

# Global Trends Shaping Pharmacy

Regulatory frameworks,  
distribution of medicines  
and professional services

Fédération  
Internationale  
Pharmaceutique

International  
Pharmaceutical  
Federation

2013-2015

## Colophon

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International Pharmaceutical Federation (FIP)  
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2517 JP The Hague  
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This report together with the questionnaire and data from the FIP 2015 Global Survey on Trends in the Regulation of Pharmacy and Access to Medicines are available upon request from the FIP Secretariat.

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Recommended citation:  
International Pharmaceutical Federation — FIP (2015). *Global Trends Shaping Pharmacy — Regulatory Frameworks, Distribution of Medicines and Professional Services. 2013-2015*. The Hague, The Netherlands: International Pharmaceutical Federation.

Printing:  
Kooiman Drukwerk B.V.  
[www.kooimandrukwerk.nl](http://www.kooimandrukwerk.nl)

Cover images: © ClickHere and SOMMAI | Shutterstock.com

# Contents

<b>Executive summary .....</b>	<b>5</b>
<b>Acknowledgements .....</b>	<b>8</b>
<b>Introduction .....</b>	<b>11</b>
<b>1 About the study .....</b>	<b>12</b>
1.1 Data collection methodology, tools and glossaries .....	12
1.2 Design of the survey questionnaire .....	12
1.3 Descriptive report of the survey sample .....	12
1.4 Limitations .....	15
<b>2 Access to community pharmacies and ownership models .....</b>	<b>16</b>
<b>2.1 Overview of the current situation .....</b>	<b>16</b>
2.1.1 Access to pharmacies .....	16
2.1.2 Ownership of pharmacies .....	19
2.1.3 Exclusions to pharmacy ownership .....	20
2.1.4 Social pharmacies .....	21
2.1.5 Chains of community pharmacies .....	21
2.1.5.1 Significant international players in the community pharmacy sector .....	23
2.1.5.1.1 International presence of Walgreens Alliance Boots .....	23
2.1.5.1.2 International presence of McKesson and Celesio .....	26
2.1.5.1.3 International presence of the Phoenix Group .....	28
2.1.5.2 Top pharmacy chains per region .....	30
<b>2.2 Recent developments and trends in pharmacy ownership regulations .....</b>	<b>34</b>
2.2.1 Changes in force or approved .....	36
2.2.2 Changes under discussion .....	37
2.2.3 Unsuccessful attempts to introduce changes .....	38
<b>2.3 Conclusions .....</b>	<b>38</b>
<b>3 Establishment, distribution and operation of community pharmacies .....</b>	<b>41</b>
<b>3.1 Overview of the current situation .....</b>	<b>41</b>
3.1.1 Establishment and distribution of pharmacies .....	41
3.1.2 Technical and professional requirements for pharmacies to operate .....	48
3.1.3 Quality assurance of community pharmacies .....	50
<b>3.2 Recent developments in the regulation of the establishment, distribution and operation of community pharmacies .....</b>	<b>52</b>
<b>4 Distribution of medicines to patients .....</b>	<b>57</b>
<b>4.1 Overview of the current situation .....</b>	<b>57</b>
4.1.1 Distribution of non-prescription medicines (NPMs) .....	57
4.1.2 Distribution of prescription-only medicines (POMs) .....	61
4.1.3 Distribution of specialty medicines .....	62
4.1.3.1 HIV medicines .....	62

4.1.3.2	Cancer medicines.....	63
4.1.3.3	Hepatitis C medicines .....	64
4.1.4	Dispensing by other entities .....	65
4.1.5	Internet sales of medicines.....	66
4.1.6	Medicines price regulation .....	67
4.1.7	Generic substitution .....	68
4.2	Recent developments in the legislation regulating the sales of medicines, medicines pricing or the use of generic medicines .....	70
5	Scope of pharmacy practice .....	73
5.1	Overview of the current situation .....	73
5.1.1	Community pharmacy.....	73
5.1.1.1	Access to a pharmacist.....	73
5.1.1.2	Collaborative practices with other health care professionals .....	75
5.1.1.3	Compounding.....	75
5.1.1.4	Medicines use review/medication therapy management.....	76
5.1.1.5	Preparing personalised dosage systems/dose administration aids .....	76
5.1.1.6	Other adherence improvement services.....	77
5.1.1.7	Medication reconciliation.....	78
5.1.1.8	Administering vaccines and other injectable medicines .....	78
5.1.1.9	Complementary prescribing by pharmacists.....	79
5.1.1.10	Independent prescribing by pharmacists.....	79
5.1.1.11	Disease management programmes in chronic conditions .....	80
5.1.1.11.1	Asthma management programmes.....	80
5.1.1.11.2	Diabetes management programmes .....	81
5.1.1.11.3	Hypertension management programmes .....	81
5.1.1.12	Dispensing emergency contraception .....	82
5.1.1.13	Collecting expired medicines for safe disposal .....	82
5.1.1.14	Providing first aid and arranging follow-up care.....	83
5.1.1.15	Systematic pharmacovigilance .....	83
5.1.1.16	Home deliveries .....	84
5.1.1.17	Home care by pharmacists.....	84
5.1.1.18	Point-of-care or diagnostic tests.....	85
5.1.1.18.1	Blood pressure measurement.....	85
5.1.1.18.2	Determination of the blood sugar level (glycaemia).....	86
5.1.1.18.3	Weight, height and body mass index determination.....	86
5.1.1.18.4	Determination of the blood cholesterol level .....	87
5.1.1.18.5	Cardiovascular risk assessment.....	87
5.1.1.18.6	Colon cancer screening .....	87
5.1.1.18.7	Screening for infectious diseases .....	88
5.1.1.18.8	Other point-of-care tests.....	89
5.1.1.19	Tuberculosis DOTS programmes.....	89
5.1.1.20	Participating in or organising health promotion campaigns .....	90
5.1.1.21	Smoking cessation programmes .....	90
5.1.1.22	Syringe or needle exchange programmes .....	91



5.1.1.23	Methadone maintenance (opioid replacement) therapy .....	91
5.1.1.24	Other services by community pharmacies .....	92
5.1.2	Hospital pharmacy .....	92
5.1.2.1	Medicines use review/medication therapy management.....	92
5.1.2.2	Medicines selection and/or prescription.....	93
5.1.2.3	Preparation of personalised medication systems .....	93
5.1.2.4	Pharmaceutical care and patient follow-up .....	94
5.1.2.5	Medication reconciliation.....	95
5.1.2.6	Collaborative practices with other health care professionals .....	95
5.1.2.7	Influence on prescribing.....	96
5.1.2.8	Procurement of medicines and medical devices.....	96
5.1.2.9	Access to patient information.....	97
5.1.2.10	Other services and activities .....	98
5.2	<b>Recent changes and developments in the scope of practice of community and hospital pharmacies/pharmacists .....</b>	<b>99</b>
5.2.1	Community pharmacy.....	99
5.2.2	Hospital pharmacy .....	104
	<b>Final remarks.....</b>	<b>107</b>
	<b>Appendices .....</b>	<b>109</b>
	Appendix 1. Glossary .....	110
	Appendix 2. List of respondents per WHO region .....	114
	Appendix 3. List of respondents per income level group.....	115
	Appendix 4. Access to pharmacies, data per country or territory .....	116
	Appendix 5. Ownership of community pharmacies, data per country or territory.....	119
	Appendix 6. Social pharmacies models and details .....	127
	Appendix 7. Countries and territories where community pharmacy licences are required .....	129
	Appendix 8. Premises and workforce requirements for community pharmacies, country data .....	131
	Appendix 9. Countries and territories with mandatory quality assurance systems for community pharmacie.....	138
	Appendix 10. Countries and territories with voluntary quality assurance systems for community pharmacies .....	141
	Appendix 11. Non-prescription medicines (NPMs): where they can be obtained and respective market shares .....	144
	Appendix 12. Prescription-only medicines (POMs): where they can be obtained and respective market shares .....	152
	Appendix 13. Generic substitution in jurisdictions where prescription by INN is not mandatory .....	156
	Appendix 14. Measures to promote the use of generic medicines .....	158
	Appendix 15. Recent developments in legislation regulating the sales of medicines, medicines pricing or the use of generic medicines. Country details .....	162
	Appendix 16. Scope of practice. Services offered by community pharmacies, PART 1 .....	165
	Appendix 17. Scope of practice. Services offered by community pharmacies, PART 2 .....	169
	Appendix 18. Scope of practice. Services offered by community pharmacies, PART 3 .....	173
	Appendix 19. Scope of practice. Services offered by hospital pharmacies.....	177



## Executive summary

The types and number of pharmacies available to populations, whether pharmacists should be present at all time or not, and the types of services pharmacies may offer and how these are remunerated are all influenced — directly and indirectly — by the legislation and regulations in each country. Ultimately, pharmacy regulations play a central role in determining a population's access to medicines and supporting services provided by pharmacists, which is essential to universal health coverage (UHC). Hence, a regulatory framework that ensures a quality, professional, accessible and sustainable network of pharmacies is essential to move toward UHC.

Based on an in-depth survey of 71 countries and territories, this study looked at how pharmacy and the distribution of medicines are regulated around the world, and how this has changed between January 2013 and June 2015. It explored what forces may be at play in this transformation, what threats may be on the horizon, what gaps can be closed and opportunities harnessed, who are the main agents and stakeholders in those processes, and how pharmacists and their organisations have been — and can be — involved in such changes.

Large disparities were found in terms of access to community pharmacies. Although the average number of inhabitants per community pharmacy is 15,546 — which in itself suggests that for a large part of the world it is a challenge to access a pharmacy — this indicator varies from 1,563 to 356,125. Most countries and territories with higher income have ratios of inhabitants per community pharmacy between 2,000 and 7,000.

A third of countries and territories (24/71) indicated that community pharmacy ownership is restricted to pharmacists. In the remaining countries and territories, ownership by non-pharmacists, as individuals or limited companies, or other forms of ownership, such as by the state or entities of the social sector of the economy, are also possible.

Independent community pharmacies represent more than 50% of all pharmacies in at least two thirds of jurisdictions.

Community pharmacy chains are present in 54 of the 71 (76%) countries and territories. The consolidation of regional and global vertically integrated groups (i.e., the combined ownership by the same owner of community pharmacies and wholesale companies and/or pharmaceutical manufacturers) operating chain pharmacies and often wholesaling activities is apparent.

Vertical integration in the medicines supply chain is legal in over half of the responding countries and territories (35/65; 54%). In particular, it is legal in all but two countries where chains represent more than 50% of all community pharmacies.

Although these figures give a snapshot of the current situation, there have been considerable developments over the past two years in terms of pharmacy ownership regulations around the world, in 17 out of 70 countries and territories (24%). Although changes to, or pursuit of, more liberal systems are visible, they represent only six cases (35% of all changes) compared with 11 cases for more regulated models (64% of all changes).

In 63 out of 70 countries and territories, pharmacy establishment was regulated through a system of licences (58 respondents; 83%), sometimes in association with demographic (27%) or geographic criteria (37%).

In 29 countries (41%), public authorities also have established measures to ensure a homogeneous or balanced distribution of pharmacies across the territory and the population.

Legal requirements on pharmacy premises are common in 67 out of 71 countries and territories (94%). And new requirements, such as rooms for private consultations, are becoming more frequent (48%).

The presence of at least one pharmacist in every pharmacy is a requirement in 64 countries (90%).

Of 66 respondents, 19 (29%) indicated that recent changes have been introduced (or are being negotiated) in the rules governing the establishment, distribution or operation of community pharmacies. Of these 19 respondents, 16 (84%) indicated that regulations have increased or have become stricter.

Non-prescription medicines are supplied exclusively by community pharmacies in 28% of the survey's countries and territories (20/71). Of the 51 other respondents, 23 (45% of 51) have established a "third list", i.e. a category of non-prescription medicines, that can only be supplied by a pharmacy. This illustrates the diversity of the status of over-the-counter (OTC) medicines — and the environment supporting (or not) their responsible use — at country level and may present challenges to any global approach toward OTC medicines and switches from prescription-only to non-prescription medicines.

With regards to the distribution of prescription-only medicines (POMs), the situation is more homogeneous worldwide, with medicines being dispensed to outpatients almost exclusively through community pharmacies (70 out of 71 respondents; 99%) or hospital pharmacy outpatient services (60; 85%) in nearly all countries— although with important variations in the proportion of POMs dispensed by both types of pharmacies among countries.

In the majority of countries and territories, (64% in average) the distribution of specialty medicines, such as for HIV, cancer or hepatitis C, involves both hospital and community pharmacies.

The existence of dispensing doctors is reported in 25 countries or territories (35%), but their proportion in each country varies greatly.

Internet sales of medicines are not allowed in 34 countries and territories (51% of 67 respondents). In 19 countries (28%), they are allowed but only for non-prescription medicines, and in 14 (21%) jurisdictions, both non-prescription medicines and POMs can be sold online.

In 23 of the responding countries and territories (n=68; 34%), prescribing by international non-proprietary name is mandatory. Among the other 45 respondents, substitution is allowed in a high number of countries (40; 89%), with some differences on whether it is allowed in any circumstances (10 countries) or with some level of limitations/conditions (35 countries or territories).

The field of the distribution of medicines to patients, medicines pricing or the use of generics has been subject to many changes in nearly half of the responding countries and territories (33 out of 70 respondents; 47.1%). Most frequently, changes have affected pricing policies, primarily through price cuts affecting both branded and generic medicines: this happened in 14 countries and territories. Naturally, this has a great impact on pharmacies, because it challenges their capacity to support their infrastructural costs and logistics, maintain a qualified workforce, innovate in services and, generally, sustain the same level of quality. This is especially true when the remuneration of pharmacies and pharmacists depends on a margin on medicines' prices.

For this reason, changes in pharmacy remuneration models is another important international trend observed through this survey. Six countries reported changes (completed or in progress) in their remuneration systems. In most cases, this change is a shift from a margin/mark-up-based model to a system that involves fixed dispensing fees.

The scope of practice and services delivered by hospital and community pharmacists is also an important focus of this report, which found a 10% increase of the number of services offered in all countries. Most newly implemented services and activities either aim to improve medication use (38%) or have a primary health care focus (37%). About a quarter (24%), of those new services are focused on medicines or health care products themselves (such as the production of medicines or their collection for safe disposal).

When considering the recent evolution of community pharmacy in more detail, the top five services that mostly increased at global level were: medicines reconciliation, adherence improvement services, systematic pharmacovigilance, medicines use review and administration of vaccines. Some services were true innovations, i.e. they were not part of the scope of practice of pharmacies in any of the surveyed countries before January 2013. This is the case, for example, of the management of medication in patients on chronic anticoagulation therapy or the point-of-care testing for influenza or streptococcal infection of the throat.

Implementation of new services was not higher in countries with liberal models, going against a common belief that deregulation of pharmacy ownership increases competition and, consequently, innovation.

Overall, the scope of practice of community pharmacy is gradually expanding to include more patient-focused services aimed at improving medicines use and strengthening the role of community pharmacies as an important part of the primary health care system.

With regards to hospital pharmacy, many respondents indicated that a large proportion of the listed services in the survey were already in place before January 2013.

The most frequently implemented hospital pharmacy service between January 2013 and June 2015 was pharmaceutical care and patient follow-up, which amounted to a quarter of all changes. This was followed by medicines use review and medicines selection and/or prescription.



## Acknowledgements

FIP recognises the contributions of the following persons to the production of this report:

### Afghanistan

Mr Haji Mohammad Naimi,  
Afghanistan Nationwide Pharmacists Association

### Argentina (Province of Buenos Aires)

Mrs Laura Raccagni, Colegio de Farmacéuticos de la Provincia de Buenos Aires

### Australia

Mr Paul Sinclair, The Pharmacy Guild of Australia  
Ms Alison Roberts, Pharmaceutical Society of Australia  
Ms Karen O'Leary, Society of Hospital Pharmacists Australia

### Austria

Mrs Teresa Ditzfurth, Austrian Chamber of Pharmacists

### Belgium

Dr Jan Saevels, APB - Association of Pharmacists in Belgium

### Bolivia

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Sociedad Boliviana de Ciencias Farmacéuticas

### Bosnia and Herzegovina

MPh Fatima Insanic - Jusufovic,  
Pharmaceutical Society of Feder. of Bosnia and Herzegovina

### Brazil

Dr J. Luis Miranda Maldonado, Conselho Federal de Farmácia

### Cameroon

Dr Emilienne Pola Yissibi,  
Ordre National des Pharmaciens du Cameroun

### Canada

Dr Philip Emberley, Canadian Pharmacists Association  
Mr Perry Eisenschmid, Canadian Pharmacists Association  
Ms Janet Cooper, Canadian Pharmacists Association

### Chad

Pharmacist Masna Raksala, Ordre National des Pharmaciens

### China

China Food and Drug Administration

### China Taiwan

Pharmaceutical Society of Taiwan

### Colombia

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Colegio Nacional de Químicos Farmacéuticos de Colombia

### Costa Rica

Dr María Lorena Quirós Luque,  
Colegio de Farmacéuticos de Costa Rica

### Croatia

Dr Maja Jakševac Mikša, Croatian Pharmaceutical Society

### Cuba

Dr Edita Fernández Manzano,  
Sociedad Cubana de Ciencias Farmacéuticas

### Denmark

Pharmacist Helle Jacobsgaard, Association of Danish Pharmacies

### Ethiopia

Mr Kidu Hailu, Ethiopian Pharmaceutical Association

### Finland

Mr Vesa Kujala, The Association of Finnish Pharmacies

### France

Mrs Hélène Leblanc, Conseil National de l'Ordre des Pharmaciens

### Germany

Mr Michael Jung,  
ABDA - Federal Union of German Associations of Pharmacists

### Ghana

Mr Daniel Danquah, Pharmacy Council  
Mr James Ohemeng Kyei, Pharmaceutical Society Of Ghana

### Hong Kong, China

Mr Philip Chiu, The Pharmaceutical Society of Hong Kong

### Hungary

Dr Ildiko Csoka, Hungarian Society for Pharmaceutical Sciences  
Ms Éva Szökő, Hungarian Society for Pharmaceutical Sciences  
Hungarian Chamber Of Pharmacists

### Iceland

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### India

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### Indonesia

Ms Aluwi Sani, Indonesian Pharmacists Association

### Iraq

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### Ireland

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MPharm Irene Patterson, The Pharmaceutical Society of Ireland

### Israel

Mr Howard Rice, Pharmaceutical Association of Israel

### Italy

Mr Mauro Lanzilotto, Federfarma

**Japan**

Japan Pharmaceutical Association  
Japanese Society of Hospital Pharmacists

**Jordan**

Ms Samira (Shammas ) Goussous, Jordan Pharmacists Association

**Korea, Republic of**

Mr Hyunseung Kim, The Korean Pharmaceutical Association

**Lebanon**

Dr Luna El Bizri, Ordre des Pharmaciens du Liban  
Mr Rabih Hassouneh, Ordre des Pharmaciens du Liban

**Lithuania**

Mr Eduardas Tarasevicius, Lithuanian Pharmaceutical Association

**Macedonia**

Mrs Jasminka Patcheva, Pharmaceutical Chamber of Macedonia

**Mali**

Dr Abdou Doumbia, Ordre des Pharmaciens du Mali

**Mongolia**

Mr Zuzaan Zulzaga, Association of Pharmacy Professionals of Mongolia

**Montenegro**

Ms Biljana Savović, Pharmaceutical chamber of Montenegro

**Morocco**

Mr Mohammed Rhaouti, National Council of the Order of Pharmacists

**Nepal**

Mr Eurek Ranjit, Nepal Pharmaceutical Association

**The Netherlands**

Dr Frans van de Vaart, Koninklijke Nederlandse Maatschappij ter bevordering der Pharmacie

**Nigeria**

Mr Anthony Akhimien, Pharmaceutical Society of Nigeria, African Pharmaceutical Forum and Association of Community Pharmacists of Nigeria

**Norway**

Mr Jon Andersen, The Norwegian Pharmacy Association

**Pakistan**

Dr Amar Ali, Pharmacy Graduates Association Pakistan

**Panama**

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Universidad de Panama

**Paraguay**

Mrs Carmen Buzarquis, Asociación de Químicos Farmacéuticos del Paraguay.

