anaphylactic shock following the influenza vaccine.

As previously stated in October 2015 legislation was changed to authorise pharmacists to administer pneumococcal and herpes zoster vaccine.<sup>5</sup> The pneumococcal (PPV23) vaccine is included in the national immunisation programme, however currently pharmacists are not included in the programme for this vaccine. The herpes zoster vaccine is not currently included in the routine national immunisation schedule. Once the approved training has been completed, pharmacists will be able to administer both these vaccines to patients as a private service, outside of the national immunisation programme.

Pharmacists are now delivering around one in ten flu vaccines and these numbers are predicted to grow as the target population widens. There is scope for pharmacists to also immunise children as part of the childhood

vaccination programme however depending on the vaccine, this may require additional training and/or a change to legislation.

### 3.5.8 References

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## 3.6 Philippines



Contributors:

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Disclaimer: the information represents the state in May 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1</sup>	98.4
Population > 65 years (% Total) <sup>1</sup>	3.9
Health expenditure (% GDP) <sup>1</sup>	4.4
Number of community pharmacies <sup>2</sup>	32,443

### 3.6.1 Overview

Details of initiatives and campaigns:

1. Presentation of the PPhA's proposal on pharmacy-based immunisation services to the Food and Drug Administration Director and Department Heads (2014).
2. Presentation of the PPhA's proposal on pharmacy-based immunisation services to the Department of Health national officers (2014).
3. Creation of a multisectoral Core Group on Immunisation under PPhA composed of representatives from patient groups, medical profession (geriatrics), nursing profession, pharmaceutical industry, community and hospital pharmacists, drugstore owners, Food and Drug Administration, and the Department of Health (January 2015). This group will tackle the critical issues on pharmacists' role on adult immunisation.
4. Development of training modules for pharmacists which covers all aspects from the epidemiology, diseases, vaccine products, patient care and implementation guidelines (December 2015).
5. Meeting with the Professional Regulation Commission Board of Pharmacy regarding the accreditation of the training programme on immunisation (on schedule on 2nd Quarter 2016).
6. Development of guidelines and protocols on adult immunisation at the level of pharmacies (on schedule on 3rd Quarter 2016).

### 3.6.2 Administration of vaccines in pharmacies

A number of pharmacies in the Philippines currently host immunisation services, including administration of vaccines but the latter service is undertaken only by doctors and nurses. Pharmacists have been tapped as potential immunisers in 2014 by the Food and Drug Administration.<sup>3</sup> The training for pharmacists to administer adult pneumococcal and influenza vaccines will start this year (2016).

Administration of vaccines in:	
Community pharmacies	Doctors' clinics, rural health units, barangay health stations, district hospitals, provincial and regional hospitals (public and private).
Healthcare professional(s) administering vaccinations	
Doctor and nurse Pharmacists were given immunisation rights in 2014 provided that they received adequate training (which is currently taking place).	Doctor and nurse
Legal accountability	
Doctors and nurses are governed by the Medical Act of 1959 and the Nursing Act of 2010. The proposed Pharmacy Law is now at its 3 <sup>rd</sup> reading in the House of Representatives. It defines the legal role of the pharmacists to immunise.	
Vaccination provided	
For doctors, it covers the total range of vaccines. For pharmacists, it will initially cover influenza and pneumococcal vaccines for adults.	
Vaccination requirements	
Guidelines are being followed for both adult and child vaccination (Annex B).	
Vaccination rates	
For children: 62% of children aged 12-23 months of age for the basic vaccines under EPI. For adults: no available data but anecdotal data points to poor vaccination rates.	
Vaccination supply	
From several multinational companies. Note: no vaccines are produced locally.	
Vaccination payment and reimbursement	
The Department of Health's Expanded Program on Immunisation (EPI) provides free immunisation for children in all public health facilities for tuberculosis, poliomyelitis, diphtheria, tetanus, pertussis, measles, mumps, Rubella, Hepatitis B, and Haemophilus influenzae type B. The Philippine Health Insurance Corporation (PHIC) under its Mother and Child Care includes coverage of or reimbursement for BCG and Hepatitis B vaccination for its members. Adults, on the other hand, are provided discounted vaccine products by PHIC and pharmacies in partnership with the pharmaceutical industry	

### 3.6.3 Training of the pharmacy workforce

Pharmacists have been considered for being granted vaccination rights in 2014<sup>3</sup> and are currently to be trained to administer vaccinations. The training is to be delivered by an immunizing pharmacist (U.S. – certified), nurses, medical doctors and pharmacy educators by the second or third quarter of 2016.

The training will consist of self-study of the six modules, followed by a short face to face review of the course (3 days), and one-day training on administration of vaccines. The final activity is a written exam. The whole process is expected to take one month. The costing for all resources needed for the course is currently being determined.

Training of the pharmacy workforce	
Contents	Public health, immunology and vaccine development, epidemiology of vaccine-preventable diseases, patient care, proper handling and storage of vaccines, and preparation for operating a pharmacy-based immunisation.
Certification/accreditation	Being worked out with the Professional Regulation Commission. No specific accreditation yet.
Providers	Philippine Pharmacists Association
Requirement	Basic Life Support Certificate, Licensed Pharmacist, Certificate of Current employment in an existing Pharmacy
Level	Not yet determined
Training duration	Complete training expected to be undertaken in one month <ul style="list-style-type: none"> <li>• Self-study of six modules + face-to-face review of the course – 3 days</li> <li>• One-day Training on administration of vaccines – 1 day</li> </ul>
Cost	Not yet determined – costing of resources currently being undertaken
Refresher requirements	Every two years

### 3.6.4 Tools and resources available to pharmacy professionals

A training manual has been developed and will be made available to pharmacists who register for the training programme. Standard forms and protocols are to be developed to be used by the pharmacists who will be involved in the immunisation programme. Existing references from the WHO, American Pharmacists Association and other relevant reputable organisations and institutions would also be made available to pharmacists. Continuing education modules on vaccination by pharmacists will be made part of the Nationwide Continuing Professional Education for pharmacists.

### 3.6.5 Vaccination records

Vaccination records are not yet finalised in the Philippines.

### 3.6.6 Advocating for immunisation services in community pharmacies, limitations and challenges

Pharmacies in the Philippines traditionally provide dispensing only services. Therefore, one of the biggest challenges in the country is the poor public acceptance and awareness of immunisation services provided in community pharmacies. The PPhA is leading an initiative in collaboration with other health organisations (e.g. nurses and medical association, the Institute of Ageing) to raise awareness and to promote pharmacists participation in community immunisation campaigns. There is a great opportunity for pharmacies to provide vaccinations, offering adequate and efficient cold chain management and competitive service prices compared to doctors' clinics.

The development of pharmacists' confidence and competency to provide the vaccination service is another challenge that it currently being tackled by offering training opportunities.

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## 3.7 Portugal



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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1,2</sup>	10.4
Population > 65 years (%Total) <sup>1,2</sup>	20.1
Health expenditure (% GDP) <sup>1,2</sup>	8.9
Pharmaceutical spending (% Health expenditure) <sup>1,2</sup>	15.3
Number of community pharmacies <sup>3</sup>	2,885

### 3.7.1 Advocating for immunisation and promoting immunisation services in pharmacies

The reform which allows pharmacies to expand their scope of practice into new areas including immunisation was implemented in 2007. Since then, there has been a strong healthcare promotion of pharmacy immunisation activities using posters and leaflets, especially for flu campaigns, as well as presence on the media, with TV and radio advertising spots, and social media intervention, creating awareness of the benefits of immunisation and advertising the services provided in the pharmacy. Pharmacists in Portugal are actively involved in immunisation advocacy activities, for example, identifying and advising vulnerable individuals based on their profile and referring them to their physicians to get the vaccine prescriptions.

Pharmacists' intervention is focused on vulnerable patients without prescription and patients with prescription. In the first case, pharmacists inform patients about influenza, on some preventive measures and the benefits of immunisation. It is important to advise the patient to have a medical appointment in order to get a more thorough evaluation and a prescription for flu vaccination. In the case where the patient has a prescription, pharmacists dispense the vaccine, inform that the service of immunisation is available in the pharmacy and, if requested by the patient, deliver the service according to procedure and keep a record of the service provided.

Currently pharmacies are able to provide more than ten types of vaccines although most campaigns are focused on flu immunisation. The first national flu vaccination campaign was held during the 2008/2009 autumn/winter season with very encouraging results. Other campaigns were aimed to contribute to the prevention of HPV infection and cervical cancer (in 2009) as well as pneumococcal infection (in 2010 and 2011).

### 3.7.2 Administration of vaccines in pharmacies

In 2007, the Portuguese law extended the scope of services provided by pharmacies, reinforcing pharmacists' involvement in public health. Several services are currently included, such as information campaigns, health education programmes, screening activities, pharmaceutical care programmes, provision of first aid, domiciliary/home support, medicines administration and vaccine administration, as set out in the [Governmental Decree \(Portaria\) 1429/2007, 2<sup>nd</sup> November](#).<sup>4</sup>

To avoid overlapping with the mandatory National Health Service Vaccination Plan, the role of pharmacists is considered supplementary since they are only able to administer vaccines outside of the scope of the NHS vaccination plan, such as influenza, pneumococcal, human papillomavirus and hepatitis B (the latter depending on the patient’s age). The services that each pharmacy chooses to implement need to be clearly visible in the pharmacy, including information about schedules and cost. Additionally, records of the service provision must be noted and kept for traceability purposes.

The [Deliberation 139/CD/2010](#)<sup>5</sup> of the National Authority of Medicines and Health Products (INFARMED), as amended by [Deliberation 145/CD/2010](#)<sup>6</sup>, determines that the responsibility of the vaccination process lies on the pharmacy manager (pharmacist responsible for all the professional activities within the pharmacy) and must be performed either by a trained pharmacist or by a nurse that is exclusively hired for this purpose. These legislations also detail the mandatory requirements for the provision of immunisation services in community pharmacies, including specifications on the premises (private room with a minimum of 7m<sup>2</sup>), equipment, material and waste management.

Administration of vaccines in:	
Community pharmacies	Healthcare centres
Healthcare professional(s) administering vaccinations	
Pharmacist or nurse	Nurse or physician
Legal accountability	
Pharmacy manager	N/A
Vaccination provided	
<p>Vaccinations not included in the National Health Service Vaccination Plan:</p> <ul style="list-style-type: none"> <li>• Cholera (Dukoral®)</li> <li>• Diphtheria, Tetanus and Pertussis (Boostrix®)</li> <li>• Meningococcal (Menveo®; Bexsero®)</li> <li>• Pneumococcal (Pneumo 23®; Prevenar®; <u>Prevenar 13®</u>; Synflorix®)</li> <li>• Tick-borne Encephalitis (FSME-IMMUN®)</li> <li>• Japanese-Encephalitis (Ixiaro®)</li> <li>• Yellow Fever (Stamaril®)</li> <li>• Typhoid Fever (Typhim Vi®; Typherix®)</li> <li>• Influenza (Fluarix®; Influvac®; Istivac®)</li> <li>• Hepatitis A (Epaxal®; Havrix® 720 Júnior; Havrix® 1440 Adulto; VAQTA®)</li> <li>• Hepatitis B (<u>Engerix B®</u>)</li> <li>• Hepatitis A and B (Twinrix®)</li> <li>• Human Papillomavirus (Cervarix®; <u>Gardasil®</u>)</li> <li>• Rabies (Rabipur®)</li> <li>• Human rotavirus (Rotarix®; RotaTeq®)</li> <li>• Varicella (Varivax®; Varilrix®)</li> <li>• Herpes Zoster (Zostavax®)</li> </ul> <p>*Underlined vaccines are included in the NHS vaccination plan but may be administered in the pharmacy to individuals whose age group falls out of the scope of the NHS vaccination plan.</p>	<p>National Health Service Vaccination Plan:</p> <ul style="list-style-type: none"> <li>• BCG (Tuberculosis)*</li> <li>• VHB (Hepatitis B)</li> <li>• Hib (Haemophilus Influenzae b)</li> <li>• DTPa (Diphtheria, Tetanus, Pertussis / Whooping Cough)</li> <li>• VIP (Polio)</li> <li>• Pn13 (Streptococcus pneumoniae)</li> <li>• MenC (Neisseria meningitidis C)</li> <li>• VASPR (Measles, Mumps, Rubella)</li> <li>• HPV (Human papillomavirus)</li> </ul> <p>Travellers’ vaccines are available in some specialised healthcare units.</p> <p>* Since 2016, only for high risk groups</p>

Administration of vaccines in:	
Community pharmacies	Healthcare centres
Vaccination requirements	
Prescription: Yes Certified/accredited pharmacist training: Yes Vaccination record: Yes Specifications on premises, equipment, material and waste management: Yes	Prescription: No. Flu vaccination is also available for high-risk groups for free and not subject to a prescription.
Vaccination rates	
49% (of all administered flu vaccines) <sup>7</sup> Source: CEFAR <sup>a</sup> VACCINATION DATA - SEASON 2014/2015	51% (of all administered flu vaccines) <sup>7</sup> Source: CEFAR <sup>a</sup> VACCINATION DATA - SEASON 2014/2015 95% (average population rate of NHS vaccination plan coverage) <sup>8</sup> Source: GENERAL DIRECTORATE FOR HEALTH – HEALTH MINISTRY 2014 47.2% (population rate > 65 years old that referred taking flu vaccine on the previous year) <sup>9</sup> Source: NATIONAL HEALTH INQUIRY 2014
Vaccination supply	
Vaccines are purchased directly from pharmaceutical wholesalers or negotiated directly with the pharmaceutical industry.	Vaccines are purchased directly from pharmaceutical industry by the state.
Vaccination payment and reimbursement	
Patients pay for vaccines (reimbursement rates apply) and for the pharmacy service of administering the vaccine.	Vaccines from the NHS Vaccination Plan are free of charge. Flu vaccine and administration are free of charge for patients over 65 years old. Travel vaccines are not all available in the healthcare centres; only few places provide these appointments; some pharmacies provide the service and dispense these vaccines.

<sup>a</sup> CEFAR - Centre for Health Evaluation & Research (ANF Group)

### 3.7.3 Training of the pharmacy workforce

Initially in 2008, the Portuguese training model was based on the American Pharmacists' Association (APhA) Certificate Training Program for Pharmacists (Pharmacy-Based Immunization Delivery), in line with the qualifications required by the Centres for Disease Control and Prevention (CDC). Before the definition of the Portuguese training model, the ANF Service Manager for this area participated in the American Program and became certified in Pharmacy-Based Immunization Delivery by APhA in March 2008.

Following the legislation, the national authority for medicines and health products (INFARMED) has delegated on the Portuguese Pharmaceutical Society, through the Deliberations 139/CD/2010<sup>5</sup> and 145/CD/2010<sup>6</sup>, the responsibility to accredit the training of pharmacists for the administration of vaccines and injectable medicines. This training is provided at post-registration level. In 2013, the PPS published guidelines on the Recognition of the training for pharmacists in administration of vaccines and injectable medicines in community pharmacy. These guidelines establish the minimum requirements that all training courses available should have both for the initial training and the training update, every five years.<sup>10</sup> The PPS issues a certificate of pharmaceutical competency in administration of vaccines and injectable medicines, valid for five years, which must be paired with a certification for Basic Life Support (that falls out of the scope of the PPS).

The education and training for the initial certification of the pharmacist in vaccination and administration of injectable medicines involves:

1. Fundamental concepts of immunology;
2. Knowledge about Vaccines and Injectable Medicines;
3. Legislation and Good Practices;
4. Safety procedures (including anaphylaxis counter-measures);
5. Subject approach;
6. Injectable Medicines Administration Techniques.

Even though the theoretical component can be provided through distance learning, the practical training must take place in a live event; real subjects or test dummies (simulators) can be used for training purposes. This practice must never be less than 25% of the whole time of the training.

The ANF training model, for example, fulfils the current requirements by the PPS certification. Pharmacy faculties and students' associations are also starting to offer undergraduate training, although this is not yet a formal subject of the university curricula in all faculties. Undergraduate trainees cannot administer vaccines or injectable medicines with this training since the PPS Competencies Model, which has been recently launched, defines this competency as one that can only be acquired by practicing pharmacists.

Training of the pharmacy workforce	
Contents	Administration of vaccines and injectable medicines; Basic life support (automated external defibrillation is optional).
Certification/accreditation	Administration of vaccines and injectable medicines training recognised and certified by the Portuguese Pharmaceutical Society. Basic Life Support by training provider certified by the National Institute for Medical Emergency (INEM).
Providers	Portuguese Pharmaceutical Society, National Association of Pharmacies, other education and training courses providers.
Requirement	Mandatory
Level	Post-registration
Training duration	Seven hours is the minimum training duration recommended. Although duration can vary with the training provider, it must comply with the minimum content requisites set by the PPS.
Cost	Paid by employers or individual pharmacists. Costs can vary with the training provider.
Refresher requirements	Administration of vaccines and injectable medicines – Every 5 years. Re-certification can be a theoretical update on the state of the art concerning vaccines and injectable medicines. Pharmacists are exempt of further practical training if they are able to provide evidence of professional practice. Basic life support – Every 5 years.

Training covering the administration of vaccines and injectable drugs dates back to 2008. In 2008, the Post-Graduation School in Health and Management (EPGSG) from ANF developed a training programme for pharmacists on immunisation delivery. The objective was to provide skills on vaccine information and administration to support pharmacists in the provision of this service at the pharmacy.

Trained pharmacists							
Year of Training							
2008	2009	2010	2011	2012	2013	2014	2015
Number of pharmacists trained for administration of vaccines/injectable medicines (at EPGSG) <sup>a11</sup>							
1,914	2,456	3,023	3,289	3,433	3,611	3,725	-
Number of PPS certified pharmacists for the administration of vaccines and injectable medicines							
-	-	-	-	-	1,982	2,848	3,061

<sup>a</sup> Cumulative values

As stated above, it was only in 2013 that the PPS started to issue the competency certification following the 2010 regulation of the National Authority for Medicines and Health Products (Deliberation 145/CD/2010). There are currently 3061 certified pharmacists for the administration of vaccines and injectable medicines, under the scope of the PPS (certified from July 2013 to January 2016). However, an estimation of a few hundred pharmacists, who had training between January 2011 and June 2013, still are not certified by the PPS despite their training being valid. The PPS will issue these pharmacists a certificate as their initial training expires (5 year cycle for renewal) and they follow the duty to revalidate this competency.

### 3.7.4 Tools and resources available to pharmacy professionals

In 2008, with the support and in collaboration with physicians and legal advisers, the ANF developed and disseminated a specific intervention model and a set of recommendations for the provision of vaccination services in community pharmacies. Currently, the professional associations ANF and PPS provide support to their member pharmacies and pharmacists, including recommendations and professional tools that guarantee a high quality and safe provision of immunisation. More recently, the PPS launched a book covering the various aspects of vaccine administration, which is freely distributed to pharmacists and may be considered a good practice guideline.<sup>12</sup> In addition, the ANF also developed, in collaboration with physicians, a guideline on anaphylactic events which is available to all pharmacies implementing the immunisation service.

### 3.7.5 Vaccination records

Vaccination records were initially (2008) stored in paper format but since 2012 electronic records were adopted. Currently, the pharmacist can register vaccination service provision in the pharmacy software (SIFARMA). The vaccination record includes patient name, age and gender, the vaccine name and batch used, route of administration, date and administering pharmacist's name. Records are kept in pharmacies' local electronic systems; they are neither nationally shared, nor shared between pharmacies, nor between pharmacies and other vaccination administration sites, such as healthcare centres. However, pharmacies share anonymous data with CEFAR - Centre for Health Evaluation & Research (ANF Group) which are used for research purposes and to analyse the trends in service uptake.

Vaccination records	
Details recorded	Individual details: name, age, gender Product details: name, batch, expiry date Administration service details: name of the professional administering the vaccine, route of administration, administration date, anaphylaxis (yes/no).
Record format	Paper or Electronic
Record requirement	Mandatory
Record storage	Pharmacy electronic system
Record sharing	Pharmacies share anonymous data with CEFAR for research purposes

Vaccination records	
Use of recorded information	Data analysis and evaluation performed by CEFAR - Centre for Health Evaluation & Research (ANF Group)
Minimum record keeping	5 years
Other information	Other information may be recorded in the software, such as the presence of chronic diseases or pregnancy, which may be used in the future to better understand service uptake by high-risk patients other than the elderly.

### 3.7.6 Outcomes

This next table refers to the values of Flu Vaccination Campaigns.

Outcomes of Flu Vaccination Campaigns						
Campaign year <sup>13</sup>						
2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Number of participating pharmacies (% total number of pharmacies)						
1,588 (57.5%)	1,622 (58.7%)	1,703 (61.7%)	1,785 (64.8%)	1,945 (70.3%)	1,818 (65.7%)	2,125 (76.4%)
Number of pharmacies reporting data						
775	1,033	1,053	1,227	971 <sup>a</sup>	2,344 <sup>a</sup>	2,383 <sup>a</sup>
Average number of flu shots administered per pharmacy						
206	284	218	230	117	42	59
% of flu vaccines administered in pharmacies (max. point estimate)						
36.4%	49.7%	44.2%	49.0%	38.0% <sup>b</sup>	40.9% <sup>b</sup>	49.3% <sup>b</sup>
% of flu vaccines administered in pharmacies in patients aged 65 years and older						
50.4%	53.7%	45.0%	43.3%	20.5% <sup>c</sup>	9.8% <sup>c</sup>	10.0% <sup>c</sup>
Vaccinations administered by pharmacists (% total pharmacy administered vaccines)						
91.0%	92.2%	92.0%	93.5%	98.9%	98.5%	98.7%

<sup>13</sup>Source: CEFAR - Centre for Health Evaluation & Research (ANF Group) and the Portuguese Pharmaceutical Society.

<sup>a</sup> Only considered the data recorded in the software SIFARMA.

<sup>b</sup> Changes in the methodology for calculating the influenza immunisation coverage in pharmacies since 2012/13.

<sup>c</sup> Healthcare centres provide the immunisation service free of charge to patients older than 65 since 2012/13.

The number of participating pharmacies in the flu vaccination campaign increases every year. The first 4 seasons show evidence of an increase in major indicators. In the 2012/2013 campaign, healthcare centres started to provide a public flu immunisation service to citizens older than 65 years old. As a consequence, pharmacy vaccination rates decreased by over 20% between the 2011/12 and 2012/13 flu campaigns.

In 2008/2009 a survey of 2,544 patients vaccinated against influenza in pharmacies portrayed a 95% satisfaction with the service provided and 99.5% satisfaction with the pharmacists that administered the vaccine. Other cited aspects included the convenience of the pharmacy opening times, the privacy and the advice provided about flu and vaccinations and the reduced waiting time (an average of 5.1 minutes for the 2008/2009 campaign). This study also showed that 91.4% of the patients did not have to book a vaccination appointment.

Regarding the reasons for choosing the pharmacy, 75.4% indicated the possibility of purchasing and administering the vaccination in the same place, 31.1% because they knew the pharmacist and 21.2% because of the proximity to their home or workplace. Finally, 97.9% said they would opt for pharmacy vaccination in the future and 98% would recommend the pharmacy vaccination service to family and friends.

### 3.7.7 Advocating for immunisation services in community pharmacies, limitations and challenges

The initial limitations to the development of pharmacists' role in immunisation were associated to constraints in the legislation as well as acceptance, support and recognition by other healthcare professionals, in particular by nurses also performing the vaccine administration role. Throughout the years these issues were overcome. In 2007 the government changed the legislation to allow pharmacists to administer vaccinations and pharmacy-led immunisation services are now very well recognised and accepted, including by the general public.

One of the main limitations at present is the prescription requirement for vaccine administration in pharmacies. This is particularly true for flu vaccinations, for which there is a significant accessibility difference between community pharmacies and healthcare centres. In 2012 the government launched a measure allowing patients over 65 years old to be vaccinated against influenza in health centres without a prescription and free of charge. This measure was not implemented in community pharmacies and therefore the same service required a product prescription. In addition, the limited financial support and lack of remuneration programmes provided to pharmacies meant that patients had to continue paying for the vaccines and their administration. As a consequence, there are studies showing that during the autumn/winter season of 2012/2013, the percentage of pharmacy flu vaccinated patients over 65 dropped almost 30% compared to the previous year.<sup>14</sup>

Nonetheless, the vaccination rate in pharmacies is valuable and a significant number of patients, including the elderly, continuously seek the vaccination service from pharmacies due to the reduced waiting time and the confidence that patients place on the pharmacist.<sup>15</sup> It would be, however, of great benefit if the Health Authorities considered allowing qualified community pharmacists to administer flu vaccines to high-risk patient groups (for example, patients aged 65 years and older) without prescription and under similar protocols and requirements as healthcare centres. The ANF is leading an initiative to stimulate collaborations and further developments for integrating pharmacies in the National Influenza Immunisation Campaign.

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## 3.8 South Africa



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Disclaimer: the information represent the state in May 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1</sup>	54.0
Population > 65 years (% Total) <sup>1</sup>	5
Health expenditure (% GDP) <sup>1</sup>	8.9
Number of community pharmacies <sup>2</sup>	3,136

### 3.8.1 Advocating for immunisation and promoting immunisation services in pharmacies

At a time when the World Health Assembly (WHA) has designated the period from 2011 to 2020 the “Decade of Vaccines”, it is important that all healthcare professionals, including pharmacists, should assist in ensuring access to immunisation services. Pharmacists’ engagement with immunisation services varies with each practice setting in South Africa and a range of activities can be undertaken including distributing vaccination leaflets, educating and advising the public and other health care professionals about immunisation. Pharmacists may also participate in multi-disciplinary immunisation campaigns, while some serve on immunisation advisory committees.

Many community pharmacies operate a primary healthcare clinic within the pharmacy. Either the pharmacist or a nursing sister performs a number of services, including administration of vaccines. By keeping appropriate records, the pharmacist may assist in verifying people’s vaccination status and may remind people, particularly parents, when the next vaccination is due.

Other activities include advocating paediatric immunisation, alerting travellers about immunisation before international travel and identification of high risk patient groups. Individual pharmacists in both community pharmacy and the public sector may participate in some or all activities. Periodically, mass immunisation campaigns are implemented to ensure maximum immunisation coverage during sporadic outbreaks of communicable diseases.

#### Example of local activities

South Africa follows the WHO’s vaccine programme, and many local authorities use immunisation as one of their indicators for achievement of the child development index. It is one of the priority interventions that has great impact on reducing child mortality.

The South African Expanded Programme on Immunization (EPI-SA) provides for implementation of the WHO’s strategies for polio measles eradication.<sup>34</sup> While campaigns vary from district to district depending on the need, many local authorities have had campaigns focusing on giving measles and polio vaccines to as many children as possible in a short period of time. In particular, they make an effort in underserved areas where routine immunisation services may not reach all children. During May and June 2014, for example, the City of Tshwane conducted an immunisation catch-up campaign.

The National Department of Health, assisted by implementation by provincial and local authority health services, as well as private sector healthcare providers, including community pharmacists, regularly runs immunisation campaigns for flu vaccines, targeting people at high risk of serious complications.

Since the introduction of the Human Papillomavirus vaccine into the EPI-SA, a number of campaigns have been held targeting girls from the age of 9 years.

### 3.8.2 Administration of vaccines in pharmacies

Trained pharmacists and other healthcare professionals, such as nursing sisters, are legally authorised to administer vaccines in South African pharmacies. Vaccination in pharmacies was never specifically forbidden in South Africa - pharmacists were never prevented from administering an injection although they were, and still are, not permitted to perform services for which they are not adequately trained or experienced to undertake. Initially most vaccines, other than polio and yellow fever, fell into Schedule 2 or below, which meant that they could be sold by the pharmacist without a prescription. The six most commonly used were for polio, diphtheria, tuberculosis, pertussis, measles and tetanus. Since then this list has been considerably extended. The Department of Health is committed to achieving the millennium development goal (MDG4) of reducing child mortality by implementing a robust National Expanded Programme for Immunization (EPI). Pharmacists must therefore be familiar with the instructions, requirements and guidelines of the EPI.<sup>3,4</sup>

Administration of vaccines in:	
Community pharmacy	Public sector healthcare clinics
Healthcare professional(s) administering vaccinations	
Pharmacist or nurse	Doctor or nurse
Legal accountability	
Responsible pharmacist, who may or may not be the pharmacy owner, and the professional administering the vaccine	
Vaccination provided	
EPI vaccines plus MMR (Mumps, Measles, Rubella) and the seasonal influenza vaccine	EPI vaccines <sup>3,4</sup> <ul style="list-style-type: none"> <li>• Oral Polio Vaccine</li> <li>• BCG</li> <li>• Rotavirus</li> <li>• Diphtheria</li> <li>• Tetanus</li> <li>• Pertussis</li> <li>• Haemophilus influenzae type b</li> <li>• Hepatitis B</li> <li>• Conjugated Pneumococcal vaccine</li> <li>• Measles</li> <li>• Human Papillomavirus</li> </ul> Note: A number of these are contained in combination products, e.g. DTaP, DTaP-IPV/Hib, DTaP-IPV-Hib-HBV Additional vaccine: Seasonal influenza vaccine

Administration of vaccines in:		
Community pharmacy	Public sector healthcare clinics	
Vaccination requirements		
<p>Prescription: No prescription is required for the EPI vaccines, the MMR or the seasonal influenza vaccine. A prescription is necessary for other vaccines that are used by doctors in the private sector, i.e. Meningococcal Conjugate Vaccine, Rabies, Varicella and Hepatitis A.</p> <p>Certified/accredited pharmacist training: Not necessarily at this stage</p> <p>Vaccination record: Yes</p> <p>Specifications on premises, equipment, material and waste management: Yes</p> <p>Requirements as set out in the Good Pharmacy Practice (GPP) Manual.<sup>5</sup></p>	<p>Age groups – EPI is aimed primarily at infants and children</p> <p>Influenza and pneumococcal vaccines are given to people who are at risk.</p>	
Vaccination rates (National data (%); pharmacy only not available)		
Vaccine	EPI report WHO Country Office <sup>3</sup>	
	2015	2014
DTaP-IPV/Hib 1	95.0	96.0
DTaP-IPV/Hib 3	94.0	95.0
DTaP-IPV/Hib 1 – 3DOR	1.1	1.0
Measles (MCV) 1 <sup>st</sup> dose	97	91.0
DTaP-IPV/Hib 1- MCV 1 DOR(%)	-2.1	5.2
Measles 2 <sup>nd</sup> dose	84	81.0
MCV 1 – MCV 2 DOR (%)	13.4	11
Rotavirus 2 <sup>nd</sup> dose	94.0	94.0
PCV 3 <sup>rd</sup> dose	94.0	90.0
Fully Immunised Child (FIC)	91.7	87.4
Vaccination supply		
The Department of Health provides some vaccines to pharmacies free of charge. This differs according to the policies and procedures of the various health districts. Other vaccines are purchased through pharmaceutical wholesalers and distributors	In general, all supplies are procured through a tender process	
Vaccination payment and reimbursement		
Some vaccines are provided by the Department of Health free of charge to the pharmacy. Other vaccines sold and/or administered are paid for directly by the patient or, depending on the patient's medical scheme rules, are reimbursed by the scheme.	Immunisation with vaccines listed in the EPI-SA are administered free of charge to the patient	
Other information		
Immunisation is seen as a critical healthcare element. Periodic immunisation campaigns for specific vaccines are supported by both the public and the private sector.		

The Rules relating to Good Pharmacy Practice (GPP), published by the South African Pharmacy Council (SAPC) in terms of the Pharmacy Act, set down standards for both facilities and services. The Minimum Standards for Immunization Services deal with the immunisation activities in which pharmacists with training in immunisation may participate, the physical facilities and equipment, the procedures to be followed, documentation and record keeping, ethical issues and training. Other standards in the GPP deal with cold chain management and waste management.<sup>5,6</sup>

Pharmacists are currently not required to submit figures for returns unless the State supplies their stock of vaccines. State supply of stock depends on individual local or provincial authorities; although there are some areas where it is in practice, in most areas pharmacists obtain their stock from local wholesalers. For this reason it is challenging to retrieve an accurate figure for pharmacy-based vaccination rates.

### 3.8.3 Training of the pharmacy workforce

Formal theoretical training in immunisation is given during all university undergraduate pharmacy programmes; however, in most cases, pharmacists undergo post-registration practical training and exposure to the current EPI. At undergraduate level, the training was theoretical only. In 1991, with the rising interest in primary healthcare, private training institutions started offering training in immunisation, including both theory and vaccination technique.

Training is currently mandatory and the SAPC's ethical rules clearly state that pharmacists may not perform professional acts for which they are inadequately trained or insufficiently experienced. As described in the GPP manual, pharmacists performing immunisation services must have vaccine administration skills, be familiar with the National and Provincial schedules for immunisation of infants, children and travellers as well as the WHO guidelines for the prevention of HIV and Hepatitis virus. Pharmacists must also have knowledge of vaccines route of administration, contra-indications and possible adverse reactions, prevention and management of anaphylaxis and knowledge of cardio-pulmonary resuscitation.<sup>5</sup>

Training of the pharmacy workforce	
Contents	The contents may significantly vary between training providers and may include: <ul style="list-style-type: none"> <li>• Administration of vaccines, contra-indications and adverse reactions;</li> <li>• Anaphylaxis and cardio-pulmonary resuscitation;</li> <li>• Instructions, requirements and guidelines of the National Expanded Programme on Immunization (EPI) policy;</li> <li>• Guidelines for the prevention of communicable diseases, including HIV and Hepatitis virus.</li> </ul>
Certification/accreditation	Training is not necessarily accredited/certified, recognised or approved, although some providers are accredited by the South African Pharmacy Council (SAPC)
Providers	SAPC accredited providers: North-West University, Sefako Makgatho Health Sciences University There is no official list of non-accredited providers
Requirement	Mandatory
Level	Post-registration
Training duration	Variable depending on each course provided (e.g. 10h, 2 days, etc.)
Cost	Paid either by pharmacists and/or their employers
Refresher requirements	Currently not required

Although some immunisation training providers are accredited by the SAPC, there are currently no published or legal training requirements. For this reason, there are several organisations offering training programmes that may not necessarily be accredited/certified, recognised or approved by SAPC and therefore contents may significantly vary between training providers.

The initial training courses offered a half-day or evening covering the EPI, travel vaccines, MMR (which was then not part of the EPI) and tetanus boosters, injection technique, anaphylaxis prevention and treatment, emergency kit required, disposal of biologic waste and the different vaccines and recording on the road to health card. Pharmacists were required to perform one of each type of injection at the course and then were required to submit evidence of 20 supervised vaccines before certificates were issued by the provider. At present, there is still a standalone course offered in the same way; however, there is also an extensive Primary

Care Drug Therapy course that incorporates immunisation into the knowledge and skills required (e.g. 10h, 2 days). The training cost is paid either by pharmacists and/or their employers.

### 3.8.4 Tools and resources available to pharmacy professionals

The Vaccinator’s Manual can be downloaded from The National Department of Health’s website, as can the Primary Healthcare (PHC) Guidelines, which includes the Standard Treatment Guidelines and Essential Medicines List. A new innovation is the PHC Clinical Guide app for iOS and android mobile devices. A full section is included on immunisation, including information on immunisation schedules, cold chain management, open multi-does vial policy and adverse events following immunisation. A directory of useful contact details is provided on the app, including health facilities for referral as well as medicine information centres that can be phoned for assistance.

### 3.8.5 Vaccination records

Immunisation records must be completed using designated immunisation cards as indicated in the GPP manual.<sup>5</sup>

Vaccination records	
Details recorded	Patient details: Patient name, address, ID number, date of birth Vaccine details: Name of manufacturer; batch number of vaccine; expiry date Vaccine administration details: Date of administration of vaccine; route of administration; date of next injection; signature of pharmacist/nurse who administered vaccine; other important information, e.g. previous reactions to vaccines and sensitivity to eggs, antibiotics and preservatives which may be contained in vaccines
Record format	Paper and/or electronic; the format varies from pharmacy to pharmacy, and also according to local authority requirements
Record requirement	Mandatory
Record storage	Records are stored in the pharmacy
Record sharing	Recorded information can be shared with physicians, other pharmacists and local clinics upon request. Immunisation statistics must also be provided to the local District Health Co-ordinator for epidemiological purposes and for stock control.
Use of recorded information	Information can be used to remind patients when their vaccination is due and to generate reminder letter for booster doses. Immunisation statistics provided to the local District Health Co-ordinator are used for epidemiological purposes and for stock control.
Minimum record keeping	5 years

Record keeping in pharmacy has always been encouraged, with guidelines following the WHO Expanded Programme on Immunization Guidelines. From 1995, when the South African mandatory record was introduced, this became a requirement for everyone providing immunisation services.

For child vaccination, the Department of Health supplies a growth chart ("Road to Health card") which needs to be updated accordingly. Recorded information must be kept up-to date for a period of at least five years and can be shared with physicians and local clinics upon request. Pharmacists can use locally stored information to remind patients when their vaccination is due and to generate reminder letters for booster doses. Moreover, immunisation statistics must be provided to the local District Health Co-ordinator for epidemiological purposes and for stock control, if supplied by the local authority.

### 3.8.6 Outcomes

There have been some notable successes in the past. In 2002, the WHO validated South Africa's achievement of neonatal tetanus elimination. In 2006, SA was pre-certified polio-free by the Africa Regional Certification Committee.

In recent years, local authorities have successfully run outreach programmes during campaigns for the eradication of polio and elimination of measles. The City of Tshwane has an Outbreak Response Team, which has been faced with a meningococcal meningitis outbreak in 2011. Medication was supplied to prevent the spread of the disease, and a vaccination campaign ensued in the neighbourhoods in which the outbreaks were reported.<sup>7</sup>

### 3.8.7 Advocating for immunisation services in community pharmacies, limitations and challenges

One of the main challenges for the development of pharmacy-based vaccination services is the limited acceptance and support (including financial) by the government and the health system. With the re-engineering of the health system to focus on enhanced primary healthcare services, and particularly with the preparations for the introduction of universal healthcare coverage, this may well change in future.

One of the biggest challenges is to reach children who do not have access to routine immunisation services. Outreach programmes are therefore critical.

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## 3.9 Switzerland



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Disclaimer: the information represents the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1,2</sup>	8.2
Population > 65 years (% Total) <sup>1,2</sup>	18
Health expenditure (% GDP) <sup>1,2</sup>	11.7
Number of community pharmacies <sup>3</sup>	1,774

### 3.9.1 Advocating for immunisation and promoting immunisation services in pharmacies

Pharmacists in Switzerland are very much involved in vaccination activities spanning from vaccine administration, currently authorised in 9 Cantons, to a range of vaccination advocacy and promotion activities in all 26 Cantons.<sup>4</sup> For the first time this year (2016), pharmacists have also been invited to serve on immunisation advisory committee with pharmaSuisse invited to join the scientific committee of the biennial Swiss congress of vaccination.

In 2015, one Canton (Vaud) initiated a campaign of immunisation record control in pharmacies making use of the electronic vaccination record ([www.myvaccines.ch](http://www.myvaccines.ch))<sup>5</sup>; the campaign was undertaken during one month (October) by the Cantonal Health Department. In addition, two practical courses were organised (more than 100 people attended to each) to train pharmacists in the use of the website [www.myvaccines.ch](http://www.myvaccines.ch).<sup>5</sup> This Campaign will be repeated in June 2016 (two practical courses already organised) and in 2017 (delivery month not yet defined). The report from the first campaign has not been yet published.