**Philippines**

Dr Olivia Limuaco, Philippine Pharmacists Association, Inc.

**Poland**

Prof Krystyna Olczyk, Polish Pharmaceutical Society

**Portugal**

Mrs Sónia Querós, National Association of Pharmacies  
Mr Luis Rhodes Baião, Portuguese Pharmaceutical Society (Ordem dos Farmacêuticos)

**Romania**

Mrs Coltofeanu Dana, Romanian Federation of Pharmaceutical Owners' Organisations

**Russian Federation**

Prof Roza Yagudina, The Moscow Pharmaceutical Society  
Mr Vladimir Vyacheslavovich Babiy, The Moscow Pharmaceutical Society

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**Sweden**

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**Switzerland**

Mr Dominique Jordan, pharmaSuisse

**Tanzania**

Mr Geoffrey Yambayamba, Pharmaceutical Society of Tanzania

**Thailand**

Mr Teera Chakajnarodom, The Pharmaceutical Association of Thailand under Royal Patronage

**Turkey**

Mrs Rida Himmet, Turkish Pharmacists' Association

**United Arab Emirates**

Dr Ola Ghaleb Al Ahdab, Pharmacy Society -Emirates Medical Association  
Ministry of Health, UAE

#### United Kingdom

Mr James Dunlop, Royal Pharmaceutical Society

#### Uruguay

Mrs. Nora Gerpe Martínez,  
Asociación de Química y Farmacia del Uruguay

#### United States of America

Mr Mitchel Rothholz, American Pharmacists Association  
Mr Thomas E. Menighan, American Pharmacists Association  
Dr Paul Abramowitz,  
American Society of Health-System Pharmacists

#### Vietnam

Mr Nguyen Xuan Hung,  
Vietnamese Pharmaceutical Association

#### Zimbabwe

Mr Dothan Moyo, The Pharmaceutical Society of Zimbabwe

### Special thanks to

Dr Andreia Bruno  
Mr Fèlix Foraster  
Ms Laura Martin-Gutiérrez, Consejo General de Colegios Oficiales de Farmacéuticos de España  
Mr Didier Mouliom, African Pharmaceutical Forum  
Ms Charo Seigner  
Mr Graeme Smith  
Ms Lin-Nam Wang  
Mr Alex Werner

## Introduction

Pharmacies, as health care facilities, play a fundamental role in health care systems. They ensure the provision of medicines and health care products to patients and healthy individuals, and offer professional services by pharmacists that improve the use of medicines and health outcomes.

The legislation and regulations applicable to pharmacies in each country will necessarily define the type(s) and number of pharmacies available to the population, establish whether pharmacists are present or not, and influence the types of services pharmacies may offer and how these are remunerated. Ultimately, pharmacy regulations play a central role in determining access to medicines and pharmacists by populations. Such regulations will also influence the economic viability of pharmacies and, as such, they will have an impact on the quality of pharmaceutical services and the medicines supply chain, and determine to a considerable extent the overall efficiency of health care system.

The provision of medicines and pharmacists' professional services to the population are essential components of health care, and fundamental elements of universal health coverage (UHC). Hence, a regulatory framework that ensures a quality, professional, accessible and sustainable network of pharmacies is essential to safeguard UHC.

Harnessing the competency profile of pharmacist as health care professionals, and their active presence throughout the network of pharmacies offers an opportunity to promote the responsible use of medicines, to provide primary health care services, to promote healthier lives and to prevent the saturation of other components of health care systems.

The aim of this survey was to learn how the pharmacy profession and access to medicines and pharmacists are regulated around the world and how the regulatory frameworks of pharmacy have changed between January 2013 and June 2015 — understand what forces may be at play in this transformation, what threats may lie in the horizon, what gaps can be closed and opportunities harnessed, who are the main agents and stakeholders in those processes and how pharmacists and their organisations have been involved in such changes.

From the data and insight obtained through this survey, we have strived to ascertain some of the trends that are likely to shape the profession, identify tactical approaches used by pharmacists' organisations to tackle them, and provide feedback to our member organisations in the form of evidence, advocacy tools and resources for policy development.

The report is structured around four main chapters:

1. Access to community pharmacies and ownership models;
2. Establishment, distribution and operation of community pharmacies;
3. Distribution of medicines to patients; and
4. Scope of pharmacy practice.

In each chapter, we provide an overview of the current situation and the main changes that have occurred since January 2013, and we identify major international trends that emerge from the combined responses of individual countries.

Through this overview, you may understand how different regulatory frameworks have been associated with certain types of pharmacy models and health services. You may also want to use the data in this report to direct the advocacy work of your organisation towards a regulatory model that better harnesses the competence of pharmacists to help patients and society make a better use of medicines.

# 1 About the study

## 1.1 Data collection methodology, tools and glossaries

This study was based on data collected from FIP member organisations through the *FIP 2015 Global Survey on Trends in the Regulation of Pharmacy and Access to Medicines*, conducted between May and June 2015. The survey questionnaire was accompanied by a letter explaining the aims and the methodology of the study. The design of the survey was developed by FIP and used as references other surveys previously conducted or commissioned by FIP, such as the International Assessment of Remuneration Models for Hospital and Community Pharmacy.

## 1.2 Design of the survey questionnaire

The questionnaire was structured in four parts:

- A. Ownership of community pharmacies
- B. Establishment, distribution and operation of community pharmacies
- C. Sales and access to medicines
- D. Scope of pharmacy practice.

Each part was divided into two sections that aimed to obtain data about the current situation and any recent changes in the legislation governing that specific aspect of pharmacy and access to medicines since January 2013. For each part, respondents were asked to attach any new legislation or relevant documents, in order to develop a global archive of such documents.

The questionnaire was also accompanied by a glossary of key concepts used in the survey, which were marked in the questionnaire by two asterisks and highlighted in yellow. The aim was to provide a common understanding of such concepts and ensure that all respondents were using the same framework of reference when describing the situation in their countries or territories. This glossary was largely based on the one used for the survey *International Assessment of Remuneration Models for Hospital and Community Pharmacy* but some concepts were added or removed to adapt the glossary to the specific contents of the present survey. The glossary in English is attached as Appendix 1.

The survey questionnaire and glossary were made available in English, French and Spanish. The French translation was coordinated by Mr Didier Mouliom, of the African Pharmaceutical Forum. The Spanish translation was done by Ms Laura Martín-Gutiérrez (General Pharmaceutical Council of Spain) and Mr Gonçalo Sousa Pinto (FIP).

In April 2015, a small-scale pilot study was carried out with four countries invited to participate (Costa Rica, India, Portugal and Spain). After the pilot study, some changes were introduced in the survey questionnaire: some questions were eliminated to make the questionnaire less time-consuming to respond, others were simplified or re-worded for better clarity and a few questions were added to the survey. The questionnaires and glossaries in the three languages are available upon request from the FIP Secretariat.

The present report includes a selection of key data.

## 1.3 Descriptive report of the survey sample

The survey questionnaires and glossaries were sent to **135 potential respondents**, including all FIP member organisations (n=132) and three candidate member organisations that had formalised their membership application at the time of the survey.

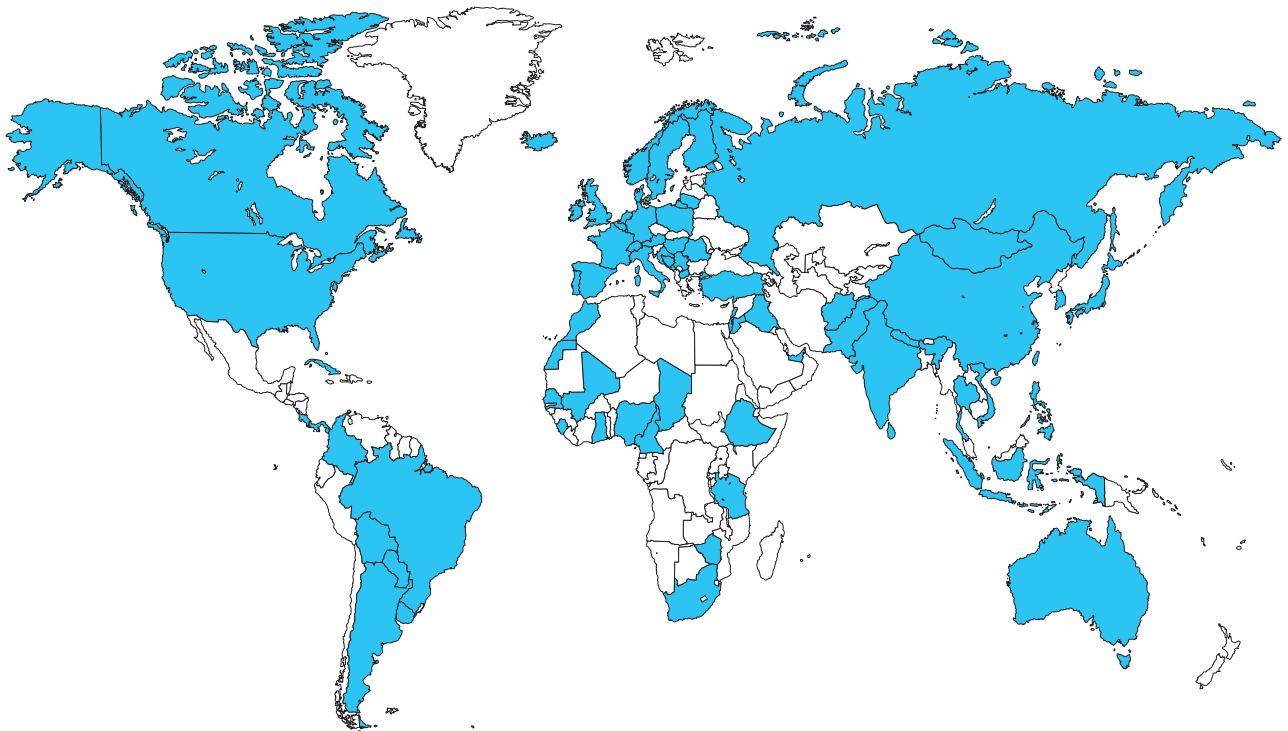


As the survey referred to the current situation and recent developments in legislation in countries or legal jurisdictions, it was requested that organisations from the same country or territory provided a joint response. Data were introduced and processed per country or territory.

As FIP has member organisations (or candidate member organisations) in **98 countries and territories**, that was the maximum possible sample size.

Responses were received from **71 countries and territories**, i.e., the response rate was of 72.4%. Figure 1 illustrates the global distribution of the survey respondents.

**Figure 1. Countries and territories that participated in the survey (n=71)**



The survey sample is robust in terms of the percentage of countries and territories represented in FIP and world population. With regards to the distribution of respondents by World Health Organization region, there was a high or very high response rate from the Americas, Europe, Southeast Asia and the Western Pacific regions, but proportionally fewer responses were received from the African and Eastern Mediterranean regions (Table 1). Although the survey was responded to by 36.6% of all member states and territories of WHO, respondents accounted for 78.9% of the world's population, which signifies that the regulations of pharmacy and access to medicines included in this study affect nearly four-fifths of the world's population.

**Table 1.** Responses per WHO region and population covered

WHO Region	% Responses (n)	% Countries & territories represented in FIP (total n)	% of WHO countries & territories (total n)	Population covered by the respondents (in thousands) <b>(% of region's population)</b> <i>Total population of the region (in thousands)</i>
Africa (AFRO)	15.5% (11)	50% (22)	23.4% (47)	486,708 <b>(52.5%)</b> 927,371
Eastern Mediterranean (EMRO)	8.45% (6)	60% (10)	28.6% (21)	116,044 <b>(18.9%)</b> 612,580
Europe (EURO)	39.4% (28)	80% (35)	52.8% (53)	725,495 <b>(80%)</b> 906,996
The Americas (PAHO)	15.5% (11)	91.7% (12)	31.4% (35)	692,925 <b>(71.7%)</b> 966,495
Southeast Asia (SEARO)	8.45% (6)	100% (6)	54.5% (11)	1,775,201 <b>(95.7%)</b> 1,855,068
Western Pacific (WPRO)	12.7% (9)	90% (10)	33.3% (27)	1,800,324 <b>(96.9%)</b> 1,857,588
<b>Total</b>	<b>100%</b> <b>(71)</b>	<b>72.4%</b> <b>(98)</b>	<b>36.6%</b> <b>(194)</b>	<b>5.6 billion</b> <b>(78.9%)</b> <i>7.1 billion</i>

As for the sample's distribution per income level of responding countries and territories (Table 2), there was a clear dominance (43.7%) of high-income countries in terms of the number of respondents. However, in terms of the population affected by the legislation described in the study, lower-middle-income countries were dominant (38.7%), followed by upper-middle-income countries (35.3%) and high-income countries (21.7%). Low-income countries and territories were by far the least represented in the survey (4.3%) in terms of population or number of respondents.

The complete list of countries and territories that responded to the survey can be found in Appendices 2 and 3.

Table 2. Sample response per income group and population covered

Income level	% Responses (n)	% Countries & territories represented in FIP (total n)	% of WHO countries & territories (total n)	Population covered by the respondents (in thousands) <b>(% of region's population)</b> <i>Total population</i> (n, in thousands)
Low income	11.3% (8)	57.1% (14)	23.5% (34)	239,377 <b>4.3%</b> 28.2% (848,668)
Lower middle income	16.9% (12)	52.2% (23)	24% (50)	2,164,636 <b>38.7%</b> 84.7% (2,554,925)
Upper middle income	28.1% (20)	86.9% (23)	36.4% (55)	1,978,320 <b>35.3%</b> 80.7% (2,449,819)
High income	43.7% (31)	81.6% (38)	41.3% (75)	1,214,367 <b>21.7%</b> 95.4% (1,272,686)
Total	100% (71)	72.4% (98)	36.6% (194)	5.6 billion <b>100%</b> 78.9% (7.1 billion)

## 1.4 Limitations

Although the study sample is formed by 71 countries and territories, not all respondents completed the survey to its full extent. As such, for each question, results were analysed and expressed considering the number of respondents to that specific question, especially when average results are indicated.

It should be taken into account that, despite the use of the glossaries, there may have been differences in interpretation of some of the questions among the respondents — especially when the questionnaire was not in their native language — which may have introduced some degree of inaccuracy in the replies.

The data and analysis presented are based on the responses to the survey. If any inaccurate information was provided by any of the respondents, it will affect the accuracy of the results, their statistical analysis and their interpretation.

It should be noted that, as much as the questionnaire endeavoured to accommodate all possible models of pharmacy and their regulation, pharmacy services and systems for the distribution of medicines, the complexity and diversity of the existing models around the world may have made it difficult for some organisations to reflect their local reality through the options available in the questionnaire.

This was especially relevant in countries with a federal organisation, where different regions (states, provinces, etc.) may have different regulations. Some of the respondents have chosen to present national regulations or average — but it should be noted that the reality at subnational level may be quite different. One respondent (COFA, Argentina) chose to respond based on the legislation and figures of a single province (in this case, the Province of Buenos Aires, which is the most populous).

## 2 Access to community pharmacies and ownership models

### 2.1 Overview of the current situation

#### 2.1.1 Access to pharmacies

Seventy of the responding countries and territories indicated a total number of pharmacies of 1,743,287, which serve approximately 5.6 billion people around the world, i.e., 78.9% of the world's population. However, large disparities were found in terms of access to a pharmacy. While the average number of inhabitants per pharmacy was 15,546 (which is, in itself, a high figure), this indicator varied from 1,563 inhabitants per pharmacy in Lebanon to 356,125 in Chad. In fact, the standard deviation for this parameter was 46,768 (more than three times the average), which indicates how highly diverse and complex to analyse this indicator is on a global scale.

By looking at Figures 2 and 3, it is difficult to establish a direct correlation between the number of inhabitants per pharmacy and the income level of the country, as there seems to be a mix of situations across the whole range of results. However, most countries and territories with lower income levels are located at either end of the scale (and predominantly at the top end). This polarisation of lower income countries in the two ends of the scale could be due to the existence of different types of medicines outlets, which some respondents may have included under a single figure, while others only counted those pharmacies that strictly respond to the definition included in the glossary: “a health care facility dispensing medicines (such as prescription medicines and non-prescription medicines, reimbursable and non-reimbursable medicines) and other health care products to out-patients and offering further services”.

For example, Vietnam indicated 10,250 pharmacies, but stated that there are over 30,000 pharmacy desks and medicines kiosks. The figures indicated by Chad, Pakistan, Nigeria, Tanzania, Cameroon, Zimbabwe and Mali — all of which are clear outliers in the graphs below — are a reason for concern as they signal a severe lack of access to pharmacies and pharmacists by the peoples of these countries.

On the other hand, most countries and territories with higher income levels seem to have ratios of inhabitants per pharmacy between 2,000 and 7,000. This is quite a wide range, representing a variety of regulatory systems and planning policies for community pharmacies. It may also be due to differences in population density. Yet, this broadly translates as a balance between ease of access and a reasonable size for pharmacies that guarantees their economic sustainability. Denmark is also a well-known outlier in this distribution, but this corresponds to a situation where pharmacies are fewer and more sparsely distributed than in most high-income countries, but they generally have a larger infrastructure, with several pharmacists and other highly qualified staff, providing a quality service to the population. Moreover, some countries have also allowed “satellite pharmacies” or “pharmacy branches” contributing to wider access to medicines. Since such “satellite pharmacies” or “pharmacy branches” are connected to a main pharmacy, they are usually not counted in the figures presented.

Figure 4 illustrates that in over two thirds of all responding countries and territories, the rate of inhabitants per pharmacy is below 6,000. In 8 countries (12%), this rate is between 6,000 and 10,000. Numbers above 10,000 inhabitants per pharmacy (excluded in Figure 3) represent 21% of the respondents, but only five countries have numbers above 30,000 inhabitants per pharmacy, all in the low or lower-middle income categories.