### 3.9.2 Administration of vaccines in pharmacies

The authorisation for pharmacists to vaccinate is under the control of each Canton (there are 26 Cantons in Switzerland). The first two Cantons (Fribourg, Neuchâtel) granted vaccination rights to pharmacists in July 2015. Later in the same year, pharmacists from 4 other Cantons were also authorised to administer a number of vaccines under specific conditions; these included Basel-Land, Berne, Solothurn and Zurich Basel-Land and Berne initiated a pilot test for the influenza season 2015/2016. Currently, vaccination in pharmacies within these 6 Cantons can be undertaken without prescription. In another Canton, Tessin, vaccination prescription is required.<sup>4</sup> At present, three other cantons (Grisons, Schwyz, and Thurgau) received authorisation for vaccination of cantonal defined vaccines without prescription in 2016.

According to the revised [Federal law on medical professionals \(LPMéd\) article 9](#)<sup>6</sup> of 1<sup>st</sup> January 2016 (under validation), pharmacists can contribute to the promotion and maintenance of health and prevention of disease and obtain the appropriate skills, particularly in the field of vaccinations. Specific legal requirements for vaccine administration vary across Cantons; patients must be healthy adults (over 16 years old) and without particular vaccination risk. The healthcare professional authorised to administer a vaccine must be a pharmacist holding an education certificate provided by pharmaSuisse (or equivalent training provider in certain Cantons) and an official authorisation given by the Canton. A summary of the current provision of vaccination services is shown in Figure 1.





Figure 1. Vaccination services provided in Switzerland across Cantons.

Source: website [www.vaccinationinpharmacies.ch](http://www.vaccinationinpharmacies.ch),<sup>4</sup> pharmaSuisse (July 2016 - reproduced with permission).

Legend:

BE/BL/FR/GR/NE/SO/SZ/TG/ZH: Vaccination in pharmacies without prescription

BE: Influenza (pilot project- 2015/16 and 2016/2017)

BL: Influenza (pilot project 2015/2016 and regular authorisation planned for 2016/2017)

FR: Influenza

GR: Influenza, FSME, catch-up vaccination for Hepatitis A, B, A+B

NE: Influenza, FSME (risk groups), MMR (catch-up vaccination); convention for 2 years, then re-evaluation

SO: All vaccination according to the Swiss vaccination plan for adults over 16 years old; a validated questionnaire must be available: Influenza, FSME, Measles, Hepatitis A, B, A+B

SZ: Influenza, FSME, catch-up vaccination for Hepatitis A, B, A+B

TG: All vaccines according to the Swiss vaccination plan for adults over 16 years old (only catch-up vaccination except for Influenza and FSME)

ZH: Influenza, FSME, catch-up vaccination for Hepatitis A, B, A+B

Ti: Vaccination possible in pharmacy only with a prescription from the physician

In addition to education and training requirements, there are also room, material including cold chain as well as safety specifications. Furthermore, each Canton defines the types and schedule of vaccine(s) that can be administered; this usually includes influenza vaccine and in some Cantons also e.g. Tick-borne encephalitis (FSME), Measles, Hepatitis A, B and A+B (usually only the second dose).

Administration of vaccines in:	
Community pharmacies	Other primary care providers
Healthcare professional(s) administering vaccinations	
Pharmacist, nurse or physician	Depends on the Canton's requirements
Legal accountability	
Pharmacy manager	Depends on the Canton's requirements
Vaccination provided	
Vaccinations provided vary across Cantons; schedules may include influenza vaccine only or, in other Cantons, may include others such as Tick-borne encephalitis (FSME), Measles, Hepatitis A, B and A+B (usually only the second dose). Patients must be healthy adults, i.e. at least 16 years old without particular vaccination risk.	Depends on the type of Healthcare Centre. Only authorised Healthcare Centres can administer all vaccines including Yellow Fever, usually Travel Medicine Centres or Traveller's Vaccination Centres.
Vaccination requirements	
Prescription: Requirements varies across Cantons Certified/accredited pharmacist training: Yes, depending on Cantonal authorisation Vaccination record: yes Standardised questionnaires are supplied by pharmaSuisse on paper or electronic form and must be used for anamnesis and to get the written signed informed consent of the patient. Specifications on premises, equipment, material waste and safety management: Yes	Prescription: No but anamnesis needed by a certified health professional.

### 3.9.3 Training of the pharmacy workforce

Training in immunisation is available for the pharmacy workforce both during undergraduate and post-graduate years but it is not yet mandatory. The undergraduate and University training is an optional course that can be undertaken during the second year of the Masters of Pharmacy (MPharm). This training will be completely integrated into the studies in 2017 (2018 the latest) in the two biggest Universities in Switzerland, Basel and Geneva-Lausanne.

Healthcare professionals authorised to administer vaccinations must be pharmacists holding an education certificate provided by [pharmaSuisse](#) or another comparable education officially accepted by legal authorities (so far, the certificate of pharmaSuisse is the only accepted education). The Certificate is accredited by the independent authority FPH Community Pharmacy Society validation committee (FPH = Foederatio Pharmaceutica Helvetiae). The [FPH Certificate for Training in Vaccination and Blood Sampling](#)<sup>7</sup> is intended for pharmacists holding a Federal degree in pharmacy or foreign equivalent according to federal law on medical professionals ([LPMéd, article 50](#))<sup>6</sup> aiming to expand their knowledge and skills in the field. The course has 3 parts:

1. A practical module including theory on injection techniques and blood sampling. The duration of this training is 2 days of group training composed of 16 periods of 45 minutes and another half-day of an e-learning module that corresponds to 4 periods of 45 minutes to be completed before the group training. An attestation is issued after successfully completing the e-learning module and the practical examination.
2. A theoretical module on vaccinations. This part is undertaken in a one-day course corresponding to 8 periods of 45 minutes and another half a day of e-learning of 4 periods of 45 minutes to be completed after the group training. The e-learning part is focused on electronic resources particularly on the use of the electronically shared vaccination record, the only existing shared vaccination record. The pharmacist must subscribe to the software [viavac](#)<sup>®</sup> and the website [www.InfoVac.ch](#) to be able to follow the e-learning. An attestation is issued after successfully completing the final examination and the e-learning course.

3. Training in Cardio Pulmonary Resuscitation (CPR) or Basic Life Support (BLS) during 1 day in general divided in 8 periods of 45 minutes. The CPR/BLS certification is required to obtain the final Certificate.

A refresher is required every 2 years for CPR/BLS as well as another refresher of one of the other two courses.

Training of the pharmacy workforce	
Contents	Injection's techniques and blood sampling; Vaccinations; Cardio Pulmonary Resuscitation or Basic Life Support.
Certification/accreditation	Training is certified; the Certificate is accredited by the independent authority FPH Community Pharmacy Society validation committee
Providers	pharmaSuisse and training partners
Requirement	Currently optional; it will be mandatory from 2017/2018
Level	Post-graduate (will be integrated in the undergraduate studies in 2017 or 2018)
Training duration	5 days in total split into various training periods of 45 minutes
Cost	Depending on the course provider and the membership, from 2400.00 to 3500.00 Swiss francs. Can be paid by the participant or by the pharmacy employer (there is no specification).
Refresher requirements	Every 2 years

In 2015, permission to vaccinate was granted in 6 Cantons in Switzerland and since then the number of pharmacists undertaking certified immunisation training significantly increased. There are currently approximately 500 certified pharmacists and 500 others currently in training.

### 3.9.4 Tools and resources available to pharmacy professionals

A number of leaflets and factsheets are provided by the [Federal Office of Public Health](#)<sup>8</sup> in electronic format and also hardcopy documentation. Their website also contains a range of information about communicable diseases vaccination [campaigns](#) including signposting to other online resources and websites. The [InfoVac](#)<sup>9</sup> website and hotline is ran by a network of experts who are available to health professionals practicing in the field of vaccinations (doctors, pharmacists and public health professionals) to answer specific questions within 24 to 48 h (under subscription).

Personalised electronic vaccination records can be created and managed free of charge (and after registration on the website) using the Swiss Electronic Vaccination Record [www.myvaccines.ch](http://www.myvaccines.ch)<sup>5</sup>. The website is available both to healthcare professionals and patients and enables registrants to verify immunisation status and receive advice and vaccination recommendations depending on each personal situation. The record can be created either by the health care professional or by the patient, and contents can be shared between these two parties. Each vaccination record entered by a patient must be validated by a physician or a pharmacist to be printed and considered as legally valid.

The personalised electronic vaccination record exists also as software available on PC. It enables pharmacists to create the vaccination record in the pharmacy and to synchronise it with the website [www.myvaccines.ch](http://www.myvaccines.ch). The principle is that the pharmacist can keep all the records in the pharmacy (local computer) and share it with the public wishing to obtain their record.

### 3.9.5 Vaccination records

Recording of vaccination details in Switzerland is optional and access to information requires double authorisation, from the pharmacist and also from the public. Pharmacies can subscribe to the software [Viavac](#)<sup>10</sup> which allows the creation and management of electronic vaccination records and the analysis of vaccination statuses. These functionalities are available through the use of precise algorithms which enable a real clinical

decision system. The Viavac software can be installed locally on pharmacy's computers to enable recording of vaccination details.

Records registered in the pharmacy's Viavac software can also be exported to [www.myvaccines.ch](http://www.myvaccines.ch)<sup>5</sup>, a free national website that enables vaccination record storage. Both systems are interconnected enabling the synchronisation of records created in pharmacy or reverse. Records can be shared between physicians and pharmacists that are identified by a global localisation number (GLN), and between the public through the website. However, this is not considered as a national electronic system since it is used only on a voluntary basis and many healthcare professionals providing vaccination services (especially physicians) still have some concerns with the security of the electronic system. Nevertheless, in some Cantons, campaigns for management of vaccination records have been organised to encourage the public to get their vaccination plan to be registered as electronic vaccination record or checked and printed in the pharmacy.

Vaccination records	
Details recorded	Individual details: name, age, gender Product details: name or antigen Vaccination plan and catch-up plan with suggested vaccination schedule Administration service details: name and professional registration number (Global Localisation Number) of the professional administering the vaccine, administration date; Lot number and expiry date of the vaccine Optional: risk group and pregnancy, to get the vaccination plan or catch-up (Risk groups and the pregnant women are excluded of the vaccination in the pharmacies) , area code (monitoring FSME endemic diseases)
Record format	Paper and/or Electronic
Record requirement	Optional
Record storage	Pharmacy software system <a href="#">Viavac</a> linked to the national website <a href="http://www.myvaccines.ch">www.myvaccines.ch</a> run by the Foundation myvaccines.ch and supported by the Federal Office of Public Health. <sup>5,10</sup>
Record sharing	Records can be shared between healthcare professionals and the public through the centralised website under authorisation from the concerned person
Use of recorded information	Verify vaccination status, list of the patient needing a vaccination booster, define catch-up plan, advise and remind patients about recommended vaccinations
Minimum record keeping	Records are kept for 10 years (still in evaluation) on the national website

### 3.9.6 Advocating for immunisation services in community pharmacies, limitations and challenges

One of the main challenges for the development of pharmacy-based vaccination services is the limited acceptance and support (including financial support) by the government and healthcare system as well as other healthcare professionals. Nevertheless, in recent years the evolution of events has been very rapid. This year (2016), the changes in the Federal law<sup>6</sup> authorised pharmacists to administer vaccines. This law will initiate execution phase in 2017 across the country; each Canton will be responsible to abide the law with specific decrees or regulations. The vaccination process will require a prescription and the Canton whose pharmacists are allowed to administer specific vaccines as decided by each Canton.

The Federal Department of Health developed a [National Strategy of vaccination \(SNV\)](#) in order to define the targets and means to guaranty a good protection of the population against vaccine-preventable diseases. This project is under evaluation and the final version will be published at the end of 2016. The strategy identifies 5 main areas of intervention and 15 domains of action. Pharmacists can play an active role in 8 of these domains, including vaccination promotion activities and advice, improvement of the supply chain, strengthening communication among stakeholders and the public, improving accessibility to vaccination (new low-threshold

service), encouraging the use of electronic vaccination records, and contribution to the improvement of training for healthcare professionals.<sup>11, 12</sup>

Pharmacists in Switzerland wish to see in the near future an expansion of currently authorised vaccination services as well as changes in the law in order to allow pharmacists to be an active part of the vaccination strategy in each Canton with a legal and official pricing. Increased collaboration with the other health professionals involved in this field is also necessary in order to establish strong partnerships and to officially recognise pharmacists as additional vaccination providers.

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## 3.10 United Kingdom (Great Britain)



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Disclaimer: the information represent the state in July 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1</sup>	64.1
Population > 65 years (%Total) <sup>1</sup>	17.5
Health expenditure (% GDP) <sup>1</sup>	9.1
Pharmaceutical expenditure (% health expenditure) <sup>2</sup>	12.2
Number of Community Pharmacies <sup>2</sup>	14,361

### 3.10.1 Advocating for immunisation and promoting immunisation services in pharmacies

Promotion of pharmacy immunisation services to eligible patients is agreed between the National Health Service (NHS) and local government. Pharmacies promote immunisation services mainly through posters displayed in pharmacy windows, counter top notices, leaflets and flyers. Pharmacists collaborate with other healthcare professionals such as general practitioners (GPs – family doctors) to promote seasonal influenza campaigns. For example, in the 2009 seasonal flu campaign, pharmacists worked alongside GPs to raise awareness of at-risk groups of patients around the importance of immunisation against influenza. An information leaflet was inserted into the prescription bag of at-risk patients, which also advertised GP flu clinics and in-pharmacy immunisation services. Uptake of the pharmacy based immunisation service was highest amongst the at-risk patients under the age of 65 as it was more convenient for workers to go to a pharmacy without an appointment allowing for opportunistic immunisation. GPs were notified within 24-48 hours of the vaccine being administered. However, since the inclusion of all pharmacies in the national flu campaign for the first time in 2015 collaboration with GPs has in some instances declined due to direct competition.<sup>3</sup>

In addition, other outreach methods were used such as website promotion (<http://www.myhealthlondon.nhs.uk>), twitter with [@NHSflufighter](https://twitter.com/NHSflufighter) and [#flufighter](https://twitter.com/flufighter) and photo shoots for example with the deputy Mayor of London receiving a flu vaccine.

The promotional material must comply with the NHS brand guideline and cannot offer free gifts or incentives to encourage people to get vaccinated. The promotional materials have been translated into the following languages to increase access to the service including Gujarati, Hindi, Polish, Portuguese, Punjabi, and Urdu. The National Health Service (NHS) runs a seasonal flu vaccination from September through to February, which aims to vaccinate all patients who are at risk of developing more serious complications from the influenza virus. The target patients include people aged 65 years and over, pregnant women and those with certain health conditions.

### 3.10.2 Administration of vaccines in pharmacies

Until the 2013/2014 flu season, GPs or nurses vaccinated all eligible individuals in England, apart from the few small pilot studies in London with pharmacy based delivery. Previously, most community pharmacies offered flu vaccinations as a private service for patients who did not qualify for NHS vaccinations or for those who were happy to pay themselves for the service due to its convenience. This is still the case in Scotland where health care is devolved to the Scottish Government.

In 2013/2014, pharmacies in England were commissioned to provide NHS flu vaccination services alongside the national GP vaccination service offering patients alternative choice of venue for their vaccination and helping commissioners to meet their local NHS vaccination targets.<sup>4</sup>

Looking back, a larger role for pharmacists in the arena of public health was first outlined in the 2008 white paper Pharmacy in England: Building on Strengths – delivering the future with a focus on pharmacists delivering commissioned NHS immunisation services. The rationale hinged upon using pharmacies to increase access for the high risk and hard-to-reach patient population. In 2009, NHS commissioners started to focus on the potential for pharmacists to deliver the H1N1 swine flu vaccine as part of the planning for the swine flu pandemic. As a result of these initial measures, the range of vaccines available has extended beyond seasonal flu to human papilloma virus, hepatitis B, and travel vaccines as well as many other. By 2012, over a quarter of a million private ‘flu vaccinations have been successfully provided by community pharmacies in England and Wales in one scheme alone.<sup>4</sup>

Administration of vaccines in primary care:	
Community pharmacy	Doctor’s surgery/Healthcare centre
Healthcare professional(s) administering vaccinations	
Pharmacist or nurse	Nurse
Legal accountability	
Pharmacy manager and pharmacist	N/A
Vaccination provided	
<ul style="list-style-type: none"> <li>• Childhood immunisation: Measles, Mumps, Rubella (MMR VaxPro®; Priorix®)</li> <li>• Diphtheria, Tetanus, Pertusis, Polio DTaP/IPV (Repevax®)</li> <li>• Cholera (Dukoral®)</li> <li>• Influenza (Fluarix®; Influvac®; Istivac®)</li> <li>• Live Attenuated Influenza Vaccine (FluenzTetra®)</li> <li>• Meningococcal group B (Bexsero®)</li> <li>• Meningococcal group A,C,W and Y (Nimenrix®, Menveo®)</li> <li>• Pneumococcal polysaccharide vaccine</li> <li>• Japanese-Encephalitis and Japanese Encephalitis Booster (Ixiaro®)</li> <li>• Yellow Fever (Stamaril®)</li> <li>• Tick-borne encephalitis (TicoVac®)</li> <li>• Typhoid Fever (Typhim Vi®; Typherix®)</li> <li>• Hepatitis A and booster (Avaxim®; Epaxal®; Havrix Monodose®; VAQTA®paediatric; VAQTA® Adult)</li> <li>• Hepatitis B and booster (Engerix B®; Fendrix®; HBvaxPRO®)</li> <li>• Hepatitis A and typhoid vaccine (Hepatyrix®; ViaATIM®)</li> <li>• Hepatitis A and B (Ambirix®; Twinrix®)</li> <li>• Human Papillomavirus (Gardasil®)</li> <li>• Rabies and booster (Rabipur®)</li> </ul>	<p>National Health Service Immunisation Plan 2016<sup>5</sup>:</p> <ul style="list-style-type: none"> <li>• Live Attenuated Influenza Vaccine (FluenzTetra®)</li> <li>• Childhood Immunisations: Measles, Mumps, Rubella (MMR VaxPro<sup>3</sup>®; Priorix®), Diphtheria, Tetanus, Pertusis, Polio and Haemophilus Influenzae type b DTaP/IPV/Hib (Repevax®)</li> <li>• Meningococcal group B (Bexsero®)</li> <li>• Meningococcal group A,C,W and Y (Nimenrix®, Menveo®)</li> <li>• BCG (Tuberculosis)</li> <li>• Pneumococcal (13 stereotypes) (Prevenar13®)</li> <li>• Pneumococcal (23 stereotypes) Pneumococcal polysaccharide vaccine</li> <li>• HPV Human papillomavirus (Gardasil®)</li> <li>• Rotavirus gastroenteritis (Rotarix®)</li> <li>• Shingles (Zostavax®)</li> </ul> <p>Other vaccines that may be provided:</p> <ul style="list-style-type: none"> <li>• Hepatitis A and B (Ambirix®; Twinrix®)</li> <li>• Rabies (Rabipur®)</li> <li>• Varicella Zoster (Varilrix®; Varivax®; Zostavax®)</li> <li>• Cholera (Dukoral®)</li> <li>• Tick-borne encephalitis (TicoVac®)</li> <li>• Typhoid fever (Typhim Vi®; Typherix®)</li> <li>• Yellow fever (Stamaril®)</li> </ul>

Administration of vaccines in primary care:	
Community pharmacy	Doctor's surgery/Healthcare centre
Vaccination requirements	
Prescription: No Certified/accredited pharmacist training: Yes Vaccination record: Yes Specifications on premises, equipment, material and waste management: Yes	Prescription: No. Flu vaccination is also available for high-risk groups for free and not subject to a prescription.
Vaccination rates	
In 2014/2015 season 58.1% of registered patients received the flu vaccine in GP/Pharmacy. Source: PSNC 2014	In 2014/15 the NHS vaccinated: 44.1% pregnant women 54.9% frontline healthcare workers 50.3% of under-65s in at-risk groups Source: PSNC 2014
Vaccination supply	
Vaccines are purchased directly from pharmaceutical wholesalers or negotiated directly with the pharmaceutical industry.	Vaccines are purchased directly from pharmaceutical industry by the state.
Vaccination payment and reimbursement	
<p>Patients pay for vaccines (reimbursement rates apply) and for the pharmacy service that includes administration of the vaccine given.</p> <p>In England as of Oct. 2015, both pharmacy contractors and GP practices were paid a fee of the same value for flu vaccine administration; £7.64 plus an additional fee of £1.50 (a total of £9.14 per administered vaccine). The additional fee is in recognition of costs incurred relating to the provision of the service including training, revalidation and disposal of clinical waste as such costs are not reimbursed elsewhere in the pharmacy contract.</p> <p>Contractors will also be reimbursed for the vaccine costs at the basic price (list price) of the individual vaccine administered and an allowance at the applicable VAT rate will also be paid.</p> <p>Funding for the service will be in addition to and outside of total agreed community pharmacy funding for 2015/16, instead coming from NHS vaccination budgets. The total delivered will be dependent on uptake of the service, but no cap has been set for this.<sup>6</sup></p>	<p>The NHS Vaccination Plan vaccines are free of charge. Flu vaccine and administration are free of charge for patients over 65 years old.</p> <p>Travel vaccines are not all available in the healthcare centre and some are purchased in the pharmacy.</p>

In September 2015, for the first time community pharmacies in England were commissioned to provide seasonal flu vaccinations to patients in at-risk groups as a new advanced service for the 2015/2016 season. In England, there are five advanced services within the NHS community pharmacy contractual framework that pharmacies may deliver in addition to the core contract. Community pharmacies can choose to provide any of these services as long as they meet the requirements set out in the Secretary of State Directions. NHS England has also announced that it will re-commission the Community Pharmacy Vaccination programme in 2016/2017. Prior to the implementation of a national flu service, most people would go to their family doctor to get immunised because they would get the service for free. Therefore, with this most recent change in



commissioning, pharmacists are able to immunise and provide increased scalability of the immunisation programme.

Before 2015, Wales was the only part of the UK to have a national pharmacy influenza service. A small pilot study was launched in 2011 to increase vaccination rates of hard-to-reach patients in rural areas of Wales and was fully implemented by 2012. The contribution of community pharmacies towards vaccination in Wales is relatively small. The 7861 individuals vaccinated in pharmacies represent only 1.18% of all those vaccinated.<sup>5</sup> Although some pharmacies did demonstrate that they could provide a relatively high number of vaccinations, most provide comparatively few.

In England, out of 25 sub regions 21 (84%) commissioned a flu vaccination service from community pharmacies in the 2014/15 flu season. During the 2014/15 season more than 5,000 pharmacy contractors signed up to the services, and in some areas 84% of those signed up were active vaccination providers. In England, flu vaccination is an Advanced Service and it can be provided by any community pharmacy that has a consultation room, can procure the vaccination and meet the data recording requirements, and has appropriately trained staff. There is no limit on the number of vaccinations pharmacies can claim for as long as they are given to eligible patients.<sup>4</sup>

### 3.10.3 Training of the pharmacy workforce

Contractors must demonstrate that all pharmacists have received the appropriate training and are qualified to deliver immunisation services. Public Health England published the [National Minimum Standards for Immunisation Training](#) which are standards to help provide consistent immunisation training across England and Wales and to provide further guidance to those areas where training is not currently established.<sup>5</sup> The standards should be used in addition to the [Core Curriculum](#) which sets out the fundamental knowledge and skills required of healthcare professionals. Pharmacists who will provide the flu vaccination service must have completed practical training in vaccination that meets these requirements. Pharmacists that have not vaccinated before must be observed and assessed by an experienced vaccinator.

The Core Curriculum covers the following essential core topics which should be included in all immunisation training:

- The aims of immunisation: national policy and schedules
- The immune system and how vaccines work
- Vaccine preventable diseases
- The different types of vaccines used and their composition
- Current issues and controversies regarding immunisation
- Communicating with patients and parents
- Legal aspects of vaccination
- Storage and handling of vaccines
- Correct administration of vaccines
- Anaphylaxis and other adverse events
- Documentation, record keeping and reporting
- Strategies for improving immunisation rates

In addition, pharmacists must attend face-to-face practical training course for both injection technique and basic life support training every two years. Before delivering the service pharmacists are also required to complete a self-assessment as part of the declaration of competence (DoC) system. Pharmacists must complete the practical training first before self-declaration of DoC.

There are a number of organisations that provide vaccination training for pharmacists ranging from professional associations such as the National Pharmacy Association to private trainers such as ECG Training. Currently immunisation training is only available to registered pharmacists.

Training of the pharmacy workforce	
Contents	Administration of vaccines and injectable medicines; Basic life support (automated external defibrillation is optional).
Certification/accreditation	The <a href="#">Declaration of Competence</a> approach (developed by the Community Pharmacy Competence Group) is being used to assure pharmacy contractors that pharmacists have the necessary knowledge and skills to provide the service.
Providers	Various professional organisations such as the <a href="#">National Pharmacy Association</a> , and private companies such as the, Alliance Healthcare, Sonar Informatics, Pharmacy PGD, and other education and training courses provide training.
Requirement	Mandatory
Level	General Pharmaceutical Council (GPhC) Registered Pharmacists
Training duration	Duration can vary with the training provider but must comply with the minimum content requisites set by the National Minimum Standards for Immunisation Training.
Cost	Paid by employers or individual pharmacists. Costs can vary with the training provider e.g. AAH charges £340.
Refresher requirements	Administration of vaccines and injectable medicines – Every 2 years. Re-certification can be a theoretical update on the state of the art concerning vaccines and injectable medicines. All pharmacists must have completed and passed a recognised basic life support training course in the past 12 months or an approved alternative update training which can be face to face or via e-learning. Pharmacists must provide evidence of continuing professional development.

### 3.10.4 Tools and resources available to pharmacy professionals

The following tools and resources are recommended as part of the immunisation training for pharmacists:

- ‘Immunisation against infectious disease’ (the ‘Green Book’);
- Public Health England provides an online course “e-Learning for Healthcare Flu Immunisation”;
- Centre for Pharmacy Post Graduate Education (CPPE) training package (10 hours does not include practical training);
- CPPE held a number of e-workshops to support community pharmacists in completing the DoC for the national flu vaccination service. A recording of one of the e-workshops (49 minutes) is available to listen to on the [CPPE website](#);
- Health Protection Agency website which provides comprehensive guidance on the most appropriate algorithms for assessment of flu sufferers or people exposed to flu sufferers and whether or not they require antivirals;
- Education training resource Immunisation Programme Promoting Effective Immunisation Practice can be viewed on the Health Protection Scotland and NHS Education for Scotland website;
- A Competency & Training Framework for Influenza Vaccination as a National Enhanced Service (NES) via a patient group direction (PGD) has been published by the WCPPE and Public Health Wales. The framework is based on the national minimum standards for immunisation training.<sup>5</sup>

### 3.10.5 Vaccination records

Currently, NHS England has not been able to launch a national IT solution to support provision of immunisation services and electronic notification of GP practices of vaccination of their patients. However, in some areas, commissioners have been able to arrange IT support for the service. Where IT support is not available, pharmacy contractors will instead be able to use a paper-based record keeping system.

Contractors must ensure that family doctors are notified of pharmacy based immunisation activity. A notification of vaccination must be sent to the patient's GP practice on the same day that the vaccine is administered or on the following working day. This can be undertaken by mail, hand delivery, fax, secure email or secure electronic data interchange. If IT systems such as PharmOutcomes or Sonar Informatics are available family doctors should be notified electronically.<sup>6</sup>

Vaccination records	
Details recorded	Individual details: patient name, age, address; Product details: name of vaccine manufacturer, batch number, expiry date; Administration service details: name of the professional administering the vaccine and signature, GPhC number, route of administration, injection site, date of vaccination, any adverse events and patient's GP practice.
Record format	Paper and electronic
Record requirement	Mandatory
Record storage	Paper and Pharmacy electronic system
Record sharing	GPs, Sonar Informatics
Use of recorded information	Data analysis and evaluation performed by Sonar Informatics, PharmOutcomes
Minimum record keeping	Dependent on indemnity insurance provider - further guidance due to be released. NHS Records Management – NHS code of Practice 2009 recommend to retain records until the patient's 25th birthday or 26th if the young person was 17 years old at conclusion of treatment. All others retain for 10 years after conclusion of treatment.
Other information	Other information may be recorded in the software, such as the presence of chronic diseases or pregnancy.

### 3.10.6 Outcomes

During the 2015/2016 seasonal flu campaign, a total of 10,407,913 flu vaccines were delivered by all immunisation providers in the UK. An additional 240,259 patients chose to receive their vaccination in a community pharmacy compared to the previous year.<sup>6</sup> By late October 2015, just one month into the flu season 8,040 pharmacies were registered to deliver the flu vaccination advanced service. This represents 68.5% of all community pharmacies on the pharmaceutical list.

The total number of flu vaccines recorded in the Sonar and PharmOutcomes system equals 486,897 over a 6 month period extending from September to February 2015. However, this data only reflects flu vaccinations administered as part of the service which have been entered into the Sonar Informatics or PharmOutcomes systems. As some pharmacy contractors are not able to use or have chosen not to use either of these systems to record administrations of vaccine the reported numbers may be lower than in practice.<sup>7</sup>

The following table shows vaccination rates in pharmacies of specific at-risk patient groups. This data has been extracted from the PharmOutcomes and Sonar Informatics (Sonar updated to 31st January 2016, PharmOutcomes updated to 29th February 2016).<sup>7</sup>

Vaccination eligibility group <sup>7</sup>	PharmOutcomes	Sonar Informatics
Aged over 65	62.2%	56.6%
Carer	4.1%	4.1%
Chronic heart disease	3.0%	3.8%
Chronic kidney disease	0.4%	0.3%
Chronic liver disease	0.3%	0.3%
Chronic neurological disease	1.3%	1.0%

Vaccination eligibility group <sup>7</sup>	PharmOutcomes	Sonar Informatics
Chronic respiratory disease	14.9%	13.5%
Diabetes	8.4%	14.3%
Household contact of immunocompromised individual	0.5%	0.7%
Immunosuppression	2.4%	2.4%
Person in long-stay residential or home	0.2%	0.5%
Pregnant woman	2.2%	2.4%
Splenic dysfunction	0.2%	0.2%

### 3.10.7 Advocating for immunisation services in community pharmacies, limitations and challenges

One of the challenges in delivering immunisation services has been a lack of public awareness that immunisation services are available in community pharmacies. This indicates that pharmacists may need to be more active in promoting pharmacy based immunisation services in future. A poster is not enough to draw hard-to-reach patients into the pharmacy for an NHS or private immunisation service.

In addition, a UK survey conducted by the Patients Association in 2003 found that patients had concerns about the expertise of pharmacists, confidentiality and privacy in pharmacies.<sup>8</sup> Since 2003 and with the re-commissioning of the national immunisation campaign the public image of pharmacies as immunisation sites has improved. In fact, due to the accessibility and extended opening hours many patients find it more convenient to visit a pharmacy rather than their family doctor, as they do not have to make an appointment.<sup>9</sup>

Furthermore, pharmacy-based immunisation providers have recognised the following issues as barriers to successful implementation including training availability, health service disorganization, workload and the capacity of pharmacists' in an already demanding environment with competing priorities, recruitment, and vaccine procurement.<sup>10</sup>

However, the foremost challenge has been the opposition from family doctors (GPs). In particular, where GPs received payment for administering flu vaccines, they were least likely to relinquish this income opportunity to community pharmacists.<sup>11</sup> The GPs' Committee has criticised opening up the national flu campaign to all pharmacies in 2015 claiming that it will hinder GPs following up on their at-risk patient groups due to a lack of proper protocols between the pharmacist and GP to accurately share records.<sup>12</sup> In addition to the issue of inaccurate shared records, the duplication of vaccination and pharmacists' anaphylaxis training were the most cited concerns voiced by GPs. To improve collaborative efforts and reduce the administrative burden on GP practices it will be important to ensure accurate and timely data transfer is fed back into the GP record.

Another challenge altogether separate from competition is that pharmacists in the community pharmacy sector have reported lack of confidence in running the service for the first time and in administering vaccines. This signals a need for more support and training opportunities from an early stage for pharmacists. In the future, lack of engagement from pharmacists could lead to a decrease in funding and support from the NHS.

Finally, the UK must do more to recognise the role that support staff have to play in part of the service and advocacy, particularly within community as healthy living champions and to dispel myths surrounding immunisation schedules and perceived risk of side effects.

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## 3.11 United States of America



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Disclaimer: the information represents information gathered in May 2016 and may be subjected to changes

Indicators	
Population (millions) <sup>1</sup>	318.9
Population > 65 years (%Total) <sup>1</sup>	14.0
Health expenditure (% GDP) <sup>1</sup>	17.1
Pharmaceutical expenditure (%health expenditure) <sup>1</sup>	11.9
Number of community pharmacies	32,500

### 3.11.1 Overview

Pharmacists have made significant strides in the United States over the past 20 years, increasing access to immunisations and protecting individuals from vaccine-preventable diseases. The scope of authority for pharmacists has expanded, supported by a public health need and the actions of immunising pharmacists. Furthermore, patients' positive perceptions and acceptance of pharmacists as immunisers have grown. Critical to this growth has been APhA's Pharmacy-Based Immunization Delivery Certificate Training Program (CTP). The CTP began in 1996 and has trained more than 280,000 pharmacists. This has been accomplished through partnerships with schools and colleges of pharmacy, state pharmacy associations, pharmacy corporations, and a dedicated group of faculty and staff. The programme prepares pharmacists to assume active roles as members of the immunization neighborhood to serve patients across their lifespan. The Centers for Disease Control and Prevention (CDC) has recognised APhA's gold standard CTP for its content and quality. Recognising the importance of keeping current on CDC's Advisory Committee on Immunization Practice (ACIP) recommendations, APhA provides webinars after each ACIP meeting. The organisation also provides additional education and training on contemporary immunisation issues, publications and networking opportunities to support pharmacists' role as informed and knowledgeable members of the immunization neighborhood.<sup>2</sup>

Snapshot over the past 20 Years:

- More than 280,000 pharmacists trained to administer vaccines (up from 40,000 in 2007);
- All 50 states, District of Columbia, and Puerto Rico authorise pharmacists to administer vaccines at some level (in 1996, 14 states authorised pharmacists for influenza vaccination);
- Pharmacists are trained about vaccines across the lifespan and are helping patients complete vaccine series;
- All ACPE-accredited schools of pharmacy required to include immunisation training in their curricula (2016);
- Number of adults getting influenza vaccinations in community pharmacies increased from 6% of adults (2004–2005) to about 25% (2015–2016);
- APhA House of Delegates passes policy (2007, 2011) for all pharmacists being up to date on their own vaccinations (rates have approached 90%);
- Pharmacies target immunisation messages to patients by screening pharmacy records and patients' medication use to identify need for specific vaccination;
- APhA coins the concept of the "immunization neighborhood" — collaborating, coordinating, and communicating with other immunisation stakeholders (2013);
- H1N1 pandemic (2009) highlighted pharmacists as important immunisation provider;
- Pharmacists implement Travel Health programme.

### 3.11.2 Advocating for immunisation and promoting immunisation services in pharmacies

In 1994, the first organised immunisation training of pharmacists took place in Seattle, Washington. Followed by the nationwide, 20 hours Pharmacy-Based Immunization Delivery Certificate Training programme established by the APhA with recognition by the CDC in 1996. Since the inception of the programme, more than 280,000 pharmacists have been trained to administer vaccines across the lifespan, and the scope and authority of pharmacists has greatly expanded.<sup>2</sup>

In 1996, the APhA House of Delegates adopted policy that calls on pharmacists to take on at least one of three roles: educator, facilitator and/or administer. The APhA supports pharmacists as key communicators in disseminating messages about the importance of immunisations to the general population. In 2010–11, it was estimated that the pharmacy community contributed more than \$40 million dollars in marketing and educating the public at large about the importance of receiving immunisations. The pharmacist led immunisation programmes were promoted using posters, pharmacy signage, and leaflets, as well as presence on the media, with TV and radio advertisements, and social media outlets to help increase awareness of the benefits of immunisation services provided in the pharmacy.

The Academy of Managed Care Pharmacy reports that the impact of these health promotion campaigns not only increased the number of patients seeking immunisation services at pharmacies but also increased the number of patients requesting immunisations from their physicians by representatives of the medical profession.<sup>3</sup>

APhA has been awarding pharmacists for their work in vaccination since 2008 and the criteria include an evaluation of the impact, collaboration, originality, and ability to overcome challenges and create opportunities for pharmacists.<sup>3</sup> Encouraging best practice recognition and engagement, APhA' Immunization Champions Awards recognises pharmacists, support personnel and stakeholder who have made major contributions towards improving vaccination rates in their localities and across the nation.

Further health promotion activities offered by pharmacies include incentive programmes that are used to motivate people to obtain recommended vaccinations. The incentive rewards may be monetary or non-monetary and are given to clients or families in exchange for keeping an appointment, receiving a vaccination, returning for a vaccination series, or producing documentation of vaccination status. The rewards are typically food vouchers, gift cards, lottery prizes, and baby products. Incentive reward programmes is separate to interventions that enhance access to vaccination services for example arranging transportation, providing child-care, home visits and the administration of free vaccinations or at a reduced cost to clients.<sup>4</sup>

Also, a client reminder and recall systems is another public health intervention used to increase vaccination rates by immunisation providers, including community pharmacies. This form of intervention is used to remind members of a target population that vaccinations are due or late. These reminders and recalls may be delivered by various methods such as via the telephone, letter, postcard, text messages, or other and may differ in content. In most cases, reminder and recall notices are individualised for each client, and it often contains educational messages about the importance of vaccination.

The term “immunization neighborhood”, coined by the APhA in 2013, is gaining acceptance by immunisation stakeholders and is defined as “collaboration, coordination, and communication among immunisation stakeholders dedicated to meeting the immunisation needs of the patient and protecting the community from vaccine-preventable diseases.” The immunization neighborhood is patient and community centric. An entire community can invest in assessing, administering, and/or referring patients to receive appropriate vaccines, including referral between pharmacists and other providers. Areas that US pharmacists are focusing on include supporting the sharing and exchanging of immunisation data among providers and meeting common quality/outcome goals.