Figure 2. Inhabitants per pharmacy, correlation with income level (n=70)

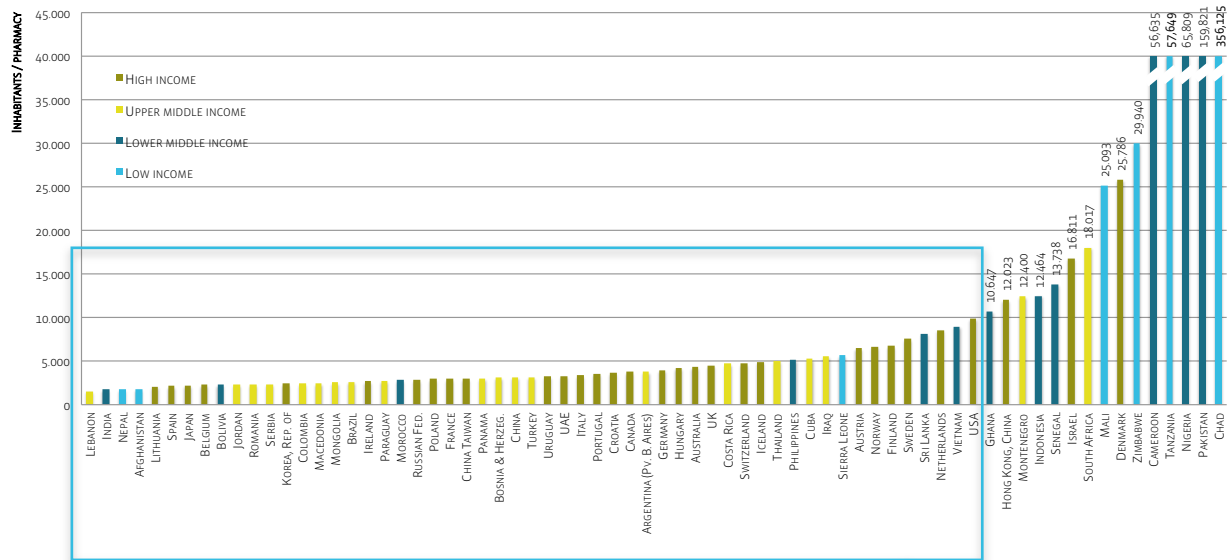


Figure 3. Inhabitants per pharmacy, rates &lt; 10,000 (n=54)

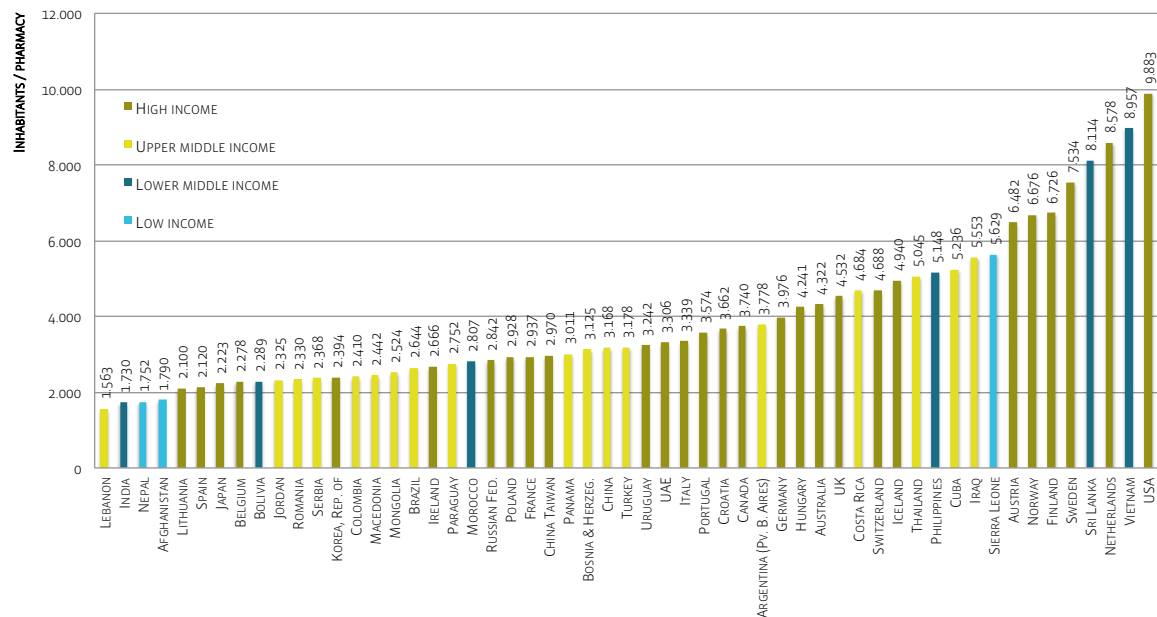
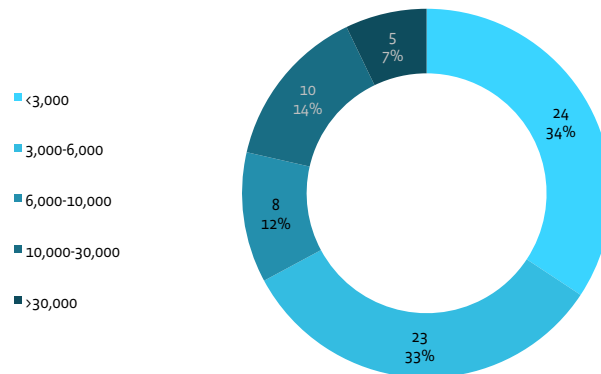


Figure 4. Inhabitants per pharmacy by ranges (n=70)



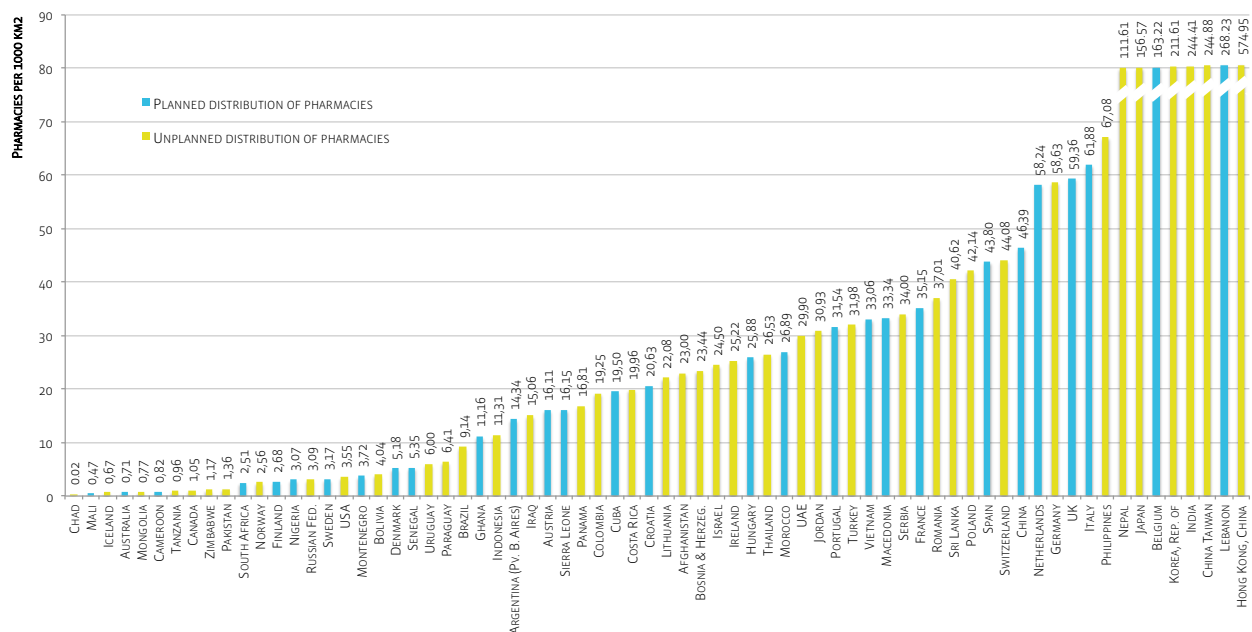


While these figures may seem abstract, this indicator provides an idea of how many people (and especially patients) a pharmacy serves on average, and what role pharmacies will be able to play in the overall health care system. A high number of inhabitants per pharmacy may signify that the few available pharmacies may be out of reach for most people, and may find it challenging to cover the needs of the population in terms of medicines and health care services (with the exception of countries and territories where pharmacies are generally larger and have established branches to reach out to other communities; generally, they also employ more staff than in most other countries). On the contrary, a low number of inhabitants per pharmacy may signify that the pharmacy may be challenged in its economic sustainability, if no specific financial support is received from public administration.

In terms of the distribution of pharmacies across the territory (pharmacy density), the survey data were crossed with data for the land area for each country or territory, and expressed as the number of pharmacies per 1,000 km<sup>2</sup>. While this indicator may be misleading, as it suggests a homogenous distribution of pharmacies across the territory thus obviating the differences in access between rural and urban areas or in countries with large deserted areas, it still provides a general idea of the relative density of the network of community pharmacies. This should be taken into account when interpreting the position of each country or territory in the ranking (such as Australia or Hong Kong, to give two extreme examples). In Figure 5, data on the number of pharmacies per 1,000km<sup>2</sup> is presented in correlation with the existence of a system to ensure a homogeneous distribution of pharmacies across the territory, such as planning the location of pharmacies through geographic or demographic criteria, the concession of financial support to pharmacies in scarcely populated areas or other territorial planning measures.

For each country or territory's details regarding access to pharmacies, please see Appendix 4.

Figure 5. Pharmacies per 1,000 km<sup>2</sup> (n=70)



Source of data on country land area: United Nations Statistics Division (2012). Demographic Yearbook — Table 3: Population by sex, rate of population increase, surface area and density (PDF). Available at <http://goo.gl/9uXlgB>.

## 2.1.2 Ownership of pharmacies

In terms of ownership of community pharmacies, although 69 of 71 countries and territories responded that individual pharmacists *can* own a pharmacy (the two exceptions being Cuba, where pharmacies are a state monopoly and Pakistan, where they must belong to partnerships or companies owned by pharmacists), a range of ownership types coexist in most countries and territories. Table 3 provides details about the prevalence of the different ownership types. As can be seen, limited corporations may own pharmacies in 43 (60.5%) countries or territories. It should be noted that several ownership types may coexist in any given jurisdiction but some of them may represent a small market share of pharmacies, such as ownership by universities or by the state in exceptional circumstances, or by NGOs. For example, in Finland, pharmacy ownership is almost entirely a prerogative of pharmacists, but a few pharmacies are owned by universities.

**Table 3. Types of pharmacy ownership**

Please note that several ownership types may be present in the same country or territory.

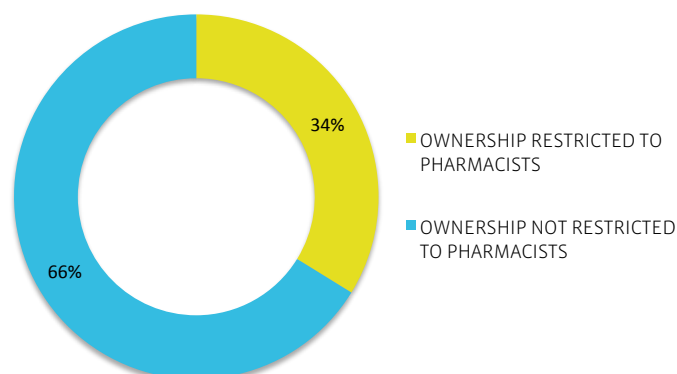
Types of pharmacy ownership	n	(% of 71)
Individual pharmacists	69	(97.2%)
General partnerships or companies whose owners are <u>only</u> pharmacists	44	(62.0%)
Individuals who are not pharmacists	44	(62.0%)
Limited companies or corporations whose owners may not be pharmacists	43	(60.5%)
The state (national, regional or local administration)	32	(45.1%)
Universities	21	(29.6%)
Hospitals	35	(49.3%)
Other (e.g. NGOs, charities, syndicates, individuals who are not pharmacists as long as the majority shareholders are pharmacists, friendly societies)	9	(12.3%)

Ownership by the state (n=32; 45.1%), i.e., publicly owned pharmacies held by national, regional or local administrations, it coexists with pharmacist-exclusive models in only three countries (Italy, Jordan and Zimbabwe), while it coexists with non-exclusive models in 28 countries and territories. The remaining country in this group is Cuba, as explained earlier.

Other ownership models include universities, hospitals and other organisations (mostly religious or charitable institutions), and they coexist with either pharmacist-exclusive or non-exclusive models.

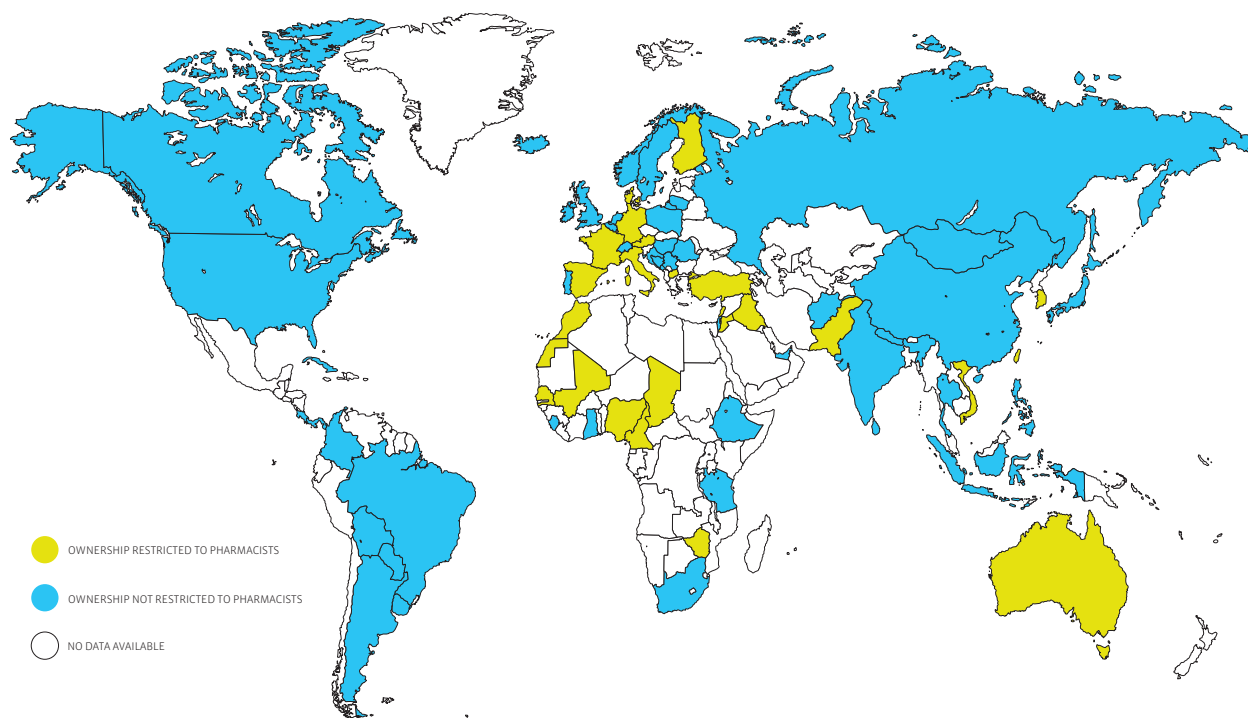
Pharmacy ownership as an exclusive right of pharmacists is present in 24 countries and territories (33.8%), as shown in Figure 6. In the remaining 47 jurisdictions (66.2%), ownership is not an exclusive prerogative of pharmacists and other forms of ownership exist, either as individual owners, limited companies or the state, as is the case in Cuba.

**Figure 6. Community pharmacy ownership restriction to pharmacists (n=71)**



The map in Figure 7 provides an overview of where pharmacy ownership is exclusive to pharmacists. This model is present to an important extent in Europe and Africa, as well as Australia, but is absent among the responding countries and territories in the Americas and most of Asia (with the exceptions of China Taiwan, Republic of Korea and Vietnam).

**Figure 7.** Global overview of community pharmacy ownership restrictions to pharmacists (n=71)



### 2.1.3 Exclusions to pharmacy ownership

With regards to legal exclusions to who can own a community pharmacy, 38 countries or territories (55%) responded that certain exclusions apply. Of those 38, 35 respondents specified who is not allowed to own a pharmacy, as detailed in Table 4. It was noted that, although 30 respondents indicated that vertical integration (the combined ownership by the same owner of community pharmacies and wholesale companies and/or pharmaceutical manufacturers) is not allowed, only 21 indicated that pharmacy ownership is banned to pharmaceutical wholesalers, and 24 to manufacturers. This difference may be due to language barriers when completing the questionnaire. In any case, the most prevalent restriction to ownership is for medical doctors and other prescribers, which is in contrast with the existence of dispensing doctors in several of the responding countries and territories (see chapter on the distribution of medicines).

**Table 4.** Restrictions to pharmacy ownership (n=35)

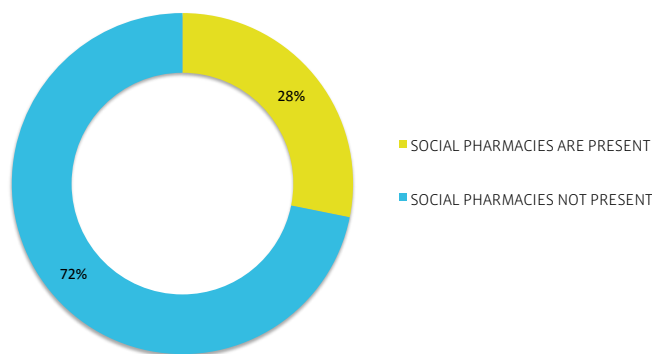
Restrictions	n (% of 35)
Medical doctors and other prescribers	30 (85.7%)
Pharmaceutical wholesalers	21 (60.0%)
Pharmaceutical manufacturers	24 (68.6%)
Third party payers (public or private)	16 (45.7%)
Private clinics or health care providers	18 (51.4%)
Other (e.g. public servants, inspectors, non pharmacists, persons with mental illness, non-nationals, persons with a history of bankruptcy, etc.)	7 (20.0%)

For each country or territory's details regarding the ownership of community pharmacies, please see Appendix 5.

### 2.1.4 Social pharmacies

Social pharmacies are those owned by entities of the social sector of the economy (third sector), such as non-profit organisations, social cooperatives and charity organisations, but also the state in some cases. They exist in 20 countries and territories out of 71 respondents (28%), as indicated in Figure 8. These pharmacies may serve special population groups or be installed in areas where no other pharmacies existed. Several provide medicines at no cost for such populations, and have a special regulatory framework. Others serve the general population, but their ownership may give them a special legal or fiscal status. Table 5 indicates the prevalence of ownership types for social pharmacies. For a full list of the countries and territories where such pharmacies exist, and the details of each model, see Appendix 6.

**Figure 8.** Existence of social pharmacies in responding countries and territories (n=71)



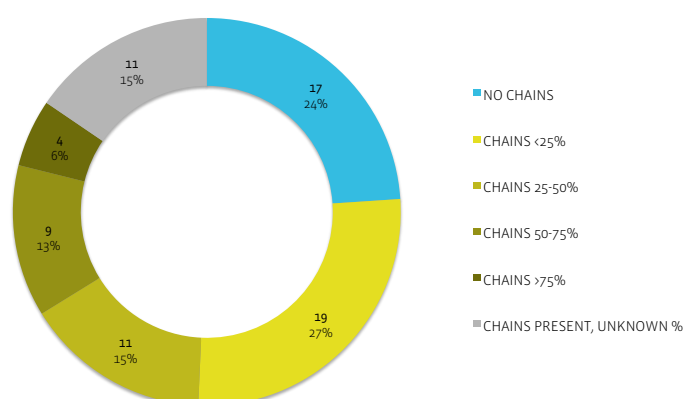
**Table 5.** Social pharmacies per ownership type (n=20)

Owner of social pharmacies	n (% of 20)
The state	6 (30%)
Charities/religious organisations	6 (30%)
Social organisations (cooperatives, syndicates, etc)	5 (25%)
Mutualist health insurers	4 (20%)
NGOs	3 (15%)
Other	3 (20%)

### 2.1.5 Chains of community pharmacies

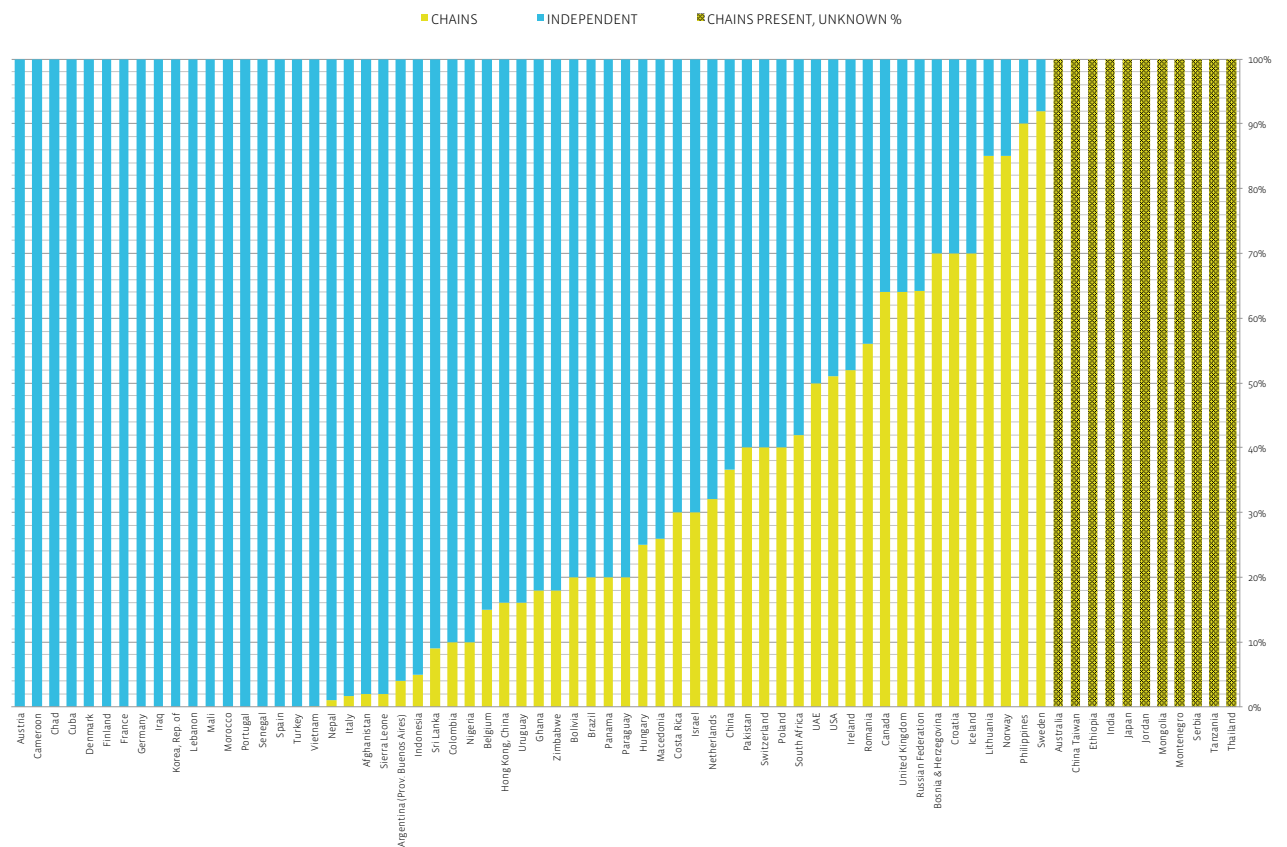
Community pharmacy chains, defined as “a group of pharmacies owned by the same company, under a common brand name and image”, are present in 54 of the survey’s 71 (76%) countries and territories. However, chains are present to varying degrees, as can be seen in Figure 9: chains represent more than 50% of all pharmacies in 18.3% (13) of the responding countries and territories.

**Figure 9.** Market share of pharmacy chains (n=71)



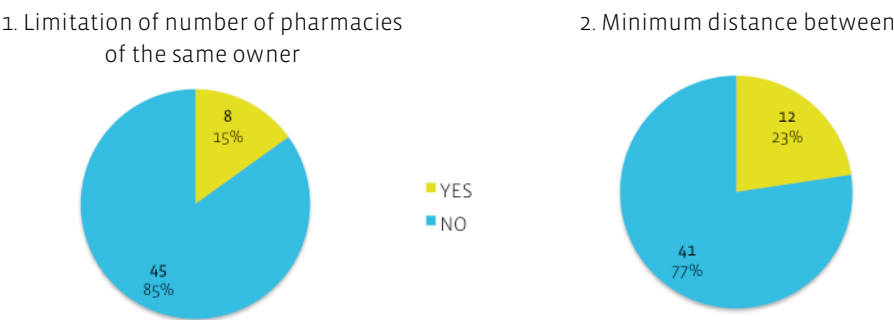
Nevertheless, independent community pharmacies represent more than 50% of all pharmacies in at least two thirds of the responding countries and territories. (It should be noted that 11 respondents did not state the percentage of pharmacies that belong to chains.) This means that the independent pharmacy is still the largely dominant ownership model around the world, as can be seen in Figure 10.

Figure 10. Percentage of independent community pharmacies and pharmacy chains per country (n=71)



In some jurisdictions, the establishment of pharmacy chains is allowed but regulations apply certain restrictions to their market share or their territorial distribution. Figure 11 presents the percentage of countries or territories where chain sizes are limited or there is a legal minimum distance between pharmacies of the same owner.

Figure 11. Limitations to pharmacy chains (n=53)





Notwithstanding, even in jurisdictions whose legislation bans pharmacy chains, we have observed the establishment of groups of independently owned pharmacies under a common brand (branded partnership pharmacies). Some of these brands are owned by cooperatives of pharmacists or private companies, some of which are operating at international level also through pharmacy chains and wholesale operations, as can be seen in the maps further below illustrating the international presence of some of the main players in this sector.

It is worth mentioning that vertical integration is legal in 35 out of 65 (53.8%) of the responding countries and territories. Particularly, in nearly all countries where pharmacy chains represent more than 50% of all community pharmacies, vertical integration is allowed. The only two exceptions are Bosnia and Herzegovina and the United States of America.

### 2.1.5.1 Significant international players in the community pharmacy sector

From the combined data obtained through the survey and additional research on the major pharmacy chains and the economic groups they are affiliated with, it was possible to understand where such groups are established around the world. These companies are important players in the pharmaceutical supply chain in the majority of countries and territories, where they operate under different brand names. Some of the largest regional or global groups operating in the community pharmacy sector have vertically integrated operations across the supply chain. A selection of examples of such international groups is presented below.

#### 2.1.5.1.1 *International presence of Walgreens Alliance Boots*

Walgreens Alliance Boots is a multinational holding company headquartered in Deerfield, Illinois, that owns Walgreens, Boots and a number of pharmaceutical manufacturing, wholesale and distribution companies. Walgreens bought Alliance Boots through a series of purchasing stakes in Alliance Boots (in 2012 and in 2014). In the community pharmacy sector, the company owns different brands of pharmacy chains as well as pharmacy franchises and branded partnerships with independent pharmacies. WAB is the largest purchaser of prescription medicines in the world<sup>1</sup>. Figure 12 and Table 6 provide an overview of the company's global presence and country-level operations, including equity investments, i.e., other companies where WAB is a significant shareholder.

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<sup>1</sup> "Walgreens and Alliance Boots Complete Step 2 of Merger to Form First Global Pharmacy-Led, Health and Wellbeing Enterprise" (31 December 2014). Available at: <http://goo.gl/3fKp5C>

Figure 12. Global presence of Walgreens Alliance Boots

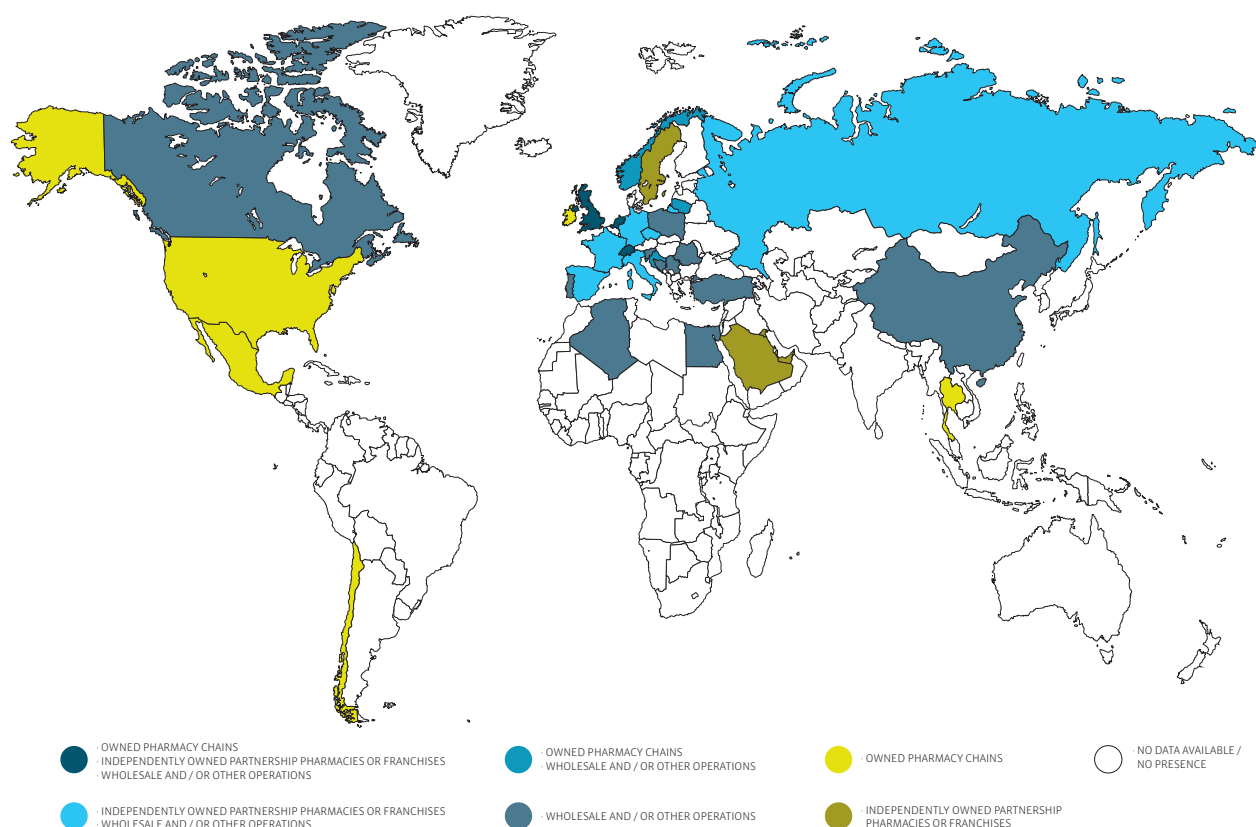


Table 6. Global presence of Walgreens Alliance Boots per country or territory

Country or territory	Wholesale and other operations (including equity investments)	Own community pharmacies	Independent partnership pharmacies <sup>2</sup>
Algeria	HydraPharm/Hedef Alliance		
Bosnia and Herzegovina	Oktal Pharma (equity investment)		
Bahrain			Boots (franchise)
Canada	(Branded products)		
Chile		Farmacias Ahumada	
China	Guangzhou Pharmaceuticals Nanjing Pharmaceutical Co Ltd (both equity investments.)		
Croatia	Oktal Pharma (equity invest.)	Vaše Zdravlje Pharmacies	
Czech Republic	Alliance Healthcare Czech Rep.		Alphega Pharmacies
Egypt	UCP/Hedef Alliance		
France	Alliance Healthcare France		Alphega Pharmacies

<sup>2</sup> Independent partnership pharmacies are independently owned pharmacies that contract a set of services from a company and adopt that company's brand and visual style. These services may include wholesale services, business management, professional services for patients, exclusive branded products, staff training and others. The group of pharmacies that contract these services, although owned by different proprietors, make up a homogeneously branded network.

Country or territory	Wholesale and other operations (including equity investments)	Own community pharmacies	Independent partnership pharmacies <sup>2</sup>
Germany	Alliance Healthcare Deutschl. Megapharm		Alphega Pharmacies
Hong Kong, China			Boots (franchise)
Ireland		Boots Ireland	
Italy	Alliance Healthcare Italia		Alphega Pharmacies
Kuwait			Boots (franchise)
Lithuania	Armila UAB	Boots	
Mexico		Farmacias Benavides	
Netherlands	Alliance Healthcare Nederland	Boots	Alphega Pharmacies
Norway	Alliance Healthcare Norge	Boots Norge	
Poland	Manufacturing operations		
Portugal	Alliance Healthcare Portugal		
Qatar			Boots (franchise)
Romania	Farmexpert		
Russia	Alliance Healthcare Russia		Alphega Pharmacies
Saudi Arabia			Boots (franchise)
Serbia	Oktal Pharma (equity investment)		
Singapore			Boots (franchise)
Slovenia	Oktal Pharma (equity investment)		
Spain	Alliance Healthcare España		Alphega Pharmacies
Sweden			Boots (franchise)
Switzerland	Galenica (equity investment)	Amavita MediService Sun Store (all through Galenica)	Winconcept (through Galenica)
Thailand		Boots Thailand	
Turkey	Hedef Alliance		
United Arab Emirates (UAE)			Boots (franchise)
United Kingdom (UK)	Alliance Healthcare Distribution (UK) Boots Opticians Boots Hearingcare Almus (generics manufacturer)	Boots UK	Alphega Pharmacies
United States of America (USA)		Walgreens Duane Reade Boots online	

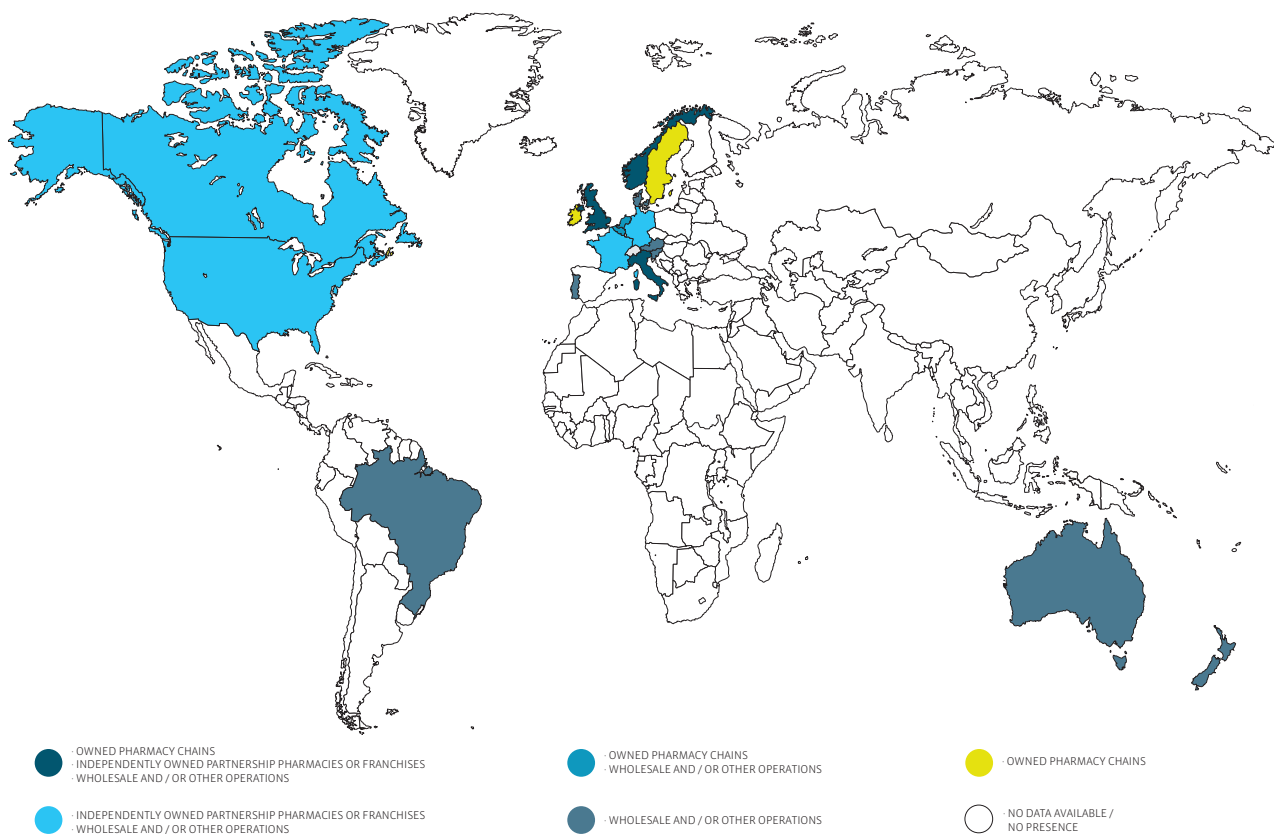
### 2.1.5.1.2 International presence of McKesson and Celesio

McKesson is a multinational holding company headquartered in San Francisco, California. It is the main pharmaceutical wholesaler in the USA and Canada. The company has two core business segments: distribution solutions and technology solutions. In the community pharmacy sector, McKesson has the fourth largest pharmacy network in the USA: 2,900 Health Mart community pharmacy franchisees<sup>3</sup>. McKesson also holds more than 75% of the shares of the Germany-based group Celesio since February 2014<sup>4</sup>, which is why we present them together in this report.

Celesio is a prominent international wholesale and retail company and provider of logistics and services to the pharmaceutical and health care sectors<sup>5</sup>. The company has 2,200 of its own pharmacies, 4,300 independent partner pharmacies in Europe and 133 wholesale branches<sup>6</sup>.

Figure 13 and Table 7 provide an overview of the global presence and country-level operations of McKesson and Celesio.

**Figure 13.** Global presence of McKesson and Celesio



<sup>3</sup> Data from McKesson's corporate website, <http://www.mckesson.com/about-mckesson/key-facts/>

<sup>4</sup> Data from Celesio's corporate website, <http://www.celesio.com/ag-en/company/ueber-celesio>.

<sup>5</sup> idem

<sup>6</sup> idem

Table 7. Global presence of McKesson and Celesio per country or territory

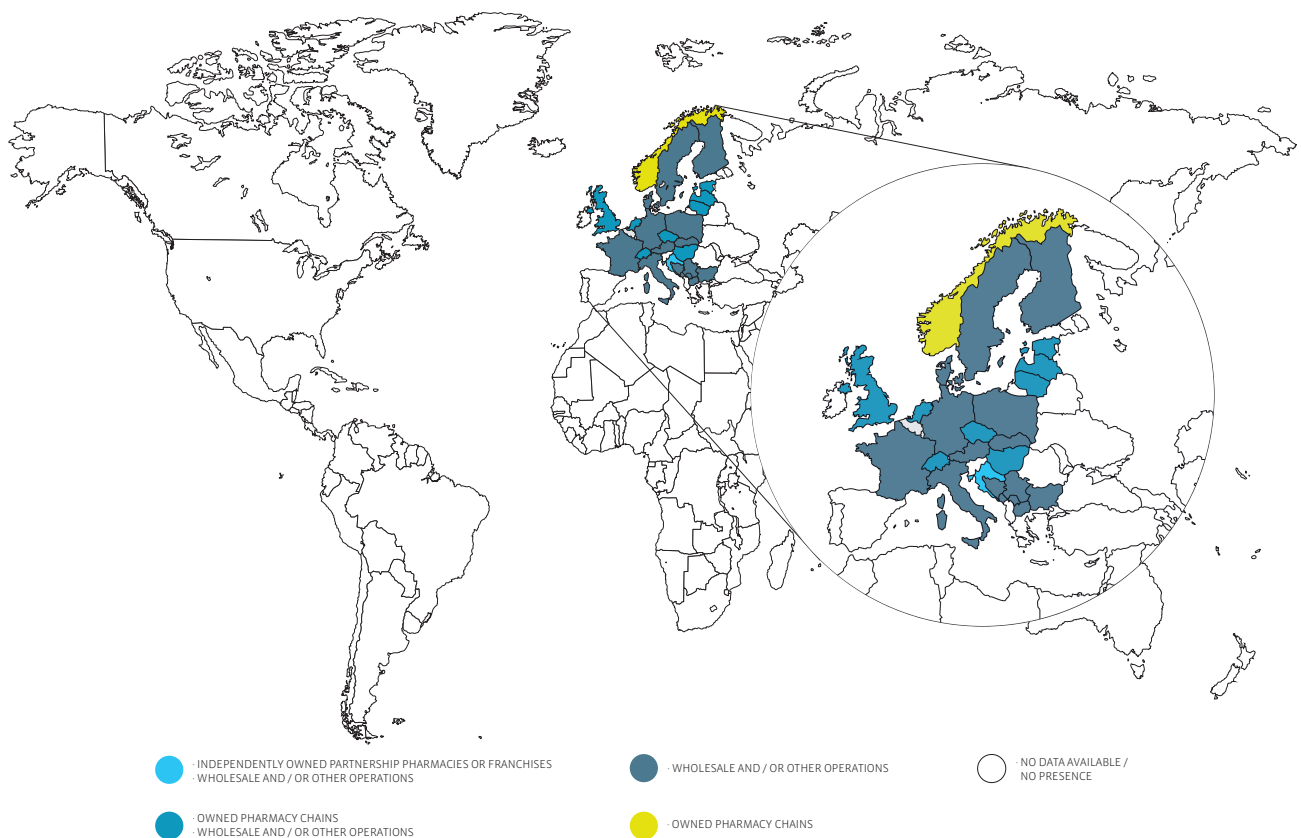
Country	Wholesale and other operations (including equity investments)	Own community pharmacies	Independent partnership pharmacies
Australia	McKesson		
Austria	Herba Chemosan Apotheker-AG		
Belgium	Pharma Belgium	LloydsPharma	
Brazil	Panpharma Oncoprod		
Canada	McKesson		I.D.A. Guardian Medicine Shoppe Remedy's Rx Proxim
Denmark	Tjelleesen Max Jenne A/S		
France	OCP		Pharmactiv
Germany	GEHE Pharma Handel Inten DocMorris		gesundleben pharmacies
Ireland		LloydsPharmacy	
Italy	Admenta Italia AFM, s.p.a	Lloyds Farmacia Comunal	Lloyds Farmacia
Netherlands	Brocef Holding N.V (jointly owned with the Phoenix Group)	Benu pharmacies (jointly owned with the Phoenix Group, through Brocef)	
New Zealand	McKesson		
Norway	NMD	Vitusapotek	Ditt pharmacies
Portugal	OCP		
Slovenia	Kemofarmacija, d.d		
Sweden		Lloyds Apotek	
UK	AAH McKesson	LloydsPharmacy	Careway LloydsPharmacy Franchise
USA	McKesson		Health Mart

### 2.1.5.1.3 International presence of the Phoenix Group

The Phoenix Group is a multinational holding company headquartered in Mannheim, Germany. It is fully owned by Merckle Unternehmensgruppe, a conglomerate also involved in engineering and building materials and cement. The company originated from the merger of five regionally active pharmaceutical wholesale businesses in Germany in 1994 but is now active both in the wholesale and community pharmacy sectors. It presently has 153 wholesale distribution centres in 25 European countries, 1,646 of its own pharmacies in 12 countries, and 12,270 independent partnership pharmacies<sup>7</sup>. As of June 2015, the company only operated in Europe.