### 3.11.3 Administration of vaccines in pharmacies

In 1996, the APhA House of Delegates passed a resolution calling for pharmacists to assume one of the following three roles:

1. Pharmacist as advocate—by educating and motivating patients
2. Pharmacist as facilitator—by hosting others who vaccinate
3. Pharmacist as immuniser—by vaccinating patients

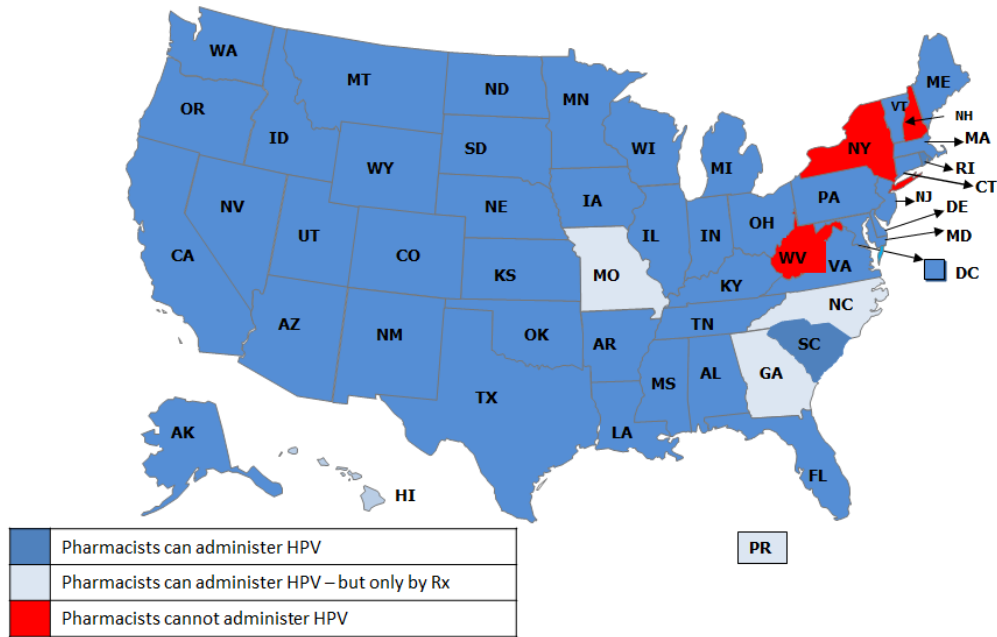
Since then, all 50 states, DC and Puerto Rico allow pharmacists to administer influenza vaccinations, with Maine as the final state to allow pharmacists to administer influenza immunisations in October of 2009. The scope of pharmacist’s authority to administer vaccines is determined by each state’s laws and regulations governing pharmacy practice and therefore is varied across the country. However, in general the authority to vaccinate is centred upon the type of vaccination, the route of administration, and the age of the patient. Based on these criteria many states allow for the use of protocols and standing orders, while some require prescriptions from a physician before pharmacists may administer certain vaccines to particular aged patients, and all pharmacists must undergo training in order to immunise patients. Student pharmacists may administer vaccines under the supervision of a trained immunising pharmacist in 46 states. Early on, APhA took the position that engaging students pharmacists early in their careers regarding the importance of immunisations would carry over into practice. This is proving true as new graduates seek positions that allow them to immunise and employers are requiring new hires to have the skillset.

There are 30 states/territories allowing pharmacists to administer vaccines by a protocol, standing order, or prescription. Each state defines the authorisation and scope for pharmacists to immunise. The process for pharmacists administering vaccines also varies by state and is outlined in the table below.

Administration of vaccines in primary care:	
Community pharmacies	Healthcare centres
Healthcare professional(s) administering vaccinations	
Pharmacist or nurse	Nurse, pharmacists, other healthcare personnel
Legal accountability – under scope of practice	
Pharmacy manager, pharmacists	Pharmacists or other healthcare professionals
Vaccination provided	
<p>Authority to administer (depends on State):</p> <ul style="list-style-type: none"> <li>• 48 states allow pharmacists to administer any vaccine through various processes.</li> <li>• 52 states allow pharmacists to administer pneumococcal vaccine.</li> <li>• 52 states allow pharmacists to administer zoster vaccine.</li> <li>• 52 states allow pharmacists to administer the influenza vaccine</li> <li>• 51 states allow pharmacists to administer tetanus–diphtheria/tetanus–diphtheria–pertussis vaccine.</li> <li>• 49 states allow pharmacists to administer human papillomavirus vaccine</li> <li>• 49 states allow pharmacists to administer measles, mumps, and rubella (MMR) vaccine</li> </ul> <p>Furthermore, pharmacists’ authorisation is dependent on the age of the patient as outlined within the state statutory regulations. Currently:</p> <ul style="list-style-type: none"> <li>• 27 states allow vaccinations for patients of any age.</li> <li>• 34 states allow vaccinations for patients 18 years or older.</li> </ul>	<ul style="list-style-type: none"> <li>• Hepatitis B (HepB) vaccine</li> <li>• Rotavirus (RV) vaccines: (RV1 [Rotarix] and RV5 [RotaTeq])</li> <li>• Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine.</li> <li>• Haemophilus influenzae type b (Hib) conjugate vaccine. (PRP-T [ACTHIB, DTaP-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix)], PRP-OMP [PevaxHIB or COMVAX], PRP-T [Hiberix])</li> <li>• Pneumococcal vaccines. (Minimum age: 6 weeks for PCV13, 2 years for PPSV23)</li> <li>• Pneumococcal vaccines. (PCV13, and PPSV23)</li> <li>• Influenza vaccines. (inactivated influenza vaccine [IIV], live attenuated influenza vaccine [LAIV])</li> <li>• Measles, mumps, and rubella (MMR) vaccine</li> <li>• Varicella (VAR) vaccine</li> <li>• Hepatitis A (HepA) vaccine</li> <li>• Meningococcal vaccines</li> <li>• Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine (Boostrix and Adacel)</li> <li>• Human papillomavirus (HPV) vaccines</li> </ul>

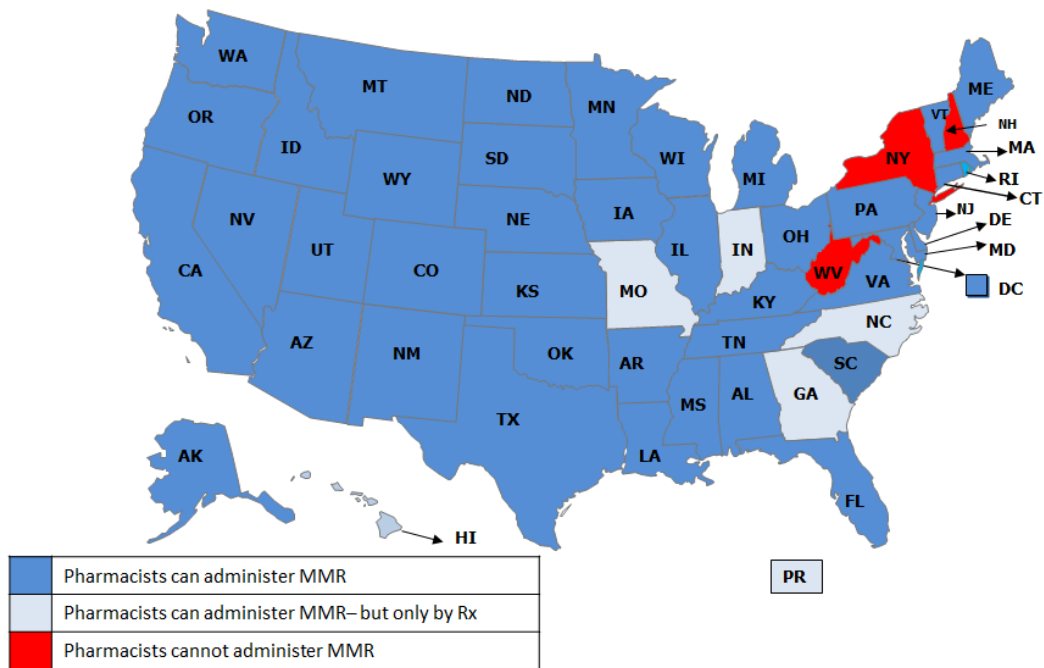


Administration of vaccines in primary care:	
Community pharmacies	Healthcare centres
<ul style="list-style-type: none"> <li>18 states allow vaccinations at differing age levels from age 3 years to 14 years.</li> </ul>	Other vaccines that may be provided <ul style="list-style-type: none"> <li>Hepatitis A and B</li> <li>Rabies</li> <li>Rotavirus</li> <li>Varicella Zoster</li> <li>Cholera</li> <li>Tick-borne encephalitis</li> <li>Typhoid fever</li> <li>Yellow fever</li> </ul>
Vaccination requirements	
Prescription: Depending on age of patient and type of vaccine a prescription is required in some states. Certified/accredited pharmacist training: Yes Vaccination record: Yes Specifications on premises, equipment, material and waste management: Yes	Prescription: depends on antigen and patient age
Vaccination rates	
<ul style="list-style-type: none"> <li>Pharmacists provide vaccinations in 87% of community pharmacy settings.</li> <li>25% of flu vaccinations are made in community pharmacy setting.</li> </ul> Source: APhA Annual Pharmacy-Based Influenza and Adult Immunization Survey 2014 First Draft — January 29, 2015	Flu vaccine- 60% of individuals aged ≥65 years; 10% to 40% of other groups, which include children, younger individuals with risk factors; 60% for health care workers. Source: Centre for Disease and Control (CDC)- SEASON 2014/2015
Vaccination supply	
Vaccines are purchased directly from pharmaceutical wholesalers or negotiated directly with the pharmaceutical industry.	
Vaccination payment and reimbursement	
Payment to pharmacists for vaccinations and affiliated services varies from patients paying out of pocket to coverage by public and private payers. Recognition of pharmacists as in-network providers for coverage varies by plan.	Pharmacists provide travel health services primarily covered out of patient pocket.



Based upon APhA/NASPA Survey of State IZ Laws/ Rules Updated July 1, 2015

Figure 1: Pharmacist Authority to Administer HPV Vaccines by State. Source: [APhA](#) (reproduced with permission).



Based upon APhA/NASPA Survey of State IZ Laws/ Rules Updated July 1, 2015

Figure 2: Pharmacist Authority to Administer MMR Vaccines by State. Source: [APhA](#) (reproduced with permission).

### 3.11.4 Training of pharmacy workforce

The APhA Pharmacy-Based-Immunization Delivery Certificate Training Program provides pharmacists with the essential skills to become a primary source for vaccine administration and information in accordance with CDC and other professional guidelines, standards and recommendations. This Accreditation Council for Pharmacy

Education (ACPE) activity counts as advanced professional training and a certificate of completion. It is not a certification that requires a psychometric approach to the development and measuring of competency.

The education and training for pharmacist vaccination and administration of injectable medicine is divided into three components as follows:

1. 12 hour (1.2 CEU) self-study online modules with case studies and assessment exam
2. 8.0 hour (0.80 CEU) live seminar with final exam
3. Hands-on assessment of intramuscular, subcutaneous and other injection techniques

The first component is centred upon self-study learning activities that are focused upon the role of pharmacists as vaccine advocates and administrators and vaccine-preventable diseases. Within the self-study component of the programme there are five learning modules that present in-depth information on immunology, practice implementation, and legal and regulatory issues and includes a self-assessment test as well as real-life case studies.

Training of the pharmacy workforce	
Contents	Administration of vaccines and injectable medicines; Basic life support (automated external defibrillation is optional).
Certification/accreditation	Administration of vaccines and injectable medicines training delivered by the APhA. Pharmacy-Based-Immunisation Delivery Certificate Training Program developed by the APhA plus Basic Life Support by certified training provider.
Providers	American Pharmacists Association, other education and training courses providers
Requirement	Mandatory
Level	Pre and post-registration (in some states students may immunise)
Training duration	Will vary by state requirements. The APhA certificate training programme is a 20 hour programme. Duration can vary with the training provider but must comply with the minimum content requisites set by the APhA.
Cost	Paid by employers or individual pharmacists. Costs can vary with the training provider.
Refresher requirements	Administration of vaccines and injectable medicines – APhA refreshes their course yearly, and provides supplemental information after each ACIP meeting. APhA Certificates of Achievement do not expire, however it is recommended that pharmacists complete an annual immunisation update continuing pharmacy education (CPE) activity (1–2 hours). APhA provides update after each quarterly CDC Advisory Committee on Immunization Practice (ACIP) meeting. Basic life support –Depends on source (American Heart Association or American Red Cross)

Source: [APhA BCACP Recertification Literature Study](#)

The second component of the programme includes a live training seminar focusing on pharmacy practice implementation. The live training is based on the experience of practitioners involved in immunisation administration as well as advocacy work. The live training seminar expands on the self-study programme and provides injection-technique training for both intramuscular and subcutaneous injections. A Certificate of Achievement is awarded to participants who successfully complete all activity requirements, which include the self-study component, live training seminar, and the injection technique assessment. Successful completion is defined as a score of 70% or better on both the self-study and live seminar assessments. All participants are strongly encouraged to obtain Cardiopulmonary Resuscitation (CPR) or Basic Cardiac Life Support (BCLS) certification but it is not a prerequisite of the programme. The Certificate of Achievement is invalid, however, without written proof of current CPR or BCLS certification, which can be attained from a variety of providers. The stipulations surrounding which type of certification is required, varies according to the employer and state requirements. In some instances, only basic training is required while others require training at the Basic Life Support (BLS) for Healthcare Providers level. Also, when immunising children, there are further requirements

such as infant or children CPR classes. With regards to CPR re-certification some states or employers may accept an online training course. In most states students are able to participate in the APhA training and thus are trained to deliver immunisation services as day one pharmacists.<sup>4</sup>

Number of pharmacists trained for administration of vaccines							
Year of Training							
2008	2009	2010	2011	2012	2013	2014	2015
Total number of pharmacists trained to date for administration of vaccines and injectable medicines							
60,000	100,000	120,000	150,000	200,000	230,000	250,000	>280,000
Number of pharmacists trained each year for administration of vaccines and injectable medicines							
YTD 60,000	40,000	20,000	30,000	50,000	30,000	20,000	>30,000

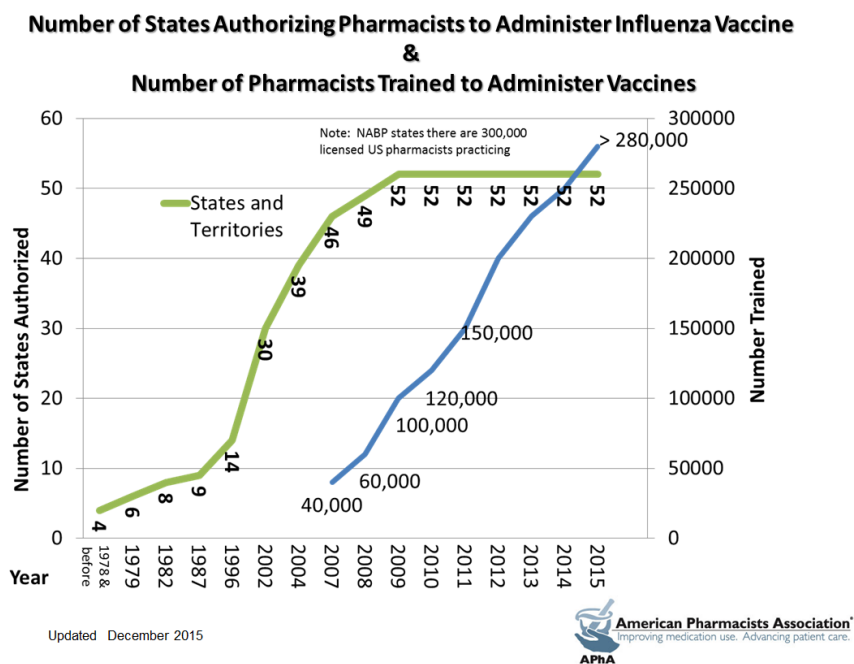


Figure 3: Number of States authorising pharmacists to administer influenza vaccines and number of trained pharmacists to administer vaccines. Source: APhA (reproduced with permission).

### 3.11.5 Tools and resources available to pharmacy professionals

The APhA provides support to its members and profession through the provision of resources and guidance. Included in this material are CDC recommendations by the ACIP and surveillance guidelines that guarantee a high quality and safe provision of immunisation which are available online. Other resources include the APhA immunisation handbook and [Epidemiology and Prevention of Vaccine-Preventable Diseases The Pink Book - Course Textbook](#).<sup>5</sup>

Videos, apps, patient handouts, immunisation schedules and clinical information are also available to pharmacists through the Immunization Action Coalition (IAC). The IAC provides communication resources to help pharmacists speak to parents or patients about religious concerns, beliefs in alternative medicine and the perceived safety issues around adjuvant ingredients. Through collaboration with other immunisation stakeholders, APhA provides access to useful resources such as those provided by CDC and IAC. The adoption of quality measures that pharmacists can impact related to immunisations continues to be an area under discussion within the profession and immunization neighborhood.<sup>6</sup> APhA provides an immunisation focused electronic newsletter every 2 weeks, a networking e-community, webinars and dedicated column and articles related to immunisation issues.

### 3.11.6 Vaccination records

In the larger healthcare arena, currently there is no coordinated system across the different states, and even within some states, to ensure patients are up to date with recommended vaccinations.

The current documentation system is incomplete and fragmented making it difficult for both patients and healthcare providers to manage and acquire immunisation records.<sup>7</sup> According to the APhA and ACMP, the development and implementation of a more sophisticated immunisation information system would improve quality and performance measures across a number of different entities from state health departments to health systems, payers, and even employers.<sup>8</sup>

Vaccination records	
Details recorded	Individual details: patient name, date of birth; Product details: type of vaccine, batch ( lot # ), expiry date; Administration service details: name of the professional administering the vaccine and signature, route of administration, site of administration, administration date, funding source and anaphylaxis.
Record format	Paper and Electronic
Record requirement	Mandatory (depends on state and patient age)
Record storage	Paper and Pharmacy electronic system
Record sharing	Anonymous data is shared with CDC for research purposes
Use of recorded information	Data analysis and evaluation performed by CDC
Minimum record keeping	Varies according to state general minimum 7 years
Other information	Other information may be recorded in the software, such as the presence of chronic diseases or pregnancy, which may be used in the future to better understand service uptake by high-risk patients other than the elderly.

### 3.11.7 Outcomes

Pharmacists have demonstrated that through the expansion of pharmacist-provided immunisations, patient vaccination rates have improved. To begin with, pharmacist-provided immunisations focused firstly on influenza and pneumococcal vaccines. However, pharmacists are now increasingly directing their attention on improving access to vaccinations across the lifespan and thereby widening the types of vaccines delivered. Currently, more than 280,000 pharmacists in the United States have been trained to provide immunisations, primarily through APhA's nationally recognised certificate training programme with authorisation to administer influenza vaccines in all 50 states. While the data surrounding flu vaccination rates within the community pharmacy is not available however, the APhA estimates that over 70% of pharmacies administer the flu vaccine.<sup>9</sup>

### 3.11.8 Advocating for immunisation services in community pharmacies, limitations and challenges

In recent years there has been some increase in the uniformity of legislation around immunisation practice across states. However, this could be further improved as variability in state practice creates a barrier to access for certain populations. Variability in mechanisms for documentation of vaccine services also reduces how effectively pharmacist-provided immunisations are delivered throughout the United States.

In addition, payment and health insurance benefit design continue to be a major challenge in states where pharmacists have not been recognised as healthcare providers under state Medicaid, Medicare, health plans and through commercial insurance carriers. Also, from the patient perspective significant process differences in how vaccine services are covered and paid for by commercial and government payers, creates a barrier to

access for patients who are eligible to receive the vaccine under their current healthcare insurance benefits package.<sup>9</sup>

Another challenge is the reluctance of pharmacist to immunise or publicise the immunisation service. Focus groups have reported that where pharmacists do not engage in the immunisation programme it is often due to lack of confidence in providing these services. The APhA has responded to with regular quarterly updates on the website, continuing education programmes, and immunisation special interest groups so pharmacists can communicate easily with each other and keep up to date. It has also been a challenge to provide immunisation training to pharmacists in rural areas.<sup>10</sup>

In some cases, inadequate access to vaccine registries and the lack of real-time transactions for vaccine services and to verify eligibility has hindered communication with providers when requesting billing through health plans. A lack of shared patient record systems has also proven to be a technological challenge between the patient, pharmacist and primary care physician. Currently, only 63% of pharmacy immunisation sites send documentation of patients' immunisation directly to the primary care physician (PCP) and only 35% report to an immunisation registry. Moreover, another 11% of pharmacists are not permitted access to their state or local immunisation registries.<sup>9</sup>

Overall, in the past twenty years the medical community has come to recognise pharmacists as qualified providers of immunisations and actively promotes the community pharmacy as an immunisation site to patient. It is important to now focus on documentation to provide robust evidence and expand the value of pharmacist provided immunisations and provides more complete vaccination records for practitioners and patients. Also, continued engagement with other immunisation stakeholders is important to enhance relationships and improve as well as expand outreach to businesses and commercial carriers.<sup>9</sup>

### 3.11.9 References

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## 4 Summary and conclusions

This report presents and summarises the current global trends on the role of pharmacists in immunisation and vaccination services.