Figure 14 and Table 8 provide an overview of the company's international presence and country-level operations.

**Figure 14.** International presence of the Phoenix Group



<sup>7</sup> Data from the corporate report "Achieving success together. Phoenix Group at a Glance, Release 2015". Available at the corporate website of the Phoenix Group, <http://goo.gl/WL913L>.

Table 8. International presence of the Phoenix Group

Country	Wholesale and other operations (including equity investments)	Own community pharmacies	Independent partnership pharmacies
Austria	Phoenix		
Bosnia and Herzegovina	Phoenix El Pharma (pre-wholesale services)		
Bulgaria	Phoenix El Pharma (pre-wholesale services)		
Croatia	Phoenix		Adiva pharmacies
Czech Republic	Phoenix	BENU	
Denmark	Nomeco	BENU	
Estonia	Tamro		
Finland	Tamro		
France	Phoenix		
Germany	Phoenix	BENU	
Hungary	Phoenix		
Italy	Comifar		
Kosovo	Phoenix		
Latvia	Tamro	BENU	
Lithuania	Tamro	BENU	
Macedonia	Phoenix El Pharma (pre-wholesale services)		
Montenegro	El Pharma (pre-wholesale services)		
Netherlands	Brocef (jointly owned with Celesio)	BENU (jointly owned with Celesio through Brocef)	
Norway		Apotek1	
Poland	Phoenix	BENU	
Serbia	Phoenix (wholesale) El Pharma (pre-wholesale services)		
Slovakia	Phoenix		
Sweden	Tamro		
Switzerland	Amedis	BENU	
UK	Phoenix	rowlands pharmacy	

### 2.1.5.2 Top pharmacy chains per region

In addition to these three international pharmacy chains, a global overview of the main chains operating per region is presented. The survey inquired about the top five pharmacy chains operating in each country or territory. The details are provided in Appendix 5, including the national market share of these chains. Yet, the maps in Figures 15, 16, 17 and 18 offer a geographical overview of the chains operating at national level in Africa & the Middle East, the Americas, East Asia & Australia, and Europe, respectively. It should be noted that these maps only include the details of the countries and territories that specified the names of the main chains, and not all the countries in the survey sample that have pharmacy chains.

Pharmacy chains in each country are ordered according to their national market share, from the largest to the smallest.

**Figure 15.** Main pharmacy chains in Africa and the Middle East

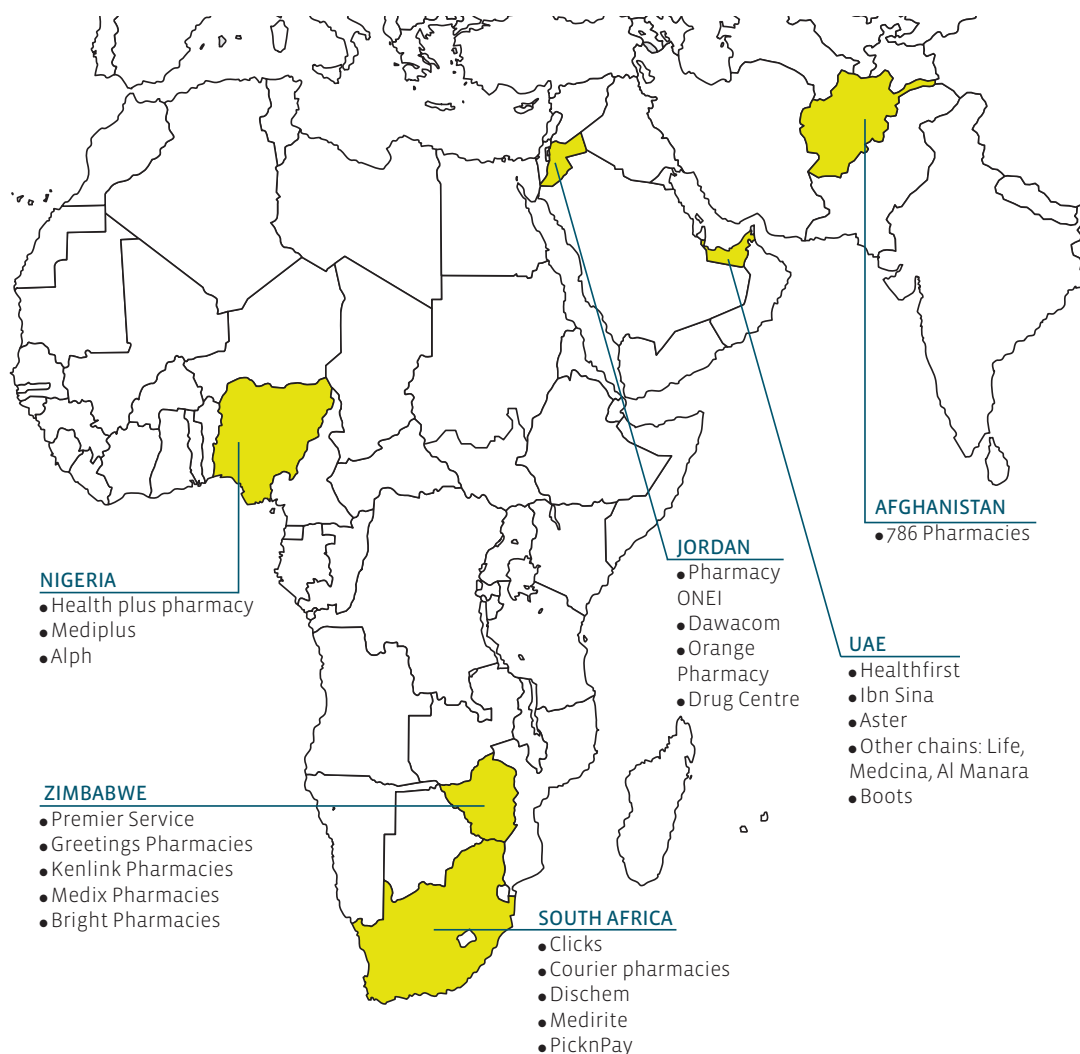




Figure 16. Main pharmacy chains in the Americas



Figure 17. Main pharmacy chains in East Asia and Australia

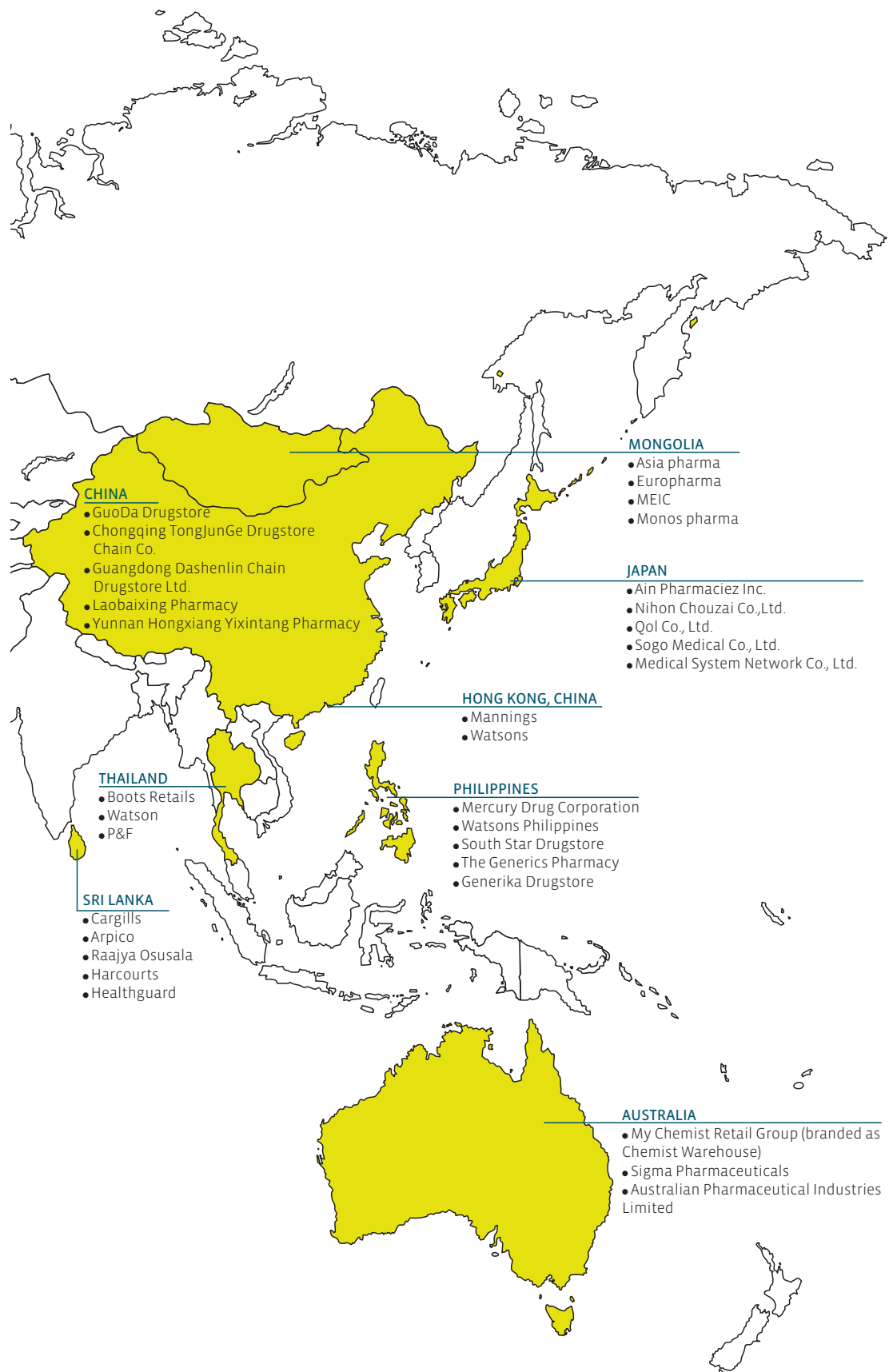
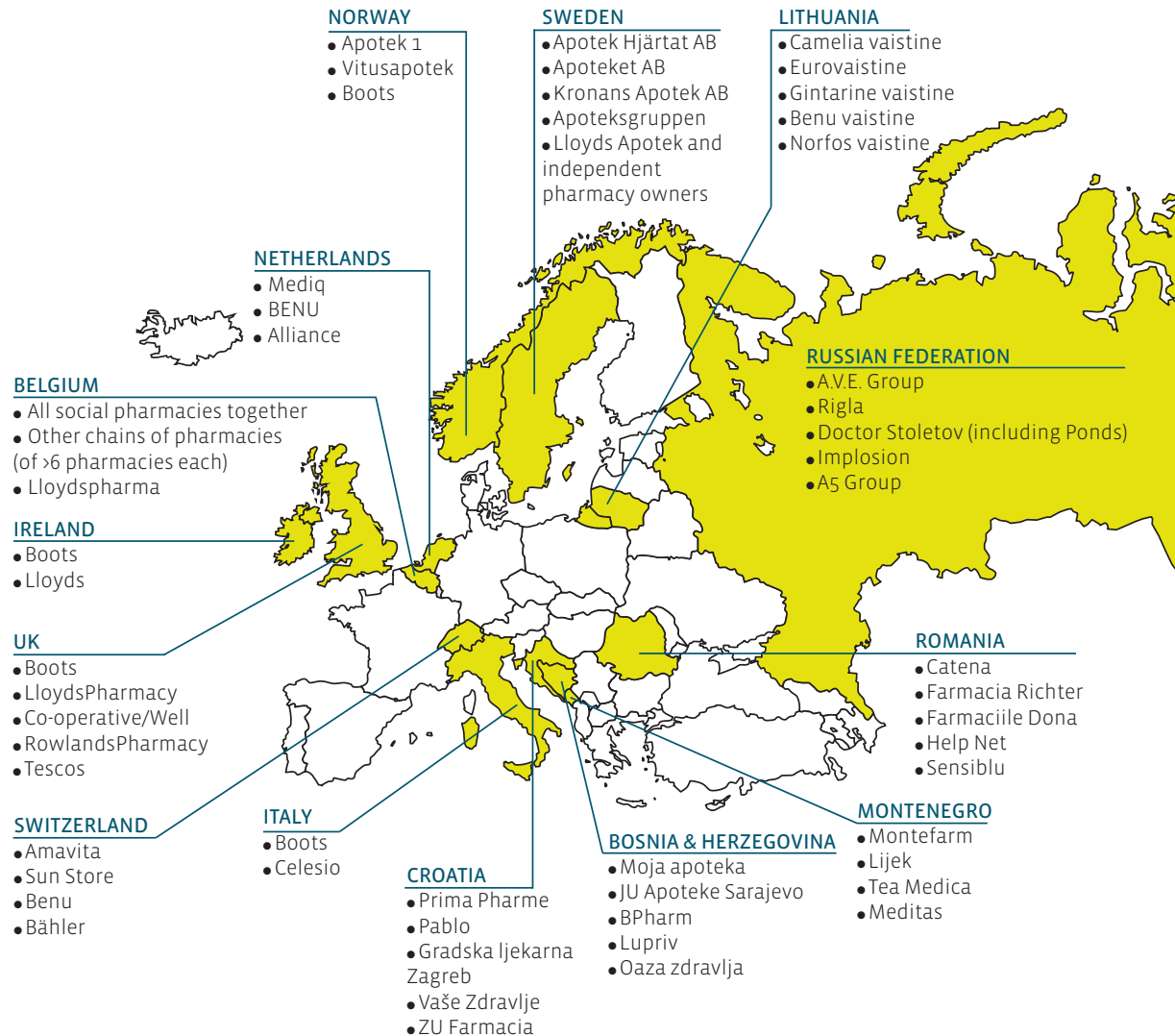


Figure 18. Main pharmacy chains in Europe



## 2.2 Recent developments and trends in pharmacy ownership regulations

There seems to be a considerable amount of change happening in terms of pharmacy ownership regulations around the world. Seventeen out of 70 countries and territories (24.3%) reported that such attempts to change had been initiated, sometimes successfully, since January 2013. In this analysis, we have included not only approved changes but also unsuccessful ones and those still being negotiated, as these also help understand current trends.

Of these jurisdictions, six reported recently approved or implemented legislation that either restricted pharmacy ownership to pharmacists (Afghanistan, Chad, Macedonia and Pakistan), introduced barriers to pharmacy chains (Uruguay) or implemented additional regulations in terms of the conditions to open a pharmacy (China).

In four other countries (Bolivia, Serbia, Sierra Leone and Vietnam), changes towards more regulated, pharmacist-focused ownership models are being negotiated at Parliament or Government level.

Also, Montenegro reported that its Pharmaceutical Chamber's negotiations with the Government to introduce a more regulated system finally failed.

Conversely, four countries (France, Jordan, Portugal and Sweden) have introduced more liberal systems or removed some of the existing barriers to competition (further details below).

Furthermore, one of the most profound changes towards a deregulated system is currently at the final stages of its parliamentary discussion in Italy. Although the Italian Government had initially announced a regulatory change to allow parapharmacies and supermarkets to sell non-reimbursed prescription medicines, this plan was finally replaced by the deregulation of pharmacy ownership, opening it to non-pharmacists and allowing the establishment of pharmacy chains.

Finally, another important development took place recently in Australia, where an independent review of competition laws recommended the removal of pharmacy ownership rules as well as location rules. This was a central element in the negotiations of the 6th Community Pharmacy Agreement between Australia's Government and the Pharmacy Guild of Australia. In the end, the Government did not support a deregulation of the current model and the five-year agreement came into force on 1 July 2015.

Figure 19 shows the distribution of the 17 changes or attempted changes reported through the survey questionnaire.

**Figure 19. Recent changes or attempted changes in community pharmacy ownership (n=17)**

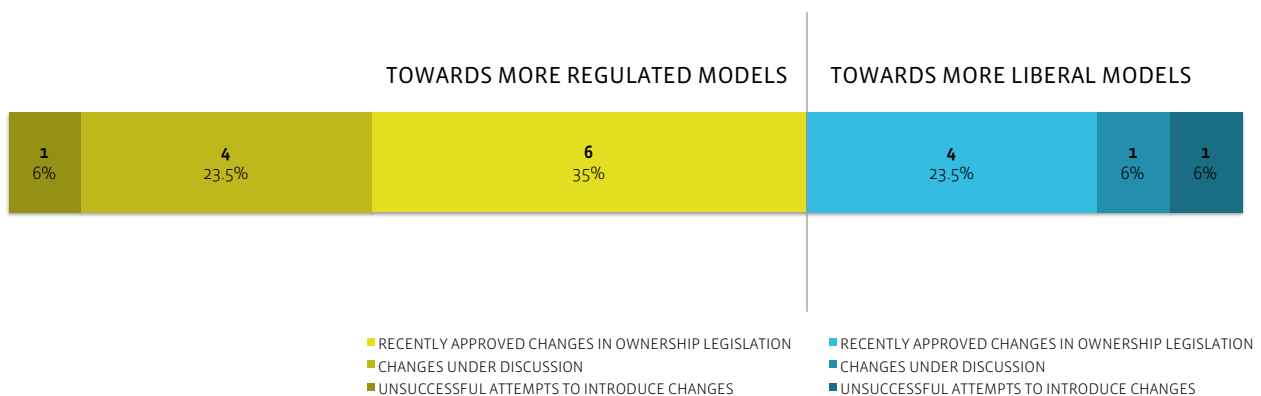
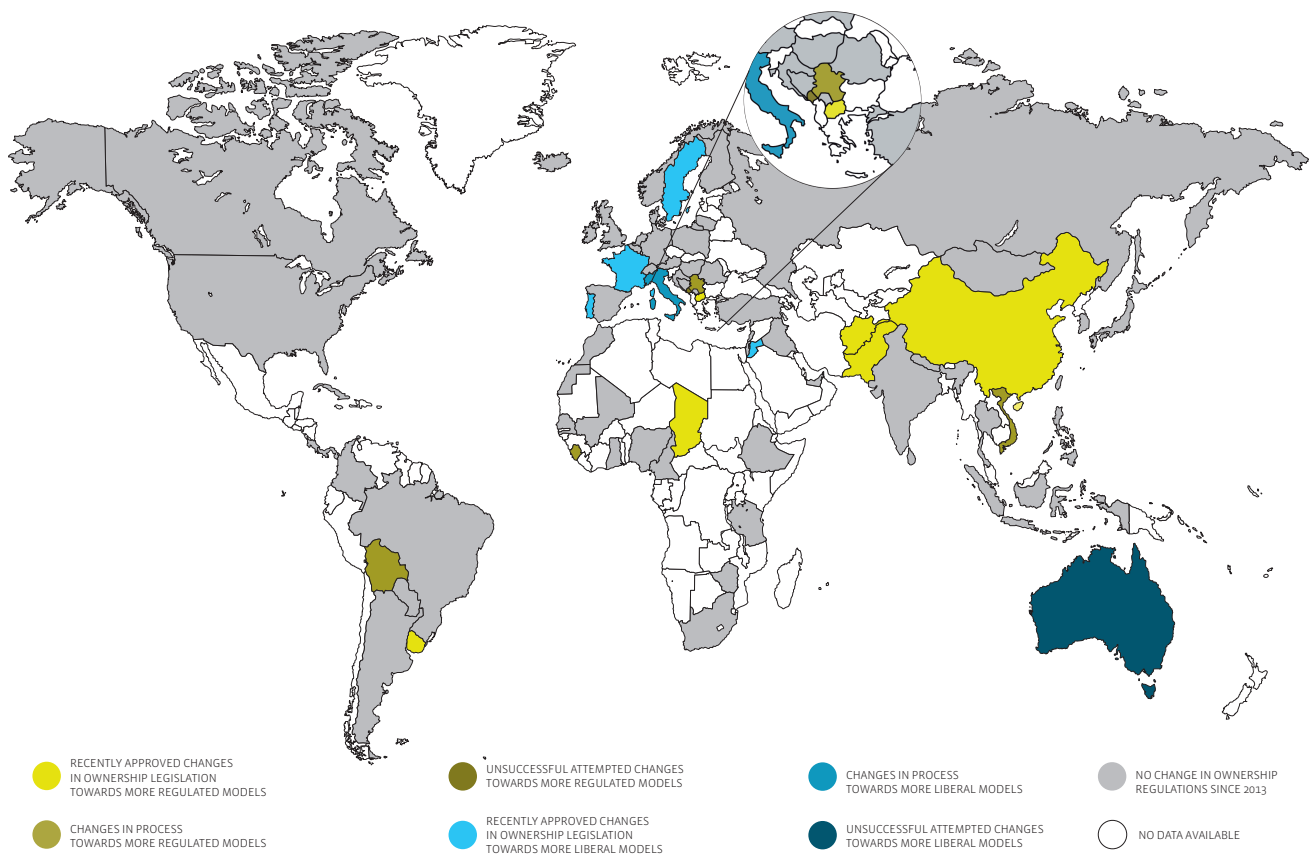


Figure 20 provides a global overview of where change processes in pharmacy ownership regulations have taken place recently (since January 2013). Seven out of 17 changes took place in Europe, followed by four in Asia, two each in Africa and the Americas, and one each in the Middle East and Australia.

**Figure 20.** Geographic distribution of changes in pharmacy ownership regulations since 2013 (n=70)



The following sections provide a brief description of changes that were effectively approved, changes that are still being negotiated, and attempted changes that were unsuccessful.

## 2.2.1 Changes in force or approved

Below is a description of the changes implemented or approved in each country or territory.

### Towards more regulated models

#### Afghanistan

New legislation in Afghanistan regulating the ownership of community pharmacy premises has been approved by the Ministry of Health, but still needs the approval of the Ministry of Justice and the Parliament to be implemented. The new law states that community pharmacy licences will only be given to individual pharmacists or pharmacy technicians who are citizens of Afghanistan. Each pharmacist or pharmacy technician will be allowed to own only one pharmacy and, therefore, pharmacy chains will not be allowed.

#### China

China's new *Good Supply Practice for Pharmaceutical Products* (2013) stipulates that the legal representative or person in charge of an enterprise (pharmacy) shall be a licensed pharmacist, who will be responsible for reviewing prescriptions and offering guidance on the rational use of medicines.

#### Macedonia

New legislation in Macedonia (2014) restricts ownership to pharmacists and prohibits vertical integration. Owners of wholesale companies and their close relatives may not own pharmacies or have any corporate or managerial relations to pharmacies owned by close relatives. Employees of the Ministry of Health, the Bureau for Medicines or the Health Insurance Fund and their close relatives also may not own pharmacies or wholesale companies.

#### Uruguay

In November 2013, the Uruguayan Government introduced restrictions to the size and establishment of pharmacy chains, by limiting the number of pharmacies of a single owner to 15 and defining a minimum distance of 1,000 metres between two pharmacies of the same owner.

#### Chad and Pakistan

Chad and Pakistan did not offer details about the changes taking place, but reported the adoption of regulated ownership models in the past two years.

### Towards more liberal models

#### France

In France, holdings of pharmacists have been allowed since June 2013. Such a holding may own up to three professional companies. Besides, employed pharmacists may now have shares in pharmacies (up to 10%). Notwithstanding, pharmacy ownership is still restricted to pharmacists.

#### Jordan

In 2013, ownership regulations were amended in Jordan, updating the previous law from 2001 that already allowed the establishment of pharmacy chains owned by pharmacists. With the new amendment, more than one pharmacist can take part in owning more than one pharmacy on the condition that the number of partners equals the number of pharmacies owned and that the share of any partner is not less than 2.5% nor more than 30% of the total shares. Partners may not participate in other chains.

## Portugal

Social pharmacies in Portugal are owned by the social economic sector entities such as mutuals and Catholic charities. They are subject to the same legal requirements and establishment criteria as all other community pharmacies (both types are open to the general public, provide the same products and services, have the same opening hours, etc), but social pharmacies have a special tax exemption regime. The law from 2007 that established pharmacy ownership rules set a transitional period after which all pharmacies open to the public would be subject to the same legal and tax regime. However, the transitional period of five years has been prorogued twice and, finally, in July 2014, a new amendment was introduced to the law to make this tax exemption permanent.

## Sweden

The maximum number of pharmacies for the Swedish state-owned pharmacy chain (Apoteket AB) was removed. Now there are no such limits and Apoteket AB has the option to rebuy or start new pharmacy entities.

### 2.2.2 Changes under discussion

Apart from the changes above, which are already in force or at least approved by political institutions, the following changes in process were reported:

#### Towards more regulated models

##### Bolivia

Currently, pharmacy ownership is open to any individual or corporation. Bolivia has one of the highest rates of pharmacies per 10,000 inhabitants among the responding countries and territories (4.37), and about 20% of all pharmacies belong to chains. In 2013, a bill was approved by the Parliament to change ownership regulations and restrict it to pharmacists, and to regulate medicine prices across the country. However, the law has not yet come into force due to lack of consensus about its implementation.

##### Serbia

The Serbian Ministry of Health is currently reforming four important laws (health care, health professional's chambers, health insurance, and medicinal products and medical devices). The Pharmaceutical Chamber of Serbia and all other relevant professional organisations have drafted an alternative Pharmacy Act to regulate the ownership and establishment of pharmacies, and is negotiating with the Government that this law is considered together with the reform of the other four. The draft law aims to limit ownership to pharmacists and define demographic and geographic criteria for opening new pharmacies.

##### Vietnam

A new draft law for Vietnam is being discussed at Governmental level, and has received input from the Vietnamese Pharmaceutical Association (VPA), the Health Services of the Provinces and the Western Pacific Pharmaceutical Forum. Pharmacy ownership is being gradually privatised. Chains are incipient and will be included in the new law. Each pharmacy in a chain must have a qualified pharmacist as manager. Also, each individual pharmacist may only own one pharmacy. Aside from 10,250 pharmacies managed by pharmacists, there are over 30,000 pharmacy desks and medicines kiosks that are managed by pharmacy technicians. The VPA expects the new law to be based on good pharmacy practice principles, as well as good manufacturing, laboratory, storage and distribution practices. It will, it is expected, also regulate medicines pricing and control, clinical trials, the medicines distribution system and the production of traditional medicines.

### Sierra Leone

The new regulations to be introduced in Sierra Leone is a review of the Pharmacy and Drugs Act, the law that establishes the country's Pharmacy Board and gives it the mandate to regulate medicines, cosmetics, chemical products and the pharmacy profession as a whole. The old law, i.e. the Pharmacy and Drugs Act of 2001 currently in use, does not meet the current trends of the pharmacy profession. However, this proposed new Act, drafted by the Pharmacy Board of Sierra Leone, has yet to be tabled to Parliament by the Minister of Health.

### Towards more liberal models

### Italy

At the time of writing, a draft law in Italy to open pharmacy ownership to non-pharmacists and limited companies, including the establishment of chains, was under parliamentary discussion and negotiation. The draft law is being promoted by the Ministry of Economic Development, which argues that competition and the diversity of market agents in the pharmacy sector will increase.

## 2.2.3 Unsuccessful attempts to introduce changes

Two countries reported formal attempts to change ownership regulations that did not succeed.

### Towards more regulated models

### Montenegro

The Pharmaceutical Chamber of Montenegro drafted a new pharmacy law that would restrict ownership to pharmacists and regulated several other aspects of pharmacy practice. The proposal was submitted to the Ministry of Health and negotiations began, but the Government finally did not support the proposed change.

### Towards more liberal models

### Australia

A recent independent review of Australia's competition laws recommended the removal of pharmacy ownership rules as well as location rules. These recommendations have not been supported by the Government and no legislative changes have been made. The Pharmacy Guild of Australia's response to this review is available on the website <http://goo.gl/L1Nbtn>.

## 2.3 Conclusions

As mentioned previously, there were changes or attempted changes towards more regulated models in 11 countries and territories (nearly two thirds of all changes), whereas six respondents reported liberal developments (35% of the changes).

While these figures could suggest the configuration of an international trend towards regulatory frameworks that favour the association of the professional management of pharmacies with their ownership, or limit the presence of large economic groups in the medicines supply chain, when considering these developments in detail, the majority of them did not constitute radical changes but rather



adjustments of the existing ownership models. The exceptions to this were, on the side of more regulated models, Afghanistan, Macedonia, Bolivia and Serbia and, on the side of liberalisation, Italy and Australia. Moreover, it should be taken into account that liberal models already existed in approximately two thirds of the survey's countries and territories.

Additionally, in many regions there is increasing pressure on countries with more regulated models to remove what are considered to be unnecessary barriers to competition. This was recently seen in Greece, but it has been the case in other EU countries too, where this deregulatory pressure has been exerted to different extents and with varying impacts.

However, aside from these changes in national legislation, the recent evolution in terms of mergers, acquisitions and international expansion of large economic groups with vertically integrated operations related to the medicines supply chain, such as Walgreens Alliance Boots, McKesson/Celesio and the Phoenix Group, seems to configure a parallel and important trend at global level that will continue to impact on the community pharmacy sector. Yet, for the further expansion of these groups into currently regulated markets, legislative changes would be required (see Figures 12, 13 and 14, in relation to Figure 7).

Nevertheless, as the presented data illustrate, the consolidation of networks of independent pharmacies under a common brand has allowed such groups to operate in the community pharmacy sector not only in jurisdictions with more liberal regulatory frameworks that permit the establishment of pharmacy chains, but also in countries and territories where regulated pharmacy ownership models exist.



## 3 Establishment, distribution and operation of community pharmacies

### 3.1 Overview of the current situation

#### 3.1.1 Establishment and distribution of pharmacies

In terms of the establishment (or market entry) of community pharmacies, only seven out of 70 respondents indicated that the state does not play a role in regulating the opening of new pharmacies. These were Canada, China Taiwan, Ireland, the Netherlands, Paraguay, Sweden and Switzerland.

In all other 63 countries and territories, pharmacy establishment was either regulated through special licences (58 respondents; 83%), or the definition of demographic criteria (18 respondents; 25%; see Table 9) or geographic criteria (25 respondents; 35%; see Table 10).

**Table 9. Jurisdictions with demographic criteria for establishing a new pharmacy (n=18)**

Country or territory	Demographic criterion for establishing a new pharmacy (inhabitants required to open a new pharmacy, unless otherwise indicated)
Argentina	3,000 inhabitants
Austria	The number of persons who continue to be supplied by adjoining pharmacies should not drop below 5,500 as a result of the establishing of a new pharmacy
Belgium	Depending on whether a community has more than 30,000, 7,500—30,000 or fewer than 7,500 inhabitants the number of pharmacies cannot be higher than the figure obtained by dividing the number of inhabitants by 3,000, 2,500 and 2,000 respectively.
Bosnia and Herzegovina	3,000 inhabitants
Cameroon	Authorisations granted by the Council of the Order have to be in accordance with the dispositions of the Ministry of Health on the basis of demographic and geographic criteria
Croatia	3,000 people for the first pharmacy in a town; 8,000 people for each additional pharmacy
Cuba	4,000 inhabitants
France	2,500 inhabitants if there is no community pharmacy in the town; 4,500 supplementary inhabitants for each additional pharmacy
Hungary	4,500 inhabitants for cities with more than 50,000 inhabitants; 4,000 inhabitants for cities with fewer than 50,000 inhabitants
Italy	3,300 inhabitants
Mali	7,500 inhabitants
Mongolia	5,000 inhabitants
Portugal	3,500 inhabitants
Romania	In rural areas, no demographic criterion applies. For urban areas: a) Bucharest, 3,000 inhabitants; b) County capitals, 3,500 inhabitants; c) Other towns, 4,000 inhabitants
Senegal	5,000 inhabitants
Spain	Depends on the region. General guideline: 2,800 inhabitants
UAE	No data
Uruguay	No data

**Table 10.** Jurisdictions with geographic criteria for establishing a new pharmacy (n=18)

Country or territory	Geographic criterion for establishing a new pharmacy ( <i>minimum distance to nearest pharmacy, unless otherwise indicated</i> )
Afghanistan	<i>No data</i>
Argentina (Province of Buenos Aires)	300m
Australia	The National Health Act prohibits the supply of medicines listed under the Pharmaceutical Benefits Scheme (PBS) (the Australian Government medicine subsidy programme) unless the supply is by an approved pharmacist at or from premises in respect of which the pharmacist is approved. Pharmacists wishing to supply PBS medicines at particular premises must be approved by the Secretary of the Department of Health or a delegate. Recommendations for approval of applications are made by the Australian Community Pharmacy Authority (the ACPA). In making a recommendation, the ACPA must comply with a determination commonly referred to as the Location Rules. These set requirements on the location of new pharmacies approved to supply PBS medicines and the relocation of current approvals.
Austria	500m
Belgium	1km, 3km or 5km, depending on the number of inhabitants (above 2,500, 2,000 or 1,500)
Bolivia	<i>No data</i>
Bosnia and Herzegovina	400m
Cameroon	Authorisations granted by the Council of the Order have to be in accordance with the dispositions of the Ministry of Health on the basis of demographic and geographic criteria
China	<i>No data</i>
Croatia	500m for towns with fewer than 100,000 inhabitants; 300 m for towns with between 100,000 and 500,000 inhabitants; 200 m for towns with more than 500,000 inhabitants
Cuba	2 km
France	Decided case by case by the regional health authority
Ghana	<i>No data</i>
Hungary	300m for cities with more than 50,000 inhabitants; 250 m for cities with fewer than 50,000 inhabitants
Indonesia	<i>No data</i>
Italy	200m
Lebanon	200m
Macedonia	100m
Mongolia	500m
Morocco	300m
Portugal	350m; minimum distance of 100m to hospitals and health care centres
Senegal	200m/300m/400m (no further details provided)
Spain	Depends on the region. General guideline: 250m
UAE	<i>No data</i>
Uruguay	<i>No data</i>

Aside from the issuing of licences and demographic or geographic criteria, five countries indicated other systems of regulation or provided specific details (listed in Table 11).

**Table 11.** Other systems of pharmacy establishment regulation or special conditions

Country or territory	Regulation of pharmacy establishment
<b>Colombia</b>	There is an obligation to inform the authorities of the opening of a new pharmacy.
<b>Germany</b>	The German Pharmacy Law follows the principle of free establishment. Each pharmacist who fulfils the legal criteria is entitled to get a licence for the operation of a pharmacy.
<b>Indonesia</b>	The pharmacy licence depends on the pharmacist's licence.
<b>UAE</b>	Pharmacy ownership can be sold, but the new owner cannot open the pharmacy without the availability of a licenced pharmacist and assistant.
<b>USA</b>	Persons buying a community pharmacy from previous owner need to apply for licence from Board of Pharmacy.

Community pharmacy licences are issued by the government (through the ministries of health, governmental agencies or regional governments) in the vast majority of countries and territories (n=53; 93%) that apply a licencing system. This confirms that pharmacies play a special role in health care systems, and public administrations consider it is part of their mission to oversee the network of pharmacies.

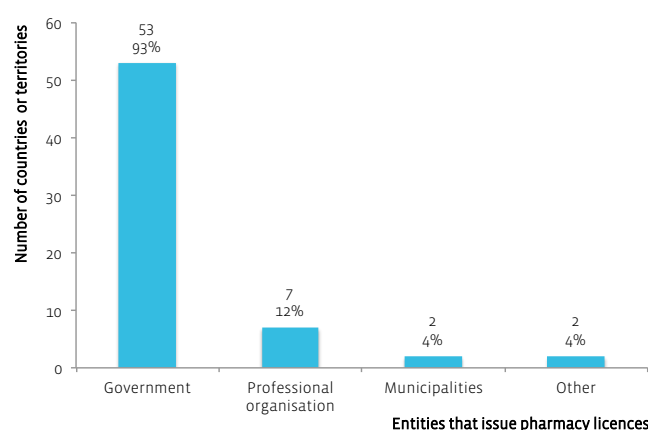
The power to issue licences is transferred to (or shared with) pharmaceutical professional organisations with regulatory functions in seven countries or territories (Austria, Cameroon, Costa Rica, Iraq, Morocco, Poland and Zimbabwe). This may take the forms of a complete delegation of powers, a consultation prior to issuing the licence, or a partial delegation of this function in special circumstances.

In other cases, municipalities or other organisations (like clinical commissioning groups in the UK) have the power to issue licences.

The percentages of countries and territories for each type of licence-issuing entity is presented in Figure 21.

Further details of the system applicable in each country or territory can be found in Appendix 7.

**Figure 21.** Entities that issue pharmacy licences (n= 57)



In order to ensure a sufficient and equitable access to pharmacies and medicines, 29 (41.4%) of the responding countries and territories have indicated that there are systems in place to achieve a

homogeneous or balanced distribution of pharmacies across the territory and the population. These countries and territories are indicated in Figure 5 (Pharmacies per 1000km<sup>2</sup>), which correlates the existence of such systems with the territorial density of pharmacies. As mentioned above, this graph has an important limitation, by assuming an even distribution of pharmacies throughout a country's geography: further research would be necessary to understand how the existing pharmacies are spread across the country.

A problem that is referred by several respondents is the difference in access to a pharmacy that exists between urban and rural areas. This is especially noticeable in countries or territories that have a liberal system of pharmacy ownership and no planning criteria for the establishment of pharmacies. Some administrations have implemented measures to ensure or at least promote a more equitable access to pharmacies by all inhabitants, such as determining (through site-specific licences) where new pharmacies are required, offering financial compensations or tax incentives to pharmacies established in less populous areas, defining quotas of pharmacies in rural areas for chains mostly established in larger cities, or delegating in municipalities the planning of where pharmacies are necessary. Table 12 offers an overview of the general characteristics of the systems in selected countries or territories.