- There is a growing trend for pharmacists' active involvement with vaccination related services, from advocacy and communication through to supply chain management and administration.
- Changes of this extended area of pharmacy practice have been gradual across the world, with more rapid developments taking place particularly in the last decade.
- Where pharmacists or pharmacies are actively involved with administration of vaccines, there is a corresponding greater engagement with public health messaging, multi-disciplinary working and immunisation advocacy in general.
- Targeted training for pharmacists, and access to training, is a key ingredient in progressing the expansion vaccination services towards routine service delivery through pharmacists and pharmacies.
- There is general agreement that there are challenges and limitations for the further development of pharmacists' role in immunisation; implementation of robust pharmacy training and balanced reimbursement systems would be of benefit in this area.
- The perceived competition threat to other health care professionals providing immunisation services is diminishing (especially where pharmacist/pharmacy engagement has been established) but remains a challenge in some countries. Greater advocacy of the known public health gain is recommended and leadership bodies should consider targeted campaigns to promote the established societal benefits.
- There is established evidence of the advantages of pharmacists' extended role in immunisation and vaccination including increased accessibility, increased public vaccination rates and coverage as well as public acceptance, trust and support.



## 5 Appendix

### 5.1 Questionnaire (English version)

#### Global survey on the role of pharmacists in immunisation Conducted on behalf of FIP

FIP has contracted University College of London (UCL) to develop a report on the role of pharmacists in immunisation and vaccination as it appears to be very different across the world: in some countries pharmacists are legally allowed to administer vaccinations, manage patients' vaccination schedules or organise vaccination activities and campaigns; in other countries, however, pharmacists do not play an active role in immunisation.

We would like to invite you to participate in this global survey. Your input will serve as a foundation for a global immunisation study to better understand the role of pharmacists in immunisation across the world and the impact of these activities. A subsequent report will be launched at the 2016 FIP Congress in Buenos Aires.

Please state below if you are replying to this questionnaire on behalf of your country or territory. This survey will take you approximately 5-20 minutes to complete and the deadline for submission is Friday, 11<sup>th</sup> March 2016. Completed surveys should be submitted by email to [h.rosado@ucl.ac.uk](mailto:h.rosado@ucl.ac.uk). If you feel that you are not able to participate in this study we would be really grateful if you could assist us in identifying the relevant contacts. If you have any questions regarding this survey or study please contact Dr Helena Rosado at [h.rosado@ucl.ac.uk](mailto:h.rosado@ucl.ac.uk).

Thank you very much for your time and support.

#### Keywords:

Immunisation: the process by which an individual becomes immune against an infectious disease either by natural contact with an infectious agent or by vaccination.

Vaccination: the administration of a vaccine to stimulate immunisation.

#### Respondent details

Country / Territory	Click here to enter text.
Title	Click here to enter text.
First name	Click here to enter text.
Family name	Click here to enter text.
Job title	Click here to enter text.
Member Organisation	Click here to enter text.
Email	Click here to enter text.

#### Q1. Advocating for immunisation

We would like to gather broad information about the role of pharmacists in advocating for immunisation in your country/territory. Feel free to clarify any answers or leave any comments in the box provided at the end of the section.

a) Do pharmacists tend to promote and support vaccination towards patients in your country/territory?

Yes  No

If yes, please answer question b). If no, please go to Q2.

b) In what type of activities do pharmacists participate in? Choose the option or all options that apply.

- Pharmacists tend to distribute vaccination leaflets
- Pharmacists provide immunisation information and advice to patients (e.g. raising awareness about the benefits of vaccination, busting common vaccination myths, etc.)
- Pharmacists organise and/or are actively involved in vaccination campaigns
- Pharmacists participate in multi-disciplinary immunisation campaigns
- Pharmacists verify patients' immunisation status/schedule and remind them when their next vaccination is due
- Pharmacists identify and advise high risk patient groups about their vaccination (e.g. advising patients aged 65 and over, diabetic patients, travel vaccines etc.)
- Pharmacists serve on immunisation advisory committees

Other/Comments

[Click here to enter text.](#)

## Q2. Administering vaccines

We would like to gather information about the role of pharmacists as vaccination providers and associated legal requirements for administration of vaccines in pharmacies in your country/territory. Feel free to clarify any answers or leave any comments in the boxes provided.

a) Can vaccines be legally administered in pharmacies or by pharmacists in your country/territory?

- No, administration of vaccines (or some vaccines) cannot be performed in pharmacies or by pharmacists in my country/territory
- Yes, administration of vaccines (or some vaccines) can be performed in pharmacies by trained pharmacists
- Yes, administration of vaccines (or some vaccines) can be performed in pharmacies by other healthcare professionals (e.g. nurses or doctors)

If yes, please answer questions b) to d). If no, please go to Q3.

b) Who is legally accountable for the vaccination process? (e.g. the pharmacy owner or manager, the professional administering the vaccine, etc.)

[Click here to enter text.](#)

c) Are there any specific requirements for administration of vaccines in pharmacies in your country/territory? (e.g. specifications on pharmacy premises; adherence/implementation of specific immunisation protocols, standing orders and/or guidelines such as waste management, special training of pharmacists, etc.)

- Yes
- No

Please specify.

[Click here to enter text.](#)

d) Please provide further information including relevant legislations/regulations, types on vaccines administered in pharmacies, populations/patients' age groups to which vaccines are administered, prescription requirements, reimbursement programmes, pharmacy vaccination rates, patient satisfaction or feedback on the pharmacy service.

[Click here to enter text.](#)

## Q3. Training the pharmacy workforce for immunisation/vaccination services

We would like to gather information about required and available formal training in immunisation/vaccine administration in your country/territory. Feel free to clarify any answers or leave any comments in the box provided at the end of the section.

a) Do pharmacists receive any formal or comprehensive immunisation/vaccine administration training in your country/territory?

- Yes for all
- Yes for some
- No

If yes, please answer questions b) to f). If no, please go to Q4.

b) At what career stage do pharmacists receive formal or comprehensive immunisation training?

- Undergraduate / university
- Post-registration / Post-graduate/ Continuous professional development

Comments

[Click here to enter text.](#)

c) Is the training mandatory?

Yes No

Comments

[Click here to enter text.](#)

d) Is there a refresher requirement (the training is only valid for a certain period of time)?

Yes No

Please specify

[Click here to enter text.](#)

e) Is the training accredited, certified, recognised or approved by a regulator or competent authority?

Yes No

Please specify

[Click here to enter text.](#)

f) Please provide details of the contents included in the training and the number of training hours? (e.g. general or comprehensive training on immunisation, how to advise patients, vaccine administration technique, anaphylaxis, cardiopulmonary resuscitation, etc.)

[Click here to enter text.](#)

#### Q4. Vaccination records

We would like to gather information about vaccination records in your country/territory. Choose the option or all options that apply. Feel free to clarify any answers or leave any comments in the boxes provided.

a) Do pharmacies have access to vaccination records or record vaccination details?

Yes for (almost) all Yes for some No

If yes, please answer questions b) to h). If no, please go to Q5.

b) In what format are vaccination records kept?

In paper format In electronic format

Comments

[Click here to enter text.](#)

c) Where/How are vaccination records stored? (e.g. In the pharmacy, in local pharmacy electronic systems, in physician-based electronic systems, in a national electronic system, etc.)

[Click here to enter text.](#)

d) Which vaccination details are recorded?

Patient's details (e.g. name, age, gender, medication profile, etc.)

Vaccine details (e.g. name, batch, expiry date, etc.)

Vaccination administration details (e.g. name of the professional administering the vaccine, route of administration, administration date, etc.)

Please specify

[Click here to enter text.](#)

e) Please indicate if record keeping is optional or mandatory (e.g. patients provide details on a voluntary basis but vaccination details have to be recorded)

[Click here to enter text.](#)

f) For how long do vaccination records have to be kept? (e.g. there is no legal requirement, a minimum of 5 years, etc.)

[Click here to enter text.](#)

g) Are vaccination records shared? (e.g. shared between pharmacies, between physicians' offices and pharmacies, nationally shared, etc.)

Yes No

Please specify



[Click here to enter text.](#)

h) How is the recorded information used? (e.g. pharmacists are able to retrieve patient vaccination records to help assess patients' immunisation status; records are analysed to determine vaccination rates, etc.)

[Click here to enter text.](#)

### Q5. Additional services related to vaccinations

Please describe below any services (outside administering/injecting vaccines) provided by pharmacies to support immunisation.

[Click here to enter text.](#)

### Q6. Main limitations to the development of pharmacists' role in immunisation

We would like to gather information about the main limitations and or challenges that pharmacists face regarding the provision of immunisation services in your country/territory. Choose the option or all options that apply. Feel free to clarify any answers or leave any comments in the box provided at the end of the section.

- No significant limitations
- Limited acceptance and/or support by the government / health system
- Limited acceptance and/or support by other healthcare professionals
- Limited financial support from government / health system
- Lack of patient demand / acceptance
- Limited access to training opportunities for pharmacists
- Lack of confidence by pharmacists to perform immunisation services and activities

Other/Comments

[Click here to enter text.](#)

## 5.2 Questionnaire (French version)

### Enquête mondiale sur le rôle des pharmaciens en matière de vaccination

Menée au nom de la FIP

La FIP a commissionné l'University College of London (UCL) pour développer un rapport sur le rôle des pharmaciens en matière de vaccination, car ce rôle varie grandement entre les pays ; dans certains pays, les pharmaciens sont autorisés à vacciner, gèrent le calendrier vaccinal des patients ou organisent des campagnes pour soutenir la vaccination ; dans d'autres pays, les pharmaciens ne jouent pas un rôle actif en matière de vaccination.

Nous vous invitons à participer à l'enquête mondiale ci-dessous. Votre réponse permettra une meilleure compréhension du rôle du pharmacien en matière d'immunisation au niveau international et l'impact de ces activités. Un rapport présentant les conclusions de cette enquête sera dévoilé au congrès 2016 de la FIP à Buenos Aires.

Merci d'indiquer ci-dessous si vous répondez à cette enquête au nom de votre pays. Il vous faudra compter entre 5 et 20 minutes pour compléter ce questionnaire qui devra parvenir d'ici au **Vendredi 18 mars 2016** par email à [h.rosado@ucl.ac.uk](mailto:h.rosado@ucl.ac.uk). Si vous estimez que vous n'êtes pas à même de répondre à ce questionnaire, merci de nous aider à identifier la personne qui le pourra. Si vous avez des questions sur cette enquête, n'hésitez pas à contacter Dr Helena Rosado à [h.rosado@ucl.ac.uk](mailto:h.rosado@ucl.ac.uk).

Merci par avance pour votre soutien en complétant ce questionnaire.

Qui répond à ce questionnaire :

Pays	Click here to enter text.
Civilité	Click here to enter text.
Prénom	Click here to enter text.
Nom de famille	Click here to enter text.
Titre / fonction	Click here to enter text.
Organization	Click here to enter text.
Email	Click here to enter text.

#### Q1. Promotion de la vaccination

Nous souhaitons collecter des informations générales autour du rôle du pharmacien en matière de promotion de la vaccination dans votre pays. N'hésitez pas à clarifier vos réponses (ou inclure un commentaire) dans les cadres à cette attention.

c) Est-ce que les pharmaciens ont tendance à promouvoir et à soutenir la vaccination auprès des patients dans leur pays ?

Oui  Non

If vous avez répondu oui, merci de répondre à la question b). Si vous avez répondu non, merci de d'aller directement à la question Q2.

d) Dans quel type d'activités les pharmaciens s'impliquent ? Merci de sélectionner le (ou les) réponses qui reflètent la situation dans votre pays.

- Les pharmaciens distribuent des brochures sur la vaccination
- Les pharmaciens fournissent de l'information et des conseils aux patients (par exemple, sensibiliser les patients aux bénéfices de la vaccination, contrecarrer les idées reçues sur la vaccination...)
- Les pharmaciens organisent et/ou s'impliquent activement dans les campagnes de promotion de la vaccination
- Les pharmaciens participent aux campagnes inter-professionnelles de promotion
- Les pharmaciens vérifient le statut vaccinal des patients et leur rappellent quand ils doivent renouveler une vaccination
- Les pharmaciens identifient et conseillent les patients appartenant à des groupes à risque (par exemple, âgés de plus de 65 ans, des patients diabétiques, les personnes voyageant dans d'autres pays...)
- Des pharmaciens siègent aux Comités consultatifs officiels sur la Vaccination

Autres / commentaires

Click here to enter text.

## Q2. Administration de vaccins

Nous souhaitons collecter des informations sur le rôle du pharmacien en tant qu'agent d'administration de vaccin, ainsi que le cadre réglementaire pour la vaccination dans les pharmacies de votre pays. N'hésitez pas à clarifier vos réponses (ou inclure un commentaire) dans les cadres à cette attention.

- a) Est-ce que les lois et réglementations autorisent la vaccination dans les pharmacies et/ou par les pharmaciens dans votre pays ?

- Non, la vaccination ne peut pas avoir lieu dans les pharmacies ou par les pharmaciens dans mon pays  
 Oui, la vaccination peut avoir lieu dans les pharmacies par des pharmaciens autorisés  
 Oui, la vaccination peut avoir lieu dans la pharmacie par d'autres professionnels de santé (infirmières, médecins...)

Si vous avez répondu oui, merci de répondre aux questions b à d. Si vous avez répondu non, veuillez aller directement à la question Q3.

- b) Qui est responsable du processus de vaccination selon la loi / réglementation ? (par exemple, le propriétaire ou directeur de la pharmacie, le professionnel qui vaccine...)

[Click here to enter text.](#)

- c) Y-a-t-il des exigences particulières pour l'administration de vaccins à l'officine dans votre pays ? (par exemple des exigences pour les locaux officinaux, suivi de protocoles spécifiques à la vaccination, recommandations quant à la gestion des déchets, formation spécifique des pharmaciens...)

- Oui  Non

Merci d'apporter des précisions au besoin :

[Click here to enter text.](#)

- d) Merci de fournir toute information complémentaire relative à la législation et réglementation, les types de vaccins administrés dans les pharmacies, les populations qui peuvent être vaccinées à l'officine (âge, type...), les exigences de prescription, prises en charge par l'assurance maladie, l'amélioration du taux de vaccination grâce à la vaccination à l'officine, la satisfaction des patients, l'opinion quant à la vaccination à l'officine...

[Click here to enter text.](#)

## Q3. Formation des personnels pharmaceutiques sur la vaccination et les services associés

Nous souhaitons collecter des informations sur la formation obligatoire ou disponible sur l'administration de vaccins dans votre pays. N'hésitez pas à clarifier vos réponses (ou inclure un commentaire) dans les cadres à cette attention.

- a) Est-ce que les pharmaciens sont formés à l'administration de vaccins dans votre pays (que cette formation soit succincte ou poussée) ?

- Oui (pour tous)  Oui pour certains  Non

Si vous avez répondu oui, merci de répondre aux questions b à f. Si vous avez répondu non, veuillez aller directement à la question Q4.

- b) À quel moment les pharmaciens reçoivent-ils une formation sur la vaccination ?

- À l'université  
 Après l'université / formation continue

Commentaires

[Click here to enter text.](#)

- c) Cette formation est-elle obligatoire ?

- Oui  Non

Commentaires

[Click here to enter text.](#)

- d) Est-ce que cette formation doit être actualisée selon un intervalle défini ?

- Oui  Non

Merci d'apporter des précisions au besoin :

[Click here to enter text.](#)

- e) Cette formation est-elle sujette à une accréditation ou une autorisation par l'Ordre des pharmaciens ou d'autres autorités de santé ?

Oui  Non

Merci d'apporter des précisions au besoin :

[Click here to enter text.](#)

- f) Merci de fournir des informations complémentaires sur le contenu de la formation (dont le contenu de la formation et la durée en heures) (par exemple : une formation succincte ou poussée sur la vaccination, le conseil au patient, les techniques d'administration de vaccins, anaphylaxie, réanimation cardio-respiratoire...)

[Click here to enter text.](#)

#### Q4. Dossiers / registres vaccinaux

Nous souhaitons collecter des informations sur les dossiers vaccinaux individuels [ou registres vaccinaux] de votre pays. Merci de choisir l'option (ou les options) qui reflète(nt) le mieux la situation de votre pays. N'hésitez pas à clarifier vos réponses (ou inclure un commentaire) dans les cadres à cette attention.

- a) Est-ce que les pharmacies ont accès au dossier / registre vaccinal des patients ou enregistrent les données de vaccination des patients ?

Oui, pour (presque) tous  Oui pour certains  Non

Si vous avez répondu oui, merci de répondre aux questions b à h. Si vous avez répondu non, veuillez aller directement à la question Q5.

- b) Quel est le format de ce dossier / registre vaccinal ?

Format papier  Format électronique

Commentaires

[Click here to enter text.](#)

- c) Où et comment sont conservés ces registres / dossiers vaccinaux. (par exemple, dans la pharmacie d'officine, dans un système centralisé de dossier médical...)

[Click here to enter text.](#)

- d) Quelles informations sont enregistrées dans ce dossier / registre ?

- Des informations sur le patient (par exemple nom, âge, genre, profile médicamenteux...)  
 Des informations sur le vaccin (par exemple le nom de la spécialité, numéro de lot, date d'expiration...)  
 Des informations sur l'acte de vaccination (par exemple, le nom de la personne qui a vacciné, la date de la vaccination...)  
 Merci d'apporter des précisions au besoin :

[Click here to enter text.](#)

- e) Merci d'indiquer si le dossier / registre vaccinal est optionnel ou obligatoire (les informations personnelles sont partagées avec l'accord des patients, les données de vaccination doivent être entrées)

[Click here to enter text.](#)

- f) Quelle est la durée de conservation de ces dossiers / registres vaccinaux? (par exemple, il n'y a pas d'exigences légales, 5 ans au minimum...)

[Click here to enter text.](#)

- g) Est-ce que les dossiers / registres vaccinaux sont partagés ? (par exemple, entre les pharmacies, avec les médecins, un partage au niveau national, régional...)

Oui  Non

Merci d'apporter des précisions au besoin :

[Click here to enter text.](#)

- h) Comment l'information dans ce dossier / registre vaccinal est-elle utilisée ? (par exemple, les pharmaciens peuvent accéder aux données des patients pour évaluer le statut vaccinal des patients, les registres sont utilisés pour évaluer la couverture vaccinale...)

[Click here to enter text.](#)

#### Q5. Autres services associés aux vaccins

Merci de décrire ci-dessous tout autre service (autre que l'administration des vaccins) fourni par les pharmaciens en matière de vaccins.



[Click here to enter text.](#)

### Q6. Principaux freins au développement du rôle des pharmaciens en matière de vaccination

Nous souhaitons collecter des informations sur les principaux freins et les défis pour la fourniture de services liés à la vaccination dans votre pays. Merci de choisir l'option (ou les options) qui reflète(nt) le mieux la situation de votre pays. N'hésitez pas à clarifier vos réponses (ou inclure un commentaire) dans les cadres à cette attention.