**Table 12.** A selection of systems that promote an equitable distribution of pharmacies

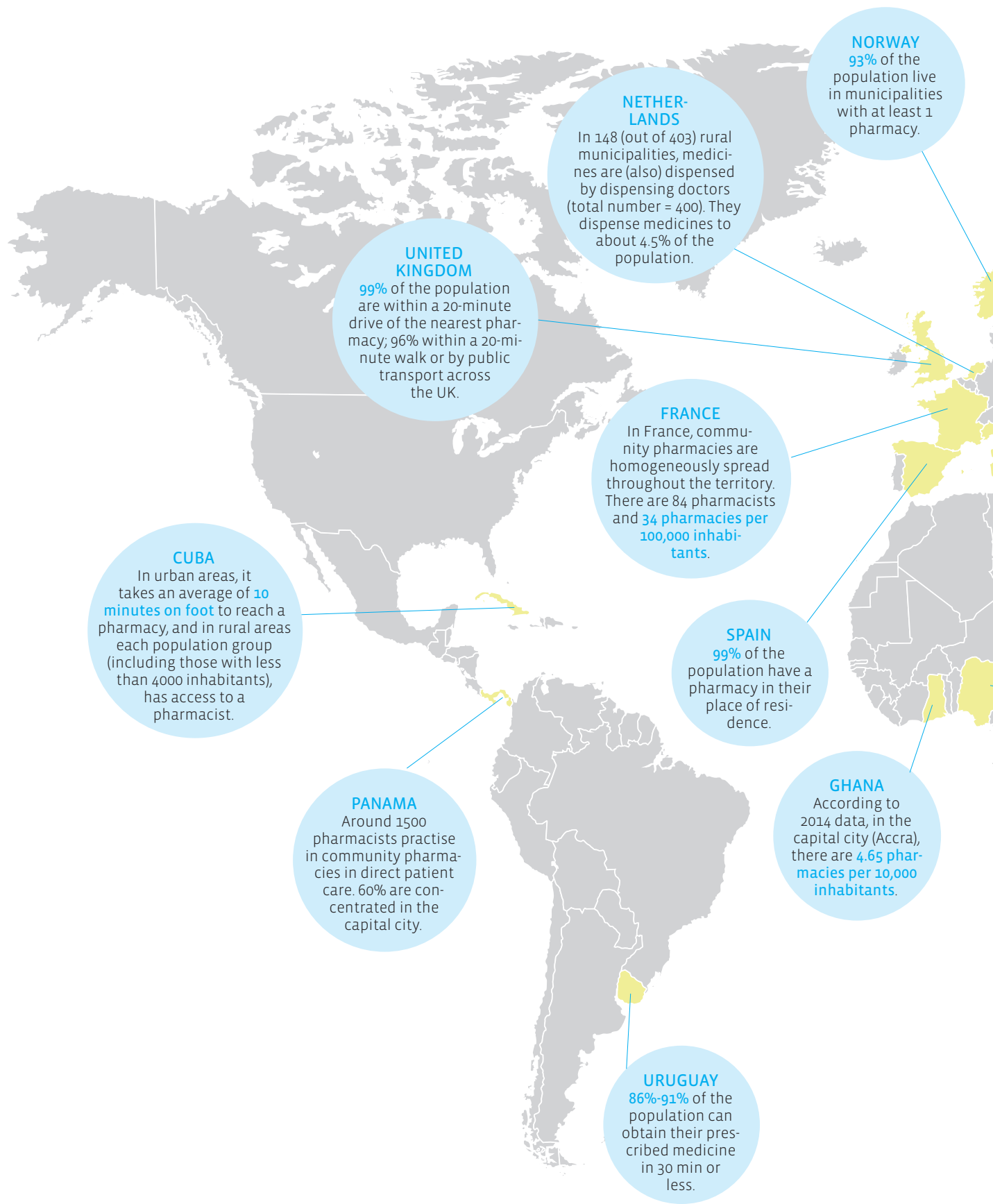
Country or territory	Measures to promote equitable distribution of pharmacies
<b>Australia</b>	The Location Rules set requirements on the location of new pharmacies approved to supply PBS (Pharmaceutical Benefits Scheme) medicines and the relocation of current approvals. These rules work to ensure that there is a sustainable network of community pharmacies that have the flexibility to respond to local communities' needs for pharmacy services, and promote the continued development of an effective, efficient and well distributed network of pharmacies. The even distribution of pharmacies facilitates access for consumers who cannot travel to major shopping precincts. Moreover, the Community Pharmacy Agreement includes provisions for Rural Support Programmes, which consist of a number of strategies including rural pharmacy scholarships, a continuing professional education allowance, an emergency locum service, incentive allowances to support the intern year in rural and remote areas and support to encourage pharmacy students to undertake placements in rural and remote Australia as a part of their pharmacy degree. The Rural Pharmacy Support programmes also include a Rural Pharmacy Maintenance Allowance in recognition of the additional burden of maintaining a pharmacy in rural and remote areas of Australia <sup>8</sup> .
<b>Belgium</b>	The licence is always linked to a specific location. Moving to another location is only possible after authorisation.
<b>Cuba</b>	Each municipality has one main pharmacy and several special health area pharmacies and normal community pharmacies.
<b>Finland</b>	The Medicines Agency defines the areas and number of pharmacies that can locate in a particular area.
<b>Hungary</b>	For cities of more than 50,000 inhabitants, there must be one pharmacy per 4,500 inhabitants, and a minimum distance of 300m between pharmacies. For cities below that population, there should be one pharmacy per 4,000 inhabitants and the minimum distance is 250m.
<b>Italy</b>	The system is called " <i>pianta organica</i> " (organic mapping) and it means that each municipality decides the location of every pharmacy.
<b>Macedonia</b>	Corporations that own more than two pharmacies in one community or more than five in the whole country must open pharmacy(ies) in rural areas. This measure was introduced because there are enough pharmacies, but they are not well distributed. There are not enough pharmacies in rural areas, and there are many in urban areas.
<b>Mali</b>	At local level, the Ministry of Health determines the needs for pharmacies and issues an annual decree stating where new pharmacies can/should be established.

<sup>8</sup> More information at <http://5cpa.com.au/programs/rural-pharmacy-initiatives/>

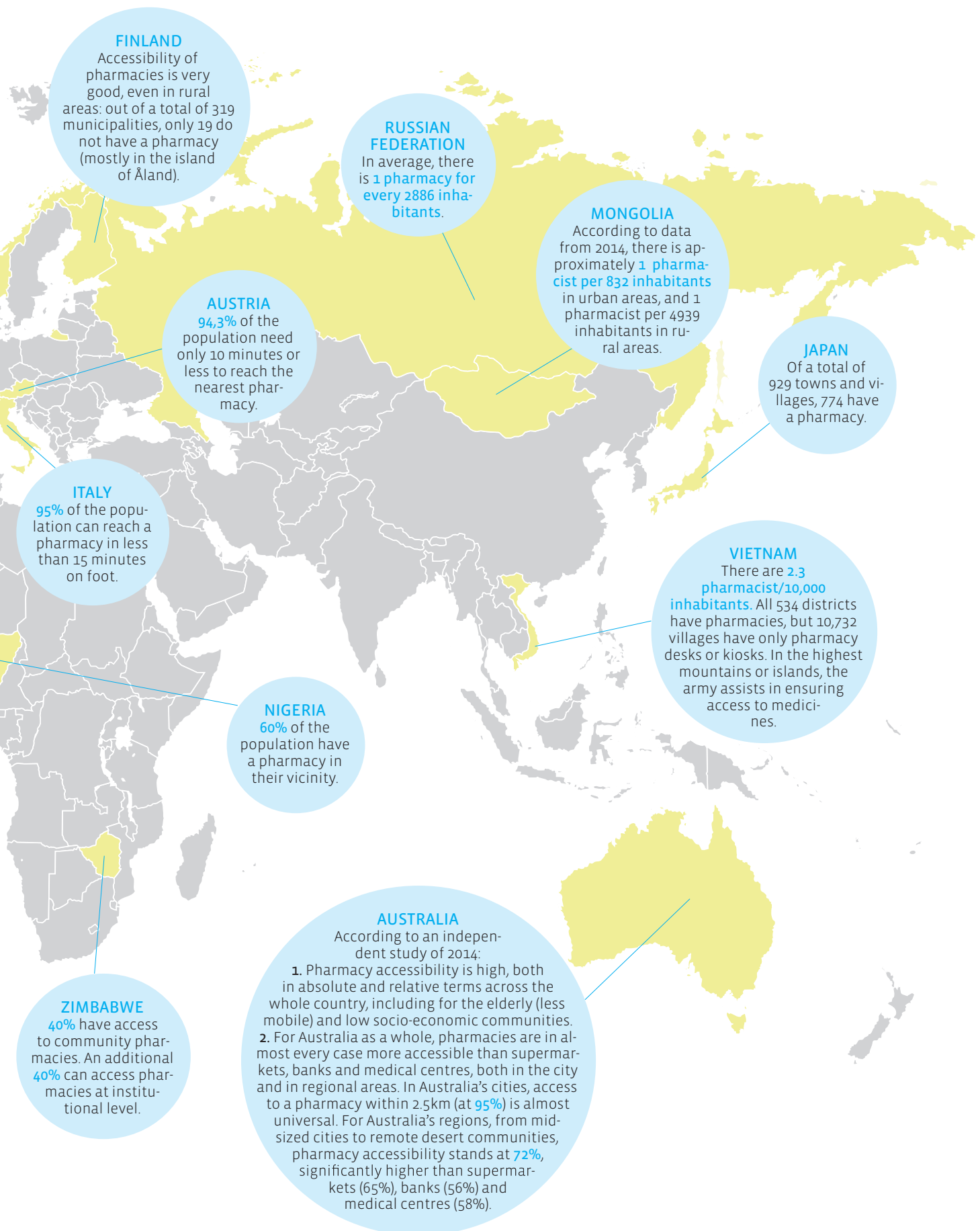
Country or territory	Measures to promote equitable distribution of pharmacies
<b>Netherlands</b>	New pharmacies need contracts with the main insurance companies. They are legally obliged to contract sufficient pharmacies to provide care to their clients, but not more.
<b>Senegal</b>	The minister issues a decree every year specifying the locality where in that year a (new) pharmacy can be opened.
<b>Sierra Leone</b>	The Regulatory Body recently has been engaged in a nationwide mapping of the distribution of pharmaceutical outlets, to identify areas that are saturated with such services and underserved communities. The result is now being utilised by the Pharmacy Board to advise new proprietors to target underserved communities.
<b>Sweden</b>	Pharmacies in rural areas where the earnings are inadequate are allowed a state grant.

Access to pharmacies can be measured and advocated for through figures that demonstrate the percentage of the population that has access to a pharmacy, the average distance or travelling time (on foot or by public transportation) for any person to reach a pharmacy, the number of towns that have a pharmacy, etc. In the following pages (Figure 22), there is a selection of such figures for different countries and territories.

Figure 22. Accessibility of community pharmacies — Selected national evidence







### 3.1.2 Technical and professional requirements for pharmacies to operate

Sixty-seven out of 71 countries and territories (94.4%) reported that there are minimum legal requirement for community pharmacies to operate in terms of the facilities, the functional areas, the equipment and the minimum workforce that pharmacies must have. This high figure indicates the importance of regulating the conditions in which medicines are distributed to the population, and the competencies that are required from the professionals who provide that service.

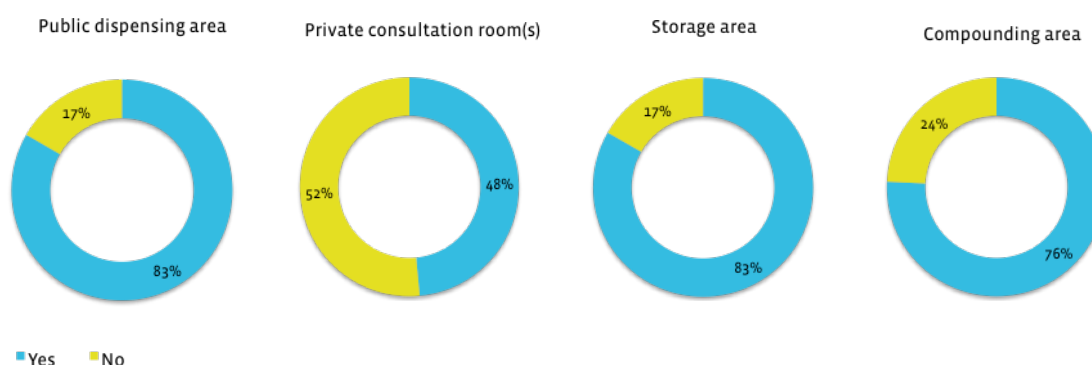
In fact, the physical space required to open a pharmacy partly reflects the fundamental roles and services of community pharmacies as considered by regulators. Forty-four respondents indicated that such requirements exist in their countries and territories (62%), although only 32 specified the national requirement. Responses ranged from 10m<sup>2</sup> in India to 200m<sup>2</sup> in Nigeria, and the average was 57.2m<sup>2</sup>.

It is interesting to analyse these requirements in relation to the minimal functional areas required for pharmacies to operate. Sixty-seven respondents (94.4%) indicated that their national legislation stipulates mandatory functional areas for pharmacies. In the United Kingdom, such requirements are not fixed as a general rule, but are rather considered case by case, based on each individual scenario and the volume of services and/or items dispensed. For the other 66 respondents, the results are presented in Figure 23.

For the sake of clarity, a “public dispensing area” was defined in the glossary as a publicly accessible and open space in community pharmacies where non-private interactions between patients/customers and pharmacists or other staff members occur.

A “private consultation room” is a space inside the pharmacy for confidential conversations between a pharmacist and a patient about their medication and general health matters that cannot be overheard by others. This room may also be used for the provision of professional services by pharmacists, such as administration of injectable medicines, point-of-care tests, medication therapy management and others.

**Figure 23.** Legal requirements for functional areas of community pharmacies (n=66)



While the dispensing role of pharmacies, the proper storage of medicines and the compounding service are regulated as essential pharmacy tasks in more than three quarters of responding countries and territories, the same does not apply to private consultation rooms, which are a legal requirement in less than half of the sample (32 countries; 48%).

Although compounding may not have today the central role in a pharmacy’s activities that it used to have a few decades ago, it is still important to meet the needs of certain patients that cannot be covered by industrially produced medicines. Hence, having appropriate premises to produce compounded medicines enables the pharmacy to meet these patients’ needs.

Private consultation rooms provide an adequate setting for establishing a confidential dialogue and a relationship of trust between a patient and a pharmacist, which are the basis for the provision of a number

of professional and advanced services from point-of-care tests to medicines use reviews, and from disease state management to the administration of vaccines. Hence, the existence of such rooms may enable the expansion of the scope of community pharmacies and their participation in patient care and health care policies.

Among the countries and territories that have a legal requirement for pharmacies to have a private consultation room (32), 22 are of high or upper middle income (68.7%), and only 10 are of low or lower middle income.

Aside from the functional spaces above, a few countries indicated additional legal requirements, such as offices or toilets. The United Arab Emirates indicated that an OTC area is mandatory, while the same is applicable for a special area for keeping narcotics in Jordan. Poland reported that pharmacies are required to be located on the ground floor and must be accessible for people with disabilities.

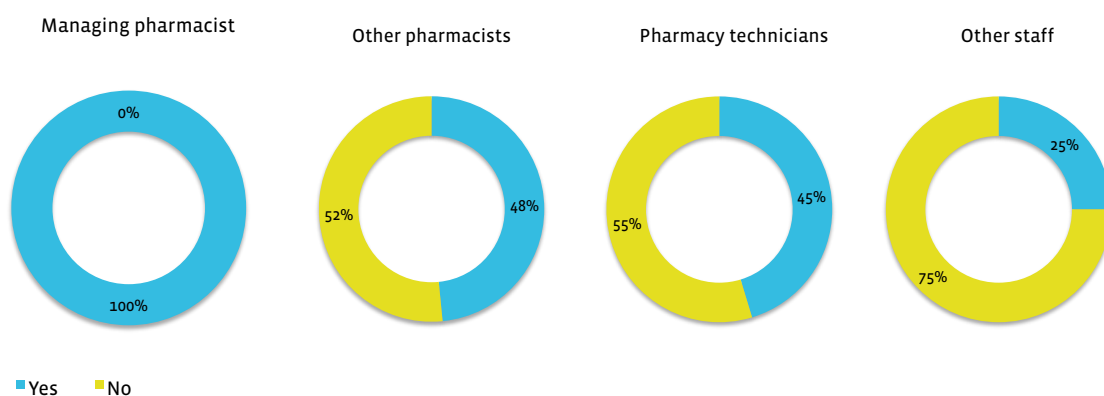
Other legal requirements apply to pharmacies' workforce. Sixty-four respondents (90.1%) reported the existence of minimum legal requirements in terms of pharmacy staff. Among these, 57 (89%) establish the figure of a managing pharmacist, i.e., a pharmacist charged with the professional management of the establishment, who takes responsibility for the selection of medicines, the provision of health care or other services and generally for dispensing and other operations. The remaining seven countries of this sample, which did not mark the requirement of a managing pharmacist in the survey (Australia, Denmark, Finland, Jordan, Sweden, UK and Zimbabwe), have all indicated that their legislation requires the presence of at least one pharmacist at all times. Moreover, of these seven countries, all but Sweden and the UK have pharmacy ownership restricted to pharmacists.

In 31 countries and territories, there is a requirement for the pharmacy to employ more than one pharmacist, as shown in Figure 24. Notwithstanding, this is a conditional requirement in several countries, i.e., it depends on a number of factors, such as:

1. The opening hours of the pharmacy (establishing pharmacist shifts, such as in Australia, Bosnia and Herzegovina, Croatia, Sweden and UAE);
2. The number of prescriptions (establishing maximum workloads per pharmacist, such as in Hungary, Israel, Japan and Spain);
3. The turnover of the pharmacy (which could be considered a measure of the workload, such as in France, Morocco and Turkey); and
4. The number of other employed staff (especially technicians, such as in Argentina).

Other countries, like Iceland or Portugal, determine that at least two pharmacists must be employed by the pharmacy. Further details of each country or territory's legal requirements (premises and workforce) for community pharmacies can be found in Appendix 8.

**Figure 24.** Legal requirements for minimum workforce requirements in community pharmacies (n=64)



### 3.1.3 Quality assurance of community pharmacies

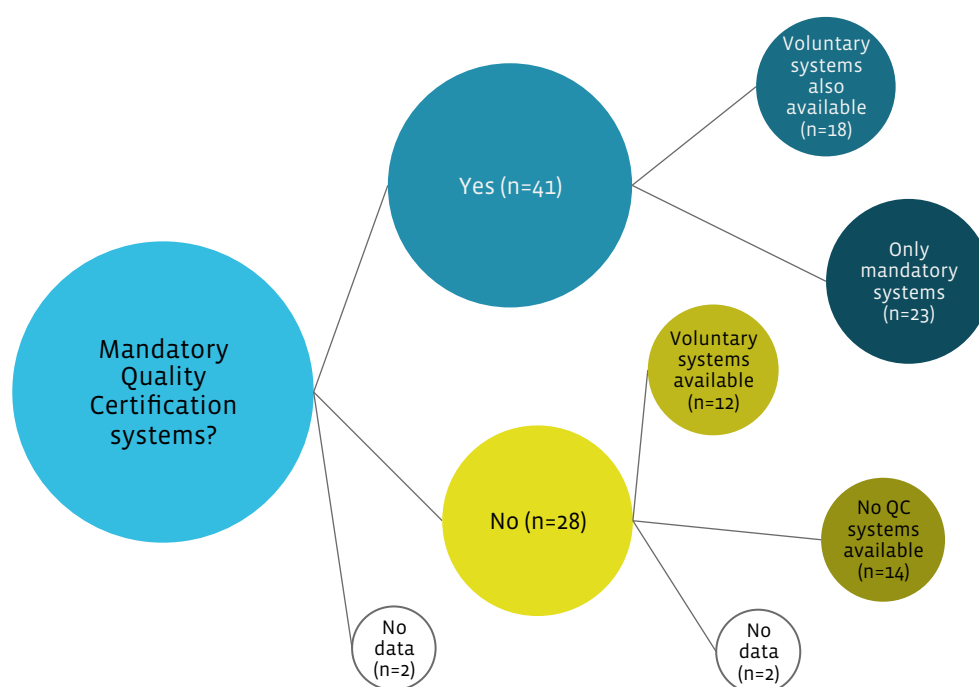
A licensing system for community pharmacies, as well as legal requirements in terms of premises and workforce, may establish the minimum standards for a pharmacy to open and operate. However, there is also a need for guaranteeing and if needed assessing the quality of a pharmacy's services and operations.