- Pas de freins significatifs
- Acceptation ou soutien très limité du gouvernement ou du système de santé
- Acceptation ou soutien très limité des autres professionnels de santé
- Soutien financier limité du gouvernement et/ou des systèmes de santé
- Faible demande et/ou acceptabilité des patients
- Accès limité aux formations destinées aux pharmaciens
- Manque de confiance des pharmaciens pour la fourniture des services et activités

Autres / commentaires

[Click here to enter text.](#)



## 5.3 Data summary from the global survey

Countries and Territories	WHO region	OECD Members	Income level	Number of Pharmacies <sup>a</sup>	Inhabitants per pharmacy <sup>a</sup>	Advocacy for vaccination	Vaccination administration	Training required	Access to Records
Argentina	The Americas	-	Upper middle	20,000	2,149	Y	P	Y	N
Australia	Western Pacific	Y	High	5,456	4,322	Y	PH	Y	Y
Belgium	Europe	Y	High	4,950	2,263	Y	N	N	Y
Bolivia	The Americas	-	Lower middle	4,380	2,289	Y	H	N	N
Brazil	The Americas	-	Upper middle	77,339	2,644	Y	N	N	Y
Canada	The Americas	Y	High	9,558	3,740	Y	PH	Y	Y
China	Western Pacific	-	Upper middle	432,659	3,168	Y	N	N	N
Congo (Dem. Rep.)	Africa	-	Low	-	101,000	Y	H	Y	N
Costa Rica	The Americas	-	Upper middle	1,019	4,689	Y	P	Y	Y
Denmark	Europe	Y	High	220	25,786	Y	PH	Y	Y
Ecuador (Quito)	The Americas	-	Upper middle	-	-	N	N	N	N
Ethiopia	Africa	-	Low	-	142,000	Y	N	N	N
Finland	Europe	Y	High	814	6,726	Y	H	N	N
France	Europe	Y	High	22,510	2,954	Y	N	N	Y
Germany	Europe	Y	High	20,441	3,976	N	N	N	Y
Hong Kong, China	Western Pacific	-	High	606	12,023	N	N	N	N
Hungary	Europe	Y	High	2,319	4,241	N	N	N	N
Iceland	Europe	Y	High	67	4,940	N	H	N	N
India	South East Asia	-	Lower middle	700,000	1,730	N	N	N	-
Iraq	Eastern Mediterranean	-	Upper middle	6,586	5,553	Y	N	N	N
Ireland	Europe	Y	High	1,807	2,526	Y	P	Y	Y
Israel	Europe	Y	High	498	16,811	N	N	N	-
Italy	Europe	Y	High	18,201	3,339	Y	N	N	N
Japan	Western Pacific	Y	High	57,071	2,223	Y	N	N	N
Jordan	Eastern Mediterranean	-	Upper middle	2,747	2,325	Y	-	-	-

Countries and Territories	WHO region	OECD Members	Income level	Number of Pharmacies <sup>a</sup>	Inhabitants per pharmacy <sup>a</sup>	Advocacy for vaccination	Vaccination administration	Training required	Access to Records
Lebanon	Eastern Mediterranean	-	Upper middle	2,744	1,563	N	H	N	N
Netherlands	Europe	Y	High	1,974	8,578	Y	H	N	Y
New Zealand	Western Pacific	Y	High	-	-	Y	P	Y	N
Nigeria	Africa	Y	Lower middle	2,800	65,809	Y	N	Y	Y
Norway	Europe	-	High	778	6,676	N	N	N	N
Pakistan	Eastern Mediterranean	-	Lower middle	1,200	159,821	Y	H	N	Y
Paraguay (Asunción)	The Americas	-	Upper middle	2,545	2,752	N	N	N	N
Philippines	Western Pacific	-	Lower middle	32,443	3,033	Y	PH	Y	N
Poland	Europe	Y	High	13,144	2,928	Y	N	N	N
Portugal	Europe	Y	High	2,885	3,604	Y	PH	Y	Y
Russian Federation	Europe	-	High	50,674	2,842	Y	N	N	N
Senegal	Africa	-	Lower middle	1,030	13,738	Y	N	Y	N
South Africa	Africa	-	Upper middle	3,136	17,219	Y	PH	Y	Y
Spain	Europe	Y	High	21,854	2,120	Y	N	Y	N
Switzerland	Europe	Y	High	1,774	4,622	Y	PH	Y	Y
United Arab Emirates	Eastern Mediterranean	-	High	2,500	3,306	N	N	N	N
Ukraine	Europe	-	Lower middle	-	-	N	N	N	N
United Kingdom	Europe	Y	High	14,361	4,532	Y	PH	Y	Y
United States of America	The Americas	Y	High	32,500	9,883	Y	PH	Y	Y
Uruguay	The Americas	-	High	-	-	N	N	N	N

<sup>a</sup>Data from this report, FIP Global Trends Shaping Pharmacy: Regulatory Frameworks, Distribution of Medicines and Professional Services and FIP-RPS Global Workforce Observatory (2015)

Y	Yes	N	No	P	Pharmacist	H	Other healthcare professional	PH	Pharmacist and other healthcare professional	-	No data
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Data summary for the global survey listed according to WHO regions, Income Groups or OECD membership

WHO region	All WHO Member States	In this report (n)	Advocacy for vaccination	Vaccination in pharmacies	Vaccination by pharmacists	Training required	Access to records
Africa	23.7% (46)	11.1% (5)	11.1% (5)	4.4% (2)	2.2% (1)	8.9% (4)	4.4% (2)
Eastern Mediterranean	11.3% (22)	11.1% (5)	6.7% (3)	4.4% (2)	0% (0)	0% (0)	2.2% (1)
Europe	27.3% (53)	42.2% (19)	28.9% (13)	17.8% (8)	11.1% (5)	13.3% (6)	20.0% (9)
South East Asia	18.0% (35)	2.2% (1)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
The Americas	5.7% (11)	20.0% (9)	13.3% (6)	11.1% (5)	8.9% (4)	8.9% (4)	8.9% (4)
Western Pacific	13.9% (27)	13.3% (6)	11.1% (5)	6.7% (3)	6.7% (3)	6.7% (3)	2.2% (1)

Income group		In this report (n)	Advocacy for vaccination	Vaccination in pharmacies	Vaccination by pharmacists	Training Required	Access to records
High		55.5% (25)	40.0% (18)	26.7% (12)	20.0% (9)	22.2% (10)	26.7% (12)
Upper middle		22.2% (10)	15.6% (7)	8.9% (4)	6.7% (3)	6.7% (3)	6.7% (3)
Lower middle		15.6% (7)	11.1% (5)	6.7% (3)	2.2% (1)	6.7% (3)	4.4% (2)
Low		4.4% (2)	4.4% (2)	2.2% (1)	0% (0)	2.2% (1)	0% (0)

OECD		In this report (n)	Advocacy for vaccination	Vaccination in pharmacies	Vaccination by pharmacists	Training required	Access to records
OECD members		11.3% (22)	40.0% (18)	26.7% (12)	20.0% (9)	24.4% (11)	28.9% (13)
Non-OECD members		51.1% (23)	31.1% (14)	17.8% (8)	8.9% (4)	13.3% (6)	8.9% (4)

<b>Total</b>	<b>100% (194)</b>	<b>100% (45)</b>	<b>71.1% (32)</b>	<b>44.4% (20)</b>	<b>28.9% (13)</b>	<b>37.7% (17)</b>	<b>37.8% (17)</b>
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## 5.4 Country and territory specific information (survey)

<p><b>Argentina</b></p> <p>See case-study (Part 3)</p>
<p><b>Australia</b></p> <p>See case-study (Part 3)</p>
<p><b>Belgium</b></p> <p>See case-study (Part 3)</p>
<p><b>Bolivia</b></p> <p>Pharmacists are involved in immunisation advocacy such as promoting vaccination and providing patient advice. They can also dispense vaccines in community pharmacies. Vaccination cannot be performed by pharmacists but can be performed by other healthcare professionals in pharmacies.</p>
<p><b>Brazil</b></p> <p>In Brazil, the participation of pharmacists in immunisation activities and vaccine administration is still at early development; this area has always been considered an area for nurses, especially in the public service, and for doctors, in private practices. Nevertheless, significant developments have taken place in the last few years which are reinforcing the integration of pharmacists in immunisation activities. The Brazilian Federal Council of Pharmacy (CFF) believes that this will contribute to the increase in access to vaccinations by the population and to the redistribution of roles for healthcare professionals, which could lead to an impact in the market and vaccines prices.</p> <p>One of the most relevant governmental programmes, widely acknowledged, is the National Immunisation Programme (PNI), coordinated by the Ministry of Health. All the primary care units in Brazilian cities are structured to vaccinate the population and recording of the procedure is mandatory. The vaccination is recorded in a paper card which is attributed to all citizens at birth. The process currently has minor participation by pharmacists and is almost exclusively voluntary. Pharmacists tend to participate in immunisation promotion activities, providing advice to patients and public, participating in multi-disciplinary campaigns as well as serving on immunisation advisory committees.</p> <p>There is great interest in Brazil to expand the role of pharmacists in immunisations. CFF believes that once the necessary conditions for the participation of pharmacists in the process of immunisation in Brazil are gathered, particularly after the amendment of the sanitary Resolution 44/2009, authorising the vaccination in public and private pharmacies and drugstores.</p>
<p><b>Canada</b></p> <p>Administration of vaccines is authorised in pharmacies and by pharmacists in most provinces. Specific legal authorisation and requirements for pharmacy based vaccination varies across the 10 jurisdictions. In some provinces pharmacists can administer a range of vaccines e.g. influenza, hepatitis, HPV, chickenpox and rabies post-exposure. In Ontario, only influenza vaccination is authorised. Quebec is the only province that only authorises pharmacists to administer vaccines for demonstration/education purposes.</p> <p>From a public health perspective, a national immunisation strategy is one of the 3 top advocacy priorities for the Canadian Pharmacists Association (CPhA) and pharmacies have a great role to play in public health. Moreover, pharmacy-based vaccination is a very cost-effective channel for delivery and a good investment in the longer term.</p> <p>Regardless of what type of vaccine, pharmacists have to undertake enhanced training and pre-counselling with the patient prior to administration. In all 10 provinces across Canada, all pharmacists dispensing vaccines, whether they administer vaccinations or not, require electronic record keeping. Vaccination records are not nationally shared and they are kept in the community pharmacy.</p>

The purchase of vaccines is performed through the Ministry of Health; public remuneration for flu vaccines is provided in all provinces. Regarding the vaccine distribution system currently in place, pharmacies are looking into cooperating with the government to be the central distribution mechanism to protect the cold storage requirements for vaccines. As pharmacies developed their immunisation services, in the early stages there were issues of misallocation of supplies e.g. the public health system would have too many vaccines in their storage facility but not enough for the pharmacy. Since pharmacies already have a very robust and efficient medicines distribution system they could expand their service to include public health distribution systems and even distribution for physicians.

### China

Pharmacists are involved in some immunisation promotion activities such as providing information and advice to the public (benefits, adverse reactions, etc.) as well as identify, assess and advise high risk patients about their vaccination. There is a perception of limited acceptance and support by the government/health system as well as limited training availability to pharmacy professionals.

### Congo (Dem. Rep)

It is in the public sector that pharmacists in Congo participate more actively in vaccination campaigns, storage, logistics and distribution of vaccines or as administration providers of vaccines. Vaccinations can be administered in pharmacies, although the process cannot be undertaken by pharmacists but only by other competent healthcare professionals. Moreover, pharmacies are not systematically integrated into the vaccination process; there are no specific measures for the participation in this activity e.g. no specific protocols, management recommendations or even space requirements for pharmacies.

Nevertheless pharmacists practicing the public sector and who are associated with immunisation activities receive ongoing training, in addition to their undergraduate education in pharmacology and public health. The current training includes 30 hours on vaccination, patient advice, vaccine administration techniques, anaphylaxis and CPR. The Pharmacists' Society is aiming to attract and further involve pharmacists in vaccination activities and therefore delivery of continuous training is being considered.

A combination of factors inherent to the pharmacist and to their usual commitment to traditional practices does not encourage pharmacy professionals to be more involved in immunisation activities. Furthermore, there is a perception that other healthcare professionals are still reluctant to accept and support this extended role. Appropriate training, coupled with pharmacists' personal commitment can promote the acceptance and stimulate participation of these professionals to practice with the required competence.

### Costa Rica

Pharmacists in Costa Rica are involved in immunisation advocacy and promotion activities and are also legally authorised to administer vaccinations. The professional administering the vaccine and the pharmacy owner have joint liability during the process and there are also specific requirements e.g. the physical environment, storage, the site where vaccines are administered, the cold chain, administration technique of injectable medicine, handling anaphylactic shock situations and disposal of infectious and contaminated material.

Training in immunisation is not mandatory for pharmacists although there are both undergraduate and post-graduate/CPD opportunities in some circumstances. Certified CPD training is accredited by the College of Pharmacists of Costa Rica.

Pharmacies may have access to vaccination records which can be stored both in paper or electronic format. Vaccine records are mandatory (although personal information is not) and have to be legally kept in some circumstances for up to ten years. The record system is not shared but this is currently in experimental stage; in the future, information will be share between professionals and/or health authorities to enable better integration of vaccination services.

<p><b>Denmark</b></p> <p>Pharmacists are actively involved in vaccination promotion and advocacy, providing advice to patients and participating in multi-disciplinary campaigns. Vaccinations can be administered in pharmacies both by pharmacists or other healthcare professionals. The responsibility lies on the physician, and pharmacists are authorised to administer vaccinations under the doctor's delegation.</p> <p>Approximately ten pharmacies have specially trained pharmacists and pharmacy technicians who undertake seasonal influenza and travel vaccination under a defined protocol. The training is mandatory and there are specific requirements from private companies for these professionals to undertake the CPD. Vaccination recording is mandatory for the patients receiving vaccination in pharmacies; details (patient and vaccine/vaccination) are kept in electronic format and are not shared outside the pharmacy domain.</p>
<p><b>Ecuador</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. Vaccination programmes are of the responsibility of the Epidemiology Service; hospitals and community pharmacists are not involved in these activities.</p> <p>There are several perceived limitations to the development of pharmacists' role in immunisation including limited acceptance and support (including financial) by the government, health system, other healthcare professionals and the public. There is also limited training opportunities and consequent lack of confidence by pharmacists to undertake immunisation activities.</p>
<p><b>Ethiopia</b></p> <p>Pharmacists are involved in vaccine supply, storage and distribution to other healthcare institutions. Vaccinations cannot be undertaken in pharmacies and/or by pharmacists although they participate in advocacy activities such as providing immunisation information and advice to the public. The main perceived limitation for the development of an expanded role is the limited acceptance and support by the government /healthcare system.</p>
<p><b>Finland</b></p> <p>Pharmacists tend to participate in immunisation promotion activities, distributing leaflets and organising vaccination campaigns. They also identify and advise high-risk patient groups about their vaccinations as well as provide advice to the general public. Vaccinations can be administered in pharmacies by other healthcare professionals (nurses) under a prescription for vaccine requirement. The acting nurse is responsible for the vaccination process; a partner physician is legally responsible for the patient safety. There are also demanding requirements for the pharmacy premises and the application for authorisation to provide the vaccination service in the community pharmacy is complex and expensive. The requirement for a prescription and responsible physician, together with the requirement for premises, are two of the main perceived challenges for broadening the vaccination service by pharmacies in Finland, where only 1 % of pharmacies offer the vaccination service. Vaccines or vaccinations are not reimbursed in Finland and the pharmacy vaccination rates tend to be low since the service is not more widely available. The current legislation also makes it very difficult for pharmacies to offer the vaccination service. Therefore, the limited acceptance and support (including financial support) by the government and the healthcare system are two other perceived limitations to the further development of pharmacists' role in immunisation. In 2015, a working group was established for the development of pharmacy services; this group includes members from the government and has given a recommendation that Finnish pharmacies should be authorised to administer influenza vaccinations to patients. According to Association of Finnish Pharmacies, a change in the current legislation and the strict vaccination requirements (e.g. prescription requirement) is essential to enable pharmacy-based influenza vaccination; this would be considered as an important step towards a broader influenza vaccination service provision and consequent higher immunisation rates among Finnish people.</p>
<p><b>France</b></p> <p>See case-study (Part 3)</p>

<p><b>Germany</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. There is no significant participation in advocacy and vaccine promotion campaigns, although some pharmacists may have access to vaccination records if, for example, the patient needs advice. This does not happen on a regular basis since vaccination activities are mostly attributed to physicians. There are several perceived limitations to the development of pharmacists' role in immunisation including limited acceptance and support (including financial) by the government, the health system, other healthcare professionals and the public.</p>
<p><b>Hong Kong, China</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. There is a great interest to expand the role of pharmacists to provide immunisation services to the public. However, the current legislation does not define the role and responsibility for pharmacists in this area. Moreover, there is limited acceptance and support by other healthcare professionals, including nurses and physicians.</p>
<p><b>Hungary</b></p> <p>The present legislation does not authorise pharmacists to undertake any immunisation activities. As all vaccines are prescription only medicines, the process is exclusive to physicians and the advertisement/promotion of vaccination by pharmacists or in pharmacies is completely prohibited. For this reason, pharmacists do not tend to be actively involved in immunisation activities. Training in immunisation is also limited and the topic is underrepresented both in the undergraduate and postgraduate curricula, during which the students only learn about compulsory vaccines. Nevertheless, more formal immunisation training is now starting to be included in further postgraduate education programmes.</p>
<p><b>Iceland</b></p> <p>Pharmacists do not tend to advocate for immunisation/vaccination. Administration of influenza vaccine can be performed in pharmacies by other healthcare professionals under a prescription and payment requirement. It is mandatory for a physician to be responsible for the vaccination service. The main perceived limitations for the development of pharmacists' role in immunisation are the limited acceptance and support by the government, the health system and other healthcare professionals as well as limited training opportunities for pharmacists.</p>
<p><b>India</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. Only a few participated in the Pulse Polio Campaign established by the Government of India to eliminate poliomyelitis by vaccination of children under the age of 5. Immunisation (theoretical) is part of the pharmacy curriculum at undergraduate level; however, vaccine administration (practical) is not yet included in the training and education. Community pharmacists mainly undertake dispensing roles and other patient-centred roles are yet to be developed.</p>
<p><b>Iraq</b></p> <p>Pharmacists participate in multi-disciplinary immunisation campaigns although it is prohibited to administrate vaccinations in pharmacies or by pharmacists. The main perceived limitation to the development of pharmacists' role in immunisation is the limited acceptance and support by the government, the health system and other healthcare professionals.</p>
<p><b>Ireland</b></p> <p>See case-study (Part 3)</p>
<p><b>Israel</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. The main perceived limitation to the development of pharmacists' role in immunisation is the limited acceptance and support by the government, the health system and other healthcare professionals; there are current initiatives in the attempt to address this issue.</p>

<p><b>Italy</b></p> <p>Pharmacists engage in some immunisation promotion activities such as distributing leaflets and organising immunisation campaigns. Vaccinations cannot be administered in pharmacies and/or by pharmacists and pharmacists do not have access to vaccination records; however, there are current discussions in this respect to enable pharmacy access to patients' health records in the near future. The main perceived limitation for the further development of pharmacists' role in immunisation is the limited financial support from the government/healthcare system.</p>
<p><b>Japan</b></p> <p>Pharmacists engage in some immunisation promotion activities such as distributing vaccination leaflets and providing information and advice to the public about the importance of vaccination. Administration of vaccines cannot be undertaken in pharmacies or by pharmacists. The main perceived limitation for the development of pharmacists' role in immunisation is the limited acceptance and support by the government/healthcare system.</p>
<p><b>Jordan</b></p> <p>Pharmacists are involved in immunisation promotion activities such as distributing vaccination leaflets and providing information and advice to the public.</p>
<p><b>Lebanon</b></p> <p>Pharmacists in Lebanon do not tend to advocate for immunisation/vaccination policies; furthermore, patient awareness and promotion campaigns of these activities are very limited. Vaccination initiatives involving pharmacists are mainly focused in flu vaccination campaigns.</p> <p>Under the Lebanese law, vaccination in pharmacies can only be undertaken by trained healthcare professionals (nurses or doctors) and is mainly performed by doctors. There is no legal protection for the pharmacist role as immuniser. Moreover, there are several factors affecting and limiting the development of immunisation activities in community pharmacies; these include the lack of national pharmacy-immunisation awareness campaigns, the requirement for a vaccination prescription and also the absence of immunisation protocols and guidelines for community pharmacies.</p> <p>Regarding the purchasing, storage and supply of vaccines, the Lebanese law states that pharmacists must be the responsible healthcare professionals for the purchase from wholesalers, storage and the supply of all medications including vaccines. Law-abiding in this respect is pivotal to ensure that high quality cold chain storage systems are in place and efficiently maintained. According to the Ministry of Health's Law 367 on practicing of the profession of pharmacy, published in August 1994, community pharmacies must be equipped with a well maintained fridge for storage of all medications that specifically require low storage temperatures to ensure the quality of product (Article 27). These include vaccines, hormones, serums and all other medical ingredients withdrawn from humans and animals (Article 36).</p> <p>Pharmaceutical companies and distributors are forbidden to sell or distribute the above medicines to other than pharmacies or drugstores (Article 78); the breaching of this law can be punished by prison sentence from two to six months and a penalty of 6 to 20 million Lebanese pounds; in the event of repeated infraction, the license of pharmaceutical wholesaler can be withdrawn from the owner (Article 87). Moreover, all physicians are forbidden to sell or supply any of these medications (Article 35); patients must therefore purchase vaccines from community pharmacies and have them administered by an authorised healthcare professional.</p> <p>Pharmacists in Lebanon do not receive formal immunisation training and they are not authorised by law to administer vaccines. There is also very limited information and guidance regarding training and qualification opportunities for pharmacists as immunisation providers. Nevertheless, Lebanese pharmacists are very eager to receive formal training and to actively participate in the provision of immunisation services and other healthcare roles.</p> <p>Vaccination records are not currently collected, maintained nor managed in a formal manner by pharmacies or other healthcare providers. The Ministry of Health collects records from non-profit organisations offering immunisation services; however, the available information does not represent complete national figures. Recently, the Ministry of Health introduced a system of unified prescriptions which consist of three copies: one is kept by the physician; the patient keeps one copy and delivers the remaining copy to the community pharmacy.</p>



Unified prescriptions are available in paper format and electronic records have not yet been developed; moreover, there is currently very limited understanding on how the information kept and available from unified prescriptions is or will be used. For this reason, management of patients' vaccination schedules is sometimes undertaken by some community pharmacies; however, there are no specific guidelines, protocols or requirements for undertaking this activity.

Limited advocacy campaigns have taken place to obtain vaccination rights for pharmacists in Lebanon; this has been particularly associated with the absence of an association linking and representing all community pharmacies and pharmacists. Recently, the Order of Pharmacist in Lebanon (OPL) was granted the approval for the initiation of a community pharmacy owners committee; this is a major step in moving advocacy activities forward and it will significantly contribute to raising awareness of the great potential of pharmacists as essential healthcare providers.

Inter-professional collaborations to support immunisation in the community are also very unusual in Lebanon.

Pharmacists do not receive any formal immunisation training and have therefore limited understanding of the importance of collaborating with other healthcare professionals to contribute to the mutual goal of increasing immunisation coverage and rates. Moreover, there is limited acceptance and support by the government and other healthcare professionals for the development of pharmacy-based vaccination services. The situation is further aggravated by the insufficient financial support and lack of confidence by pharmacists to perform immunisation services and activities. It is therefore essential to further develop education and training opportunities to strengthen pharmacists' competency and confidence and also to raise awareness of the full potential of the pharmacist's role in immunisation.

As described above, there is a great opportunity to further develop the role of pharmacists in immunisation in Lebanon. Community pharmacies can strongly contribute to efficient vaccination storage and supply systems as well as patient monitoring and advice. Pharmacies are the first and last line of contact with patients, the trust and confidence in pharmacists as leading professionals across the healthcare sector is very solid suggesting the need for the profession to be more engaged in vaccination activities.

Nevertheless, the immunisation debate depends on successful promoting of legislatures by national and pharmacy associations and is likely to increase the numbers of pharmacists receiving training to administer adult vaccinations and therefore making a real contribution on public health. Greater efforts are required to develop promotional activities to a more professional and solid level, to increase awareness and to demonstrate the full potential of the pharmacist's role.

### **Netherlands**

Pharmacists tend to participate in immunisation promotion activities, distributing leaflets and providing advice to patients and the public. They also identify and advise high-risk patient groups as well as people travelling to risk areas requiring immunisation. Vaccinations can be administered in pharmacies by nurses; the legal accountability for the vaccination process lies on the professional administering the vaccine and the process needs to follow specific guidelines.

Pharmacists have access to a range of vaccination electronic records; they can verify immunisation statuses and remind patients when their next vaccination is due. Details recorded may include the patients' details (optional) as well as information on the vaccine and vaccination administration process (mandatory). Records are kept for up to 10 years in electronic format and are shared between all healthcare professionals. Records can also be shared regionally subject to patient's permission but they are not shared at national level. Some perceived limitations to the further development of pharmacists' role in immunisation include limited financial support by the government/healthcare system, lack of patient demand/acceptance and lack of confidence by pharmacists to perform further immunisation services and activities.

### **New Zealand**

Pharmacists are actively engaged in immunisation advocacy activities by distributing vaccination leaflets and organising and/or participating in multi-disciplinary vaccination campaigns. They also provide immunisation information and advice to patients, identifying high risk patient groups, verifying their vaccination status and reminding them when their next vaccination is due.

Pharmacists take part and support national immunisation activities, providing information to individuals on request. The Pharmacy Guild of NZ provides advertising and campaign materials, as organises the national Immunisation Advisory Centre (IMAC).

Administration of vaccines can be undertaken in pharmacies by trained pharmacists. The authorisation of vaccinators in New Zealand is in accordance with the Medicines Regulations 1984, clause 44A(2). The Director-

General of Health or a medical officer of health may authorise any person to administer a vaccine (which is a prescription medicine) for the purposes of an approved immunisation programme. The responsibility for the vaccination lies on the pharmacist administering the vaccine and the process follows specific requirements:

#### Premises

- Room layout – privacy space etc.
- Vaccine storage & stock – cold chain, supplies
- Emergency equipment – oxygen, resuscitation equipment
- Appropriate resources are available

#### Protocols

- Consent forms
- Information
- pre-vaccination check list
- Vaccine preparation, site, needle angle and vaccinee positioning
- Safety for vaccinators – waste management
- Post vaccination advice

#### Training

Becoming a vaccinator is a voluntary professional development since not all pharmacies offer a vaccination service.; however it may be required by some employers.

The vaccine classification requirements for a pharmacist vaccinator require the pharmacist to complete a Ministry of Health-approved education update course every two years (refer to [Appendix 3: Immunisation standards for vaccinators](#), Standards 1.3 and 1.4).

Pharmacist vaccinators will be required to:

1. provide evidence that they have attended specific vaccination education sessions of a minimum of four hours' duration during the last two years;
2. maintain a summary of their immunisation practice over the past 12 months.

Prior to the expiry of their previous course, pharmacists will need to complete an approved update course to be able to continue vaccinating. Pharmacists who are immunisation providers need to ensure that they are using, complying and keeping up-to-date with the current requirements as outlined in the electronic edition of the Immunisation Handbook. This information can be found on the [Ministry of Health website](#).

Pharmacist vaccinators will be required to successfully complete a Ministry of Health approved vaccinator's course and meet the requirements in standards set by the Ministry of Health. Vaccinator training, available through the Immunisation Advisory Centre, is comprehensive, and involves a choice of a two-day course or a flexible learning course, requiring 12 hours self-guided study followed by a four hour face-to-face clinical tutorial.

To become authorised, the person must complete the training, achieve a pass mark of 80% on an open book test, and be clinically assessed on a minimum of two vaccinations relevant to their clinical area. Updates for trained vaccinators can be either four hours face-to-face or conducted on-line every two years. Alternatively, Pharmacists wishing to administer influenza vaccines only can attend a one-day influenza only course and clinical assessment.

Applicants applying to become an authorised vaccinator must complete the following.

1. Demonstrate that within the preceding 12 months they have attended, completed and passed a vaccinator training course that meets the current Standards for Delivery of Vaccinator Training Courses published by the Immunisation Advisory Centre (IMAC). Specifically, the course should consist of:
  - a. a minimum of 16 hours' educational input
  - b. a written test (minimum one-hour duration consisting of a combination of multiple choice and short answers, which may be oral at the facilitator's discretion).
2. Following successful completion of the course, the applicant will undergo an independent clinical assessment by an immunisation coordinator or an approved assessor (as agreed by the medical officer of health). Information about the practice environment will be collected at the time of this assessment.
3. Provide evidence that they hold a current practicing certificate.
4. Achieve and maintain specified resuscitation requirements for vaccinators, at a standard equivalent to that set for NZRC Rescuer Level 4.
  - infant, child and adult Cardiac Pulmonary Resuscitation (CPR) including mouth-to-mouth, mouth-to-mask and the management of choking

- use of airway adjuncts, including the sizing and insertion of oropharyngeal and laryngeal mask airways
- use of an Automated External Defibrillator
- one- and two-person bag valve mask ventilation and mouth-to-mask technique
- use of supplemental oxygen.

#### Vaccine types available through pharmacy

- Vibrio cholerae and enterotoxigenic Escherichia coli vaccine (prescription medicine; except in the form of an oral liquid containing inactivated Vibrio cholerae and / or its subunits when sold in a pharmacy by a registered pharmacist.)
- Influenza vaccine (prescription medicine; except when administered to a person 13 years of age or over by a registered pharmacist who has successfully completed a vaccinator training course approved by the Ministry of Health and who is complying with the immunisation standards of the Ministry of Health.
- Diphtheria, tetanus and pertussis (acellular, component) vaccine (Tdap) (a prescription medicine; except when administered in a single dose to a person 18 years of age or over by a registered pharmacist who has successfully completed a vaccinator training course approved by the Ministry of Health and who is complying with the immunisation standards of the Ministry of Health.)
- Meningococcal vaccine a prescription medicine; except when administered to a person 16 years of age or over by a registered pharmacist who has successfully completed a vaccinator training course approved by the Ministry of Health and who is complying with the immunisation standards of the Ministry of Health.
- Varicella (shingles) vaccine (prescription medicine; except when administered for the prevention of herpes zoster (shingles) to a person 50 years of age or over by a registered pharmacist who has successfully completed a vaccinator training course approved by the Ministry of Health and who is complying with the immunisation standards of the Ministry of Health.)

#### Vaccination records

Mandatory vaccination records are kept in paper format, with a local pharmacy site based electronic record only. The information recorded includes patient, vaccine and vaccination details as well as pre-vaccination check details (e.g. contraindications, cautions, etc.).

Vaccination records are kept for a minimum of 10 years according to the Health (Retention of Health Information) Regulations 1996 – Regulation 5. Local pharmacies can inform the patient's General Practitioner about the vaccination undertaken in their premises and the record may be uploaded into the National Register.

#### Perceived limitations and challenges

Currently there is limited financial support by the government and healthcare system. There is no government funding for any vaccine administered in pharmacy, although some private medical insurance companies may provide some form of reimbursement. Moreover, there is limited acceptance by other healthcare professionals.

The New Zealand Government has set a clear policy direction for delivering health services within a more integrated model. New approaches to immunisation encourage clinical integration and collaboration between providers to increase the pool of vaccinators, improve access to vaccination and deliver improved services.

#### Nigeria

Pharmacists in the private sector tend to advocate for immunisation by distributing vaccination leaflets and organising and/or participating in vaccination campaigns. They can also provide immunisation information and advice to patients, identifying high risk patient groups, verifying their vaccination status and reminding them when their next vaccination is due. Administration of vaccines cannot be undertaken in pharmacies and/or by pharmacists; this has been a great limitation to the vaccine uptake in Nigeria since patients often change their mind after having been advised by their pharmacists to get their vaccinations and then they have to go elsewhere for the vaccine administration.

Nevertheless pharmacies can store and sell vaccines. Pharmacists also have access to some vaccination records through the vaccination cards that are given to all patients. The information is recorded on an optional basis and includes patients' and vaccination details. The patients can use these vaccination cards and show them in the doctor's offices, hospitals and pharmacies to obtain information and advice about their vaccination status.

<p>There are a few training opportunities available for pharmacists although this is not mandatory. General or comprehensive training in immunisation is delivered by the LiveWell Initiative in partnership with the American Pharmacists Association (APhA) over 2 days (8 hours/day). Contents include patient advice, vaccine administration technique, anaphylaxis, etc.</p> <p>The main perceived limitations to the further development of pharmacists' role in immunisation include limited acceptance and support by the government/healthcare system as well as limited access to training opportunities for pharmacists.</p>
<p><b>Norway</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. There are several perceived limitations to the development of pharmacists' role in immunisation including limited acceptance and support (including financial) by the government, health system and other healthcare professionals.</p>
<p><b>Pakistan</b></p> <p>Some pharmacists in Pakistan advocate for immunisation by distributing vaccination leaflets, organising and participating in multi-disciplinary vaccination campaigns and serving on immunisation advisory committees. They also provide immunisation information and advice to patients, identifying high risk patient groups, verifying their vaccination status and reminding them when their next vaccination is due. Nevertheless, the level of engagement in immunisation advocacy activities can vary across the country and across pharmacies. On a national level, only a few pharmacies participate in activities to promote and support vaccination.</p> <p>Pharmacies in Pakistan are legally authorised to provide immunisation services although in 90% of the cases, vaccination tend to be undertaken by nurses and doctors in clinics and hospitals. The administration of vaccines in pharmacies is undertaken by nurses and doctors and the legal accountability for this process lies on the pharmacy manager or owner. Most of the vaccines from the Childhood Immunisation Schedule are funded through WHO, including Polio, BCG, Measles, Pneumococcal and (DPT+HIB+ Hep B). Vaccines for other communicable diseases (such as pneumonia, flu, meningitis, chickenpox, rubella, hepatitis A and B, typhoid and rabies) are also available but they are not covered by any funding schemes. According to WHO, Pakistan does not meet the optimal requirement of 80% or higher immunisation rate and this is perceived to be due to high poverty and low literacy rate throughout country.</p> <p>Pharmacies can have access to some vaccination records although in the majority of settings they are not shared with the pharmacist. Records can be kept in paper and/or electronic format in an immunisation record system/computerised physician order system. In some centres, vaccination record keeping is mandatory whereas in others they are optional. Details recorded may include the patients' and vaccine details as well as information about the vaccination administration procedure. Currently there is no specification on how long these records must be kept for.</p> <p>Pharmacists in Pakistan are not directly involved in the administration of vaccines and they do not currently receive any form of comprehensive or structured training. Nevertheless, immunisation is a subject included in the undergraduate pharmacy curriculum. There are also online training opportunities for pharmacy professionals wishing to advance the knowledge in this area of practice. For example, the Aga Khan University Hospital provides online immunisation training delivered by the Collaborative Education Institute (CEI); in addition, pharmacists can also undertake the Basic Life Support training through the American Heart Association (AHA). The available online training is not mandatory and there is no specific recognition, accreditation or credentialing by a recognised regulatory authority.</p> <p>The main perceived limitations to the development of pharmacists' role in immunisation are the limited acceptance and support (including financial) by the government and the health system as well as limited access to training opportunities for pharmacists. Recently, global health leaders called for increased political support for immunisation in Pakistan in the attempt to ensure that children do not die from a vaccine-preventable disease. The lives of millions of children across Pakistan are at risk because of limited access to vaccines. Advocacy initiatives for the development of immunisation services in community pharmacies continue.</p>
<p><b>Paraguay</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. The main perceived limitation to the development of pharmacists' role in this area is the limited access to training opportunities.</p> <p>The Association of Pharmaceutical Chemists of Paraguay has attempted several times to advocate for administration of vaccines in community pharmacies; this would be of extreme advantage since, to date,</p>

vaccination campaigns (especially seasonal influenza) usually see an excess of vaccines that are not administered – pharmacists could have an essential role to increase vaccination promotion, accessibility and uptake.

### Philippines

See case-study (Part 3)

### Poland

Pharmacists tend to participate in immunisation promotion activities, distributing leaflets and providing advice to patients and the public taking into consideration their age and health status. They also take part in several multi-disciplinary campaigns as well as serving on immunisation advisory committees. The main perceived limitation for the further development of pharmacists' role in immunisation is the limited acceptance and support from the government/healthcare system.

### Portugal

See case-study (Part 3)

### Russia

Pharmacies can provide information about immunisation through posters, special booklets, general consultations etc. The information usually includes the basic principles, benefits and risks of the immunisation process as well as details on how, when and where the immunisation service is undertaken.

There are several perceived limitations to the development of pharmacists' role in immunisation including limited acceptance and support (including financial) by the government, the health system and other healthcare professionals. There is also limited access to training opportunities for pharmacists.

### Senegal

Pharmacists tend to advocate for immunisation by providing information and advice to patients and to the general public; they can also verify their vaccination status and remind them when their next vaccination is due. Vaccinations cannot be undertaken in pharmacies and/or by pharmacists.

All pharmacy undergraduate students receive training in immunisation/vaccination during their Pharmacy degree; there are also post-graduate training opportunities although these are not mandatory. Training courses are provided under the auspices of the College of Pharmacists. Training contents focus mainly on the vaccination policy and vaccination schedules.

Children (from the first prenatal visit from their mothers and until their teens) receive a health card which is kept by their parents. The booklet enables health monitoring during pregnancy, at birth and childhood (e.g. growth monitoring, vaccinations, etc.). Although pharmacists have no direct access to these individual health record booklets parents can use the information to request vaccination advice.

The main perceived limitation for the further development of pharmacists' role is the limited acceptance and support (including financial support) by the government and the healthcare system. Moreover, pharmacists training opportunities in this area are also very limited.

### South Africa

See case-study (Part 3)

### Spain

Pharmacists tend to advocate for immunisation in Spain by distributing vaccination leaflets and organising and/or participating in multi-disciplinary vaccination campaigns. They also provide immunisation information and advice to patients, identifying high risk patient groups, verifying their vaccination status and reminding them when their next vaccination is due. Vaccinations cannot be undertaken in pharmacies and/or by pharmacists and there is also no access to vaccination records. Nevertheless, all pharmacy undergraduates receive training in immunology/vaccination during their Pharmacy degree.

Moreover, there are several continuous professional development activities, aimed at updating the knowledge of immunisation/vaccines, available for all the pharmacists interested. These CPD activities are not mandatory; however, pharmacists must ensure that they are up-to-date in this area in order to be able to provide accurate information on medicines to the population they serve.

<p>CPD activities tend to be accredited and recognised when the activity has been successfully completed. A variety of courses is available in this subject and so there is not a specific official training currently offered. The main perceived limitation to the development of pharmacists' role in immunisation is the current legislation since it does not recognise the administration of vaccines by pharmacists.</p>
<p><b>Switzerland</b></p> <p>See case-study (Part 3)</p>
<p><b>United Arab Emirates</b></p> <p>Pharmacists cannot administer vaccinations; however, they can be involved in controlling the inventory, ordering, purchasing and the distribution of vaccines as part of the service provided by the Ministry of Health (MoH). Pharmacist working in the MoH-preventative department support the national immunisation programme supply chain and related campaign at national level.</p> <p>There are several perceived limitations to the development of pharmacists' role in immunisation including limited acceptance and support (including financial) by the government, the health system, other healthcare professionals and the public. There is also limited access to training opportunities for pharmacists.</p>
<p><b>Ukraine</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities. According to the Ukrainian legislation, the activities related to immunisation can only be undertaken in hospitals, following the national immunisation schedule approved by the Ministry of Health.</p>
<p><b>United Kingdom</b></p> <p>See case-study (Part 3)</p>
<p><b>United States of America</b></p> <p>See case-study (Part 3)</p>
<p><b>Uruguay</b></p> <p>Pharmacists do not tend to be actively involved in immunisation activities; the governmental vaccination scheme is very good and easily accessible. The main perceived limitation for the further development of pharmacists' role in immunisation is the lack of patient demand/acceptance.</p>

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