This assessment may be carried out by the state using legal requirements and standards as a measuring tool, and/or by professional organisations or other organisations that provide quality management and certification services.

In the joint *FIP/WHO Joint Guidelines on good pharmacy practice — Standards for Quality Services (2011)*, FIP member organisations are encouraged to develop national standards of good pharmacy practice, based on these joint FIP-WHO Guidelines. Such national standards may (and ideally should) also be incorporated in national legislation that regulates community pharmacies. They can be used for self-assessment by pharmacists, but also to guide quality management and certification processes.

The survey enquired about the existence of quality certification systems, either mandatory or voluntary. Figure 25 provides a schematic representation of the different situations with regards to quality certification systems available.

**Figure 25.** Quality certification (QC) systems for community pharmacies (n=71)



In 41 out of 69 responding countries and territories (59.4%), there are systems of mandatory quality assurance for community pharmacies, that is, a standard evaluation of pharmacies by a governmental agency.

Twenty-three countries or territories (32.4% of 71) have only a mandatory quality assurance system for community pharmacies, which means that the state plays a significant role in assuring the quality of pharmacy services and sanctioning any deviations from legal requirements.

In 18 countries (25.6% of 71), there are both mandatory and voluntary systems of quality assurance. This allows pharmacies to develop their own quality goals in order to match or go beyond legal requirements, sometimes in partnership with quality consultants, and have the quality of their services certified by a

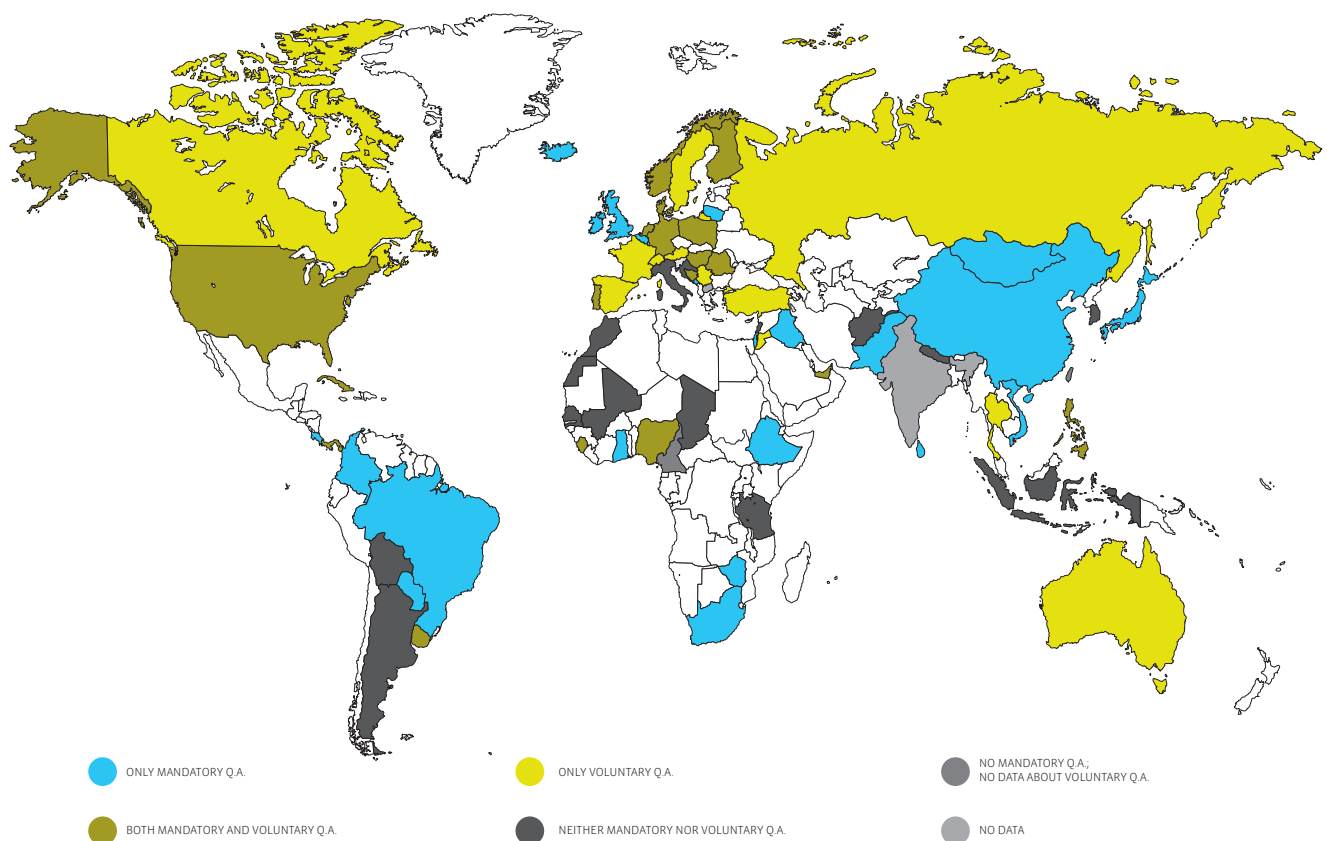
recognised organisation. In these contexts, the state still plays an important regulatory role, but it becomes a complementary evaluation for many pharmacies.

Quality assurance of pharmacies is certified only through voluntary evaluations in 12 countries or territories (16.9% of 71). In these countries, pharmacies manage the quality of their services themselves, with the support of quality assurance organisations, either specific to the pharmacy sector or with a more general scope.

Fourteen respondents indicated that neither mandatory nor voluntary systems of quality assurance for community pharmacies are in place in their countries or territories. In these cases, quality management processes may still exist, but they are in the hands of pharmacy owners or managers, and they are not certified either by the state or a quality assurance organisation.

For details of the mandatory and/or voluntary quality assurance systems in place in each country and territory of this survey, see Appendices 9 and 10. Figure 26 illustrates where the different types of pharmacy quality assurance systems are in place around the world.

**Figure 26. Quality assurance (QA) systems for community pharmacies (n=71)**



As can be gathered from the data and the details in Appendices 9 and 10, nearly three quarters of all responding countries and territories have some form of quality assurance system in place, and many incorporate elements of good pharmacy practice standards. This is certainly a positive figure as it translates a concern of many public administrations and the profession itself to offer medicines and professional pharmaceutical services of a certified minimum level of quality.

### 3.2 Recent developments in the regulation of the establishment, distribution and operation of community pharmacies

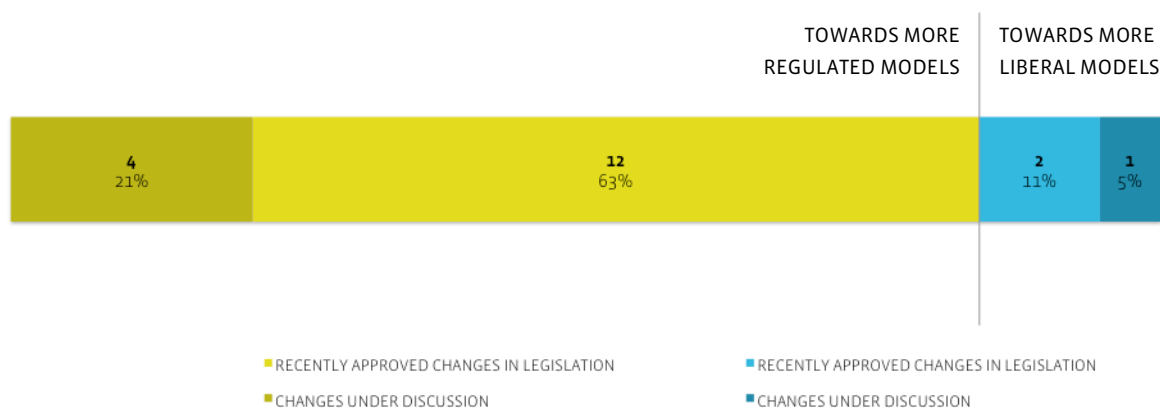
Also in this type of regulation there has been a considerable amount of change around the world. Nineteen out of 66 respondents (28.8%) indicated that recent changes have been introduced (or are being negotiated) in the rules governing the establishment, distribution or operation of community pharmacies. As highlighted in Figures 27 and 28, of these 19 respondents, 16 (84%) indicated that regulations increased or became stricter.

Among these changes, FIP member organisations have had a role in promoting new rules in 10 countries or territories (52.6%), which clearly shows an active role by professional organisations in setting standards for community pharmacies in order to better serve populations.

The majority of changes in regulations were promoted by ministries of health (14 out of 19 respondents; 73.7%). Ministries of economy or finance had a role in these processes in four countries or territories (21.1%), and parliaments initiated or supported these reviews in three cases (15.8%).

These changes have been approved or are already in force in 14 countries or territories (74%), while they are still being negotiated in the other five respondents. Figure 27 describes the number and proportion of changes (completed or under discussion) both towards more regulated or more liberal models. Additionally, Figure 28 describes how these changes are distributed according to their objective.

**Figure 27. Changes in establishment, distribution or operation of community pharmacies (n=19)**



**Figure 28. Types of changes in establishment, distribution or operation regulations of community pharmacies (n=19)**

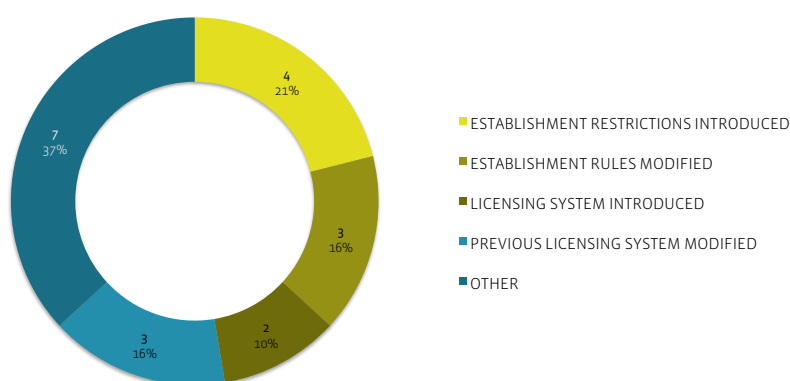


Table 13 offers a brief description of the most significant changes. A focus on the changes in Brazil is offered in the text box after the Table.

**Table 13. Recent changes in community pharmacy establishment, distribution and/or operation regulations (n=19)**

### Changes in force or approved

#### Australia

In December 2014, some minor changes were made to rules governing the supply of medicines from Australian pharmacies that have not been issued with a PBS approval licence (known as "unapproved pharmacies") The new rules stipulate that an approved pharmacist cannot make a claim for payment for the supply of a pharmaceutical benefit unless the pharmaceutical benefit was supplied at or from the pharmacist's approved premises. They further provide that a claim for payment cannot be made if the pharmaceutical benefit was never at the approved premises or was never dispensed at the approved premises. Pharmacists breaching the conditions of approval can be deemed to be abusing the approval which could lead to the suspension or revocation of the pharmacist's approval.

#### Bosnia and Herzegovina

Geographic and demographic criteria were modified in Bosnia and Herzegovina: minimum 400m between pharmacies; minimum 3,000 additional inhabitants to open a new pharmacy; minimum 8,000 inhabitants to have two pharmacies in one town.

#### Brazil

See text box (page 55).

#### Chad

In Chad, a new "Pharmaceutical Inspections Procedure Manual" was approved by the OCEAC/CEMAC (a regional organisation of Central African countries) for all its member states, as part of a common strategy for quality assurance in the health care sector.

#### China

New Chinese regulations stipulate that: (i) the legal representative of community pharmacy establishment should be a licensed pharmacist; (ii) medicines procurement processes must be documented with invoices; (iii) pharmacies must be equipped to ensure proper storage and refrigeration of medicines; and (iv) pharmaceutical trading companies must perform electronic tracing of medicines.

#### Denmark

In total, a pharmacy owner in Denmark is now allowed to have seven branch pharmacies with access to prescription medicines within 75km from the main pharmacy.

#### France

Transfers and groupings of community pharmacies will be eased in France.

#### Ghana

A licensing system was introduced in Ghana, including quality assurance processes and demographic and geographic criteria for the establishment of community pharmacies

#### Israel

Several technical requirements were introduced or changed in Israeli pharmacy regulations, from storage

conditions to the clothing of pharmacy staff, functional areas of pharmacies, etc. New sanctions and fines were also introduced.

#### Macedonia

A geographic criterion for establishing new pharmacies in Macedonia was introduced in the Law on Medicinal Products and Medical Devices in 2014. This does not apply for already established pharmacies.

#### Romania

The previous pharmacy law included a temporary provision for a demographic criterion for the establishment of community pharmacies in Romania that would expire in December 2014. The Competition Authority was also in favour of eliminating this criterion. However, the criterion finally became permanently included in the law. Notwithstanding, the proposals of the Romanian Federation of Pharmaceutical Owners' Organisations to introduce an additional geographic criterion to prohibit pharmacy advertising and to introduce additional controls in the distribution of medicines were not supported.

#### Russian Federation

The pharmacy licensing regulations in Russia were modified. New rules have been in force since April 2013.

#### Sierra Leone

The Pharmacy Board of Sierra Leone has introduced new licensing regulations for community pharmacies: applicants should hold at least a university degree, and provide police confirmation that they have no criminal background. Applicant pharmacies must also be registered business entities with clearance by the Tax Authority. Pharmacies must be at least 300m away from an existing pharmacy. The Board recently set up an Applications Committee as a subcommittee of the Quality Assurance Committee, to assess all applications.

#### UAE

Community pharmacy establishment regulations will be unified in all UAE territories.

### Changes under discussion

#### Afghanistan

New regulations are currently being negotiated with the Afghani Ministry of Health, to establish a new licensing system (reserved to pharmacists and pharmacy technicians), as well as demographic and geographic criteria for establishing new pharmacies. A distance of at least 1km should be kept between pharmacies that are open all the time, and 200m for other pharmacies. Location will be assessed by the Drug Regulatory Authority.

#### Mongolia

New technical guidelines are being discussed with the Mongolian ministry of health, in cooperation with WHO and the Asian Development Bank, to improve medicines safety and introduce good pharmacy practice standards, including considerations about the role of community pharmacists.

#### Serbia

The Pharmaceutical Chamber and the Pharmaceutical Association of Serbia are negotiating with the ministry of health to introduce geographic and demographic criteria in the establishment rules for community pharmacies.



## South Africa

The criteria for granting community pharmacy licenses is under review in South Africa.

## Vietnam

A new drug law is being drafted in Vietnam that introduces the establishment of chains and the reorganisation of the distribution system. It also introduces quality standards such as GPP and other good practice standards. The new draft law also promulgates that only people with pharmaceutical education can manage the production and distribution of medicines.

## Brazil

In 2013, the Federal Council of Pharmacy of Brazil (CFF) published two legally binding regulations and professional standards: Resolution 585/2013 regulates the clinical duties of pharmacists, i.e. the rights, responsibilities and competences of pharmacist in the development of their clinical activities and the provision of pharmaceutical services. This resolution redefines the focus and the mission of pharmacy towards the patient, the family and the community, so as to promote the responsible use of medicines and optimise treatment outcomes.

On the other hand, resolution 586/2013 regulates pharmacists' prescribing responsibilities of non-prescription medicines. It defines the act of prescribing medicines as a multidisciplinary practice, according to which each health profession has its scope of intervention and responsibility.

As a result, Brazilian pharmacies will function as an integral part of the overall health care system, providing an entry point to it through patient triage and the provision of primary health care services, as well as information and guidance to ensure the responsible use of medicines.

In July 2014, a new law (13,021/2014) regulating pharmacies in Brazil was unanimously approved by the country's Parliament and National Senate. Important changes introduced by this law include the definition of pharmacies as health care units, the requirements for all pharmacies to have a pharmacist as their technical director, the continuous presence of a pharmacist when the pharmacy is open to the public, and the conversion of smaller dispensaries and pharmacy outlets into pharmacies with the same legal requirements. The new law opens the way for the advancement of a pharmacy model in the whole country that is way beyond a simple commercial establishment.



## 4 Distribution of medicines to patients

The survey also aimed to learn where and under which circumstances different types of medicines can be obtained by patients and consumers. This study focused only on medicines used in the community; it did not cover medicines used internally in hospitals, but it did include medicines dispensed by hospital pharmacies to outpatients.

Regulatory frameworks organise access to medicines to the population mainly according to the complexity of the disease or health problem they are used for, the safety profile of such medicines, the competency profile that is required to prescribe or select them and manage their proper use by patients, and also pharmacoeconomic considerations. There are other factors that have an important influence at national or local level, such as the availability of health care professionals and adequate infrastructures in the medicines supply chain, or the availability of medicines themselves. It is a complex issue, and a proof of this is that the same medicine, with the same formulation and pharmacology, used for the same health problem, may be obtained by patients through very different channels and with the intervention of different professionals around the world.

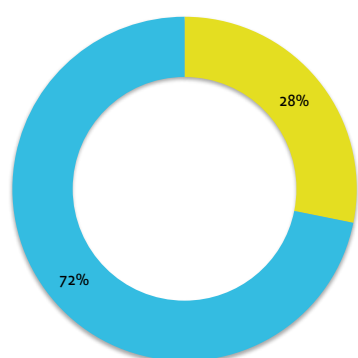
### 4.1 Overview of the current situation

#### 4.1.1 Distribution of non-prescription medicines (NPMs)

While populations are increasingly well informed and better understand information contained in labels, package inserts and advertising, there is still a high level of disparity of health literacy within any given country. It is also necessary to ensure that self-medication is carried out responsibly and that professional assistance for the selection of suitable medicines and advice on their use is available from a pharmacist.

Yet, as shown in Figure 29, NPMs can be obtained exclusively in a community pharmacy in only 20 of the survey's countries and territories (out of 71; 28.2%). From existing data, we know that additional countries also restrict the sale of medicines to pharmacies, such as Cyprus, Estonia, Greece, Luxembourg, Malta and Slovakia, but they are not part of this survey's sample

Figure 29. Exclusivity of NPMs in pharmacies (n=71)



■ NPMs exclusively in pharmacies  
■ NPMs available outside pharmacies

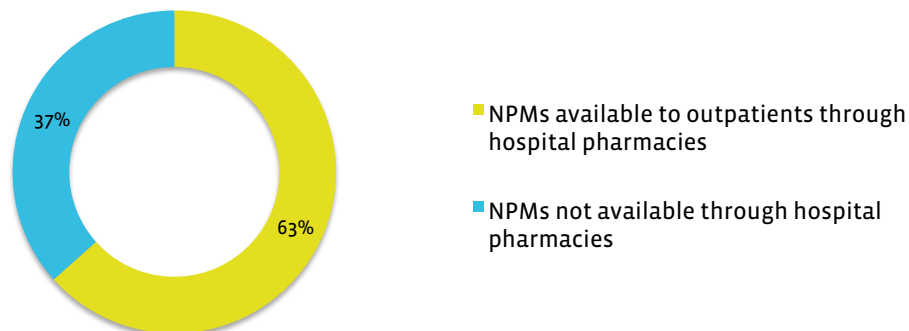
**The following countries and territories have NPM exclusivity in pharmacies (n=20):**

Argentina (province of Buenos Aires), Austria, Belgium, Bosnia and Herzegovina, Brazil, China Taiwan, Cuba, Finland, France, Germany, Iraq, Jordan, Lebanon, Lithuania, Morocco, Paraguay, Serbia, Spain, Turkey and Uruguay

As can be seen in Appendix 11, in some of these countries or territories, NPMs can also be obtained either through hospital pharmacies, dispensing doctors or online pharmacies. Yet, for the sake of clarity, they were considered as having pharmacy exclusivity of NPMs if Internet pharmacies were online operations of physical pharmacies, or if dispensing doctors were operating in lieu of a pharmacy, or if NPMs were also dispensed by hospital pharmacies to outpatients.

As shown in Figure 30, in nearly two thirds of the responding countries and territories (45 out of 71; 63.4%), NPMs are also dispensed to outpatients by hospital pharmacies.

**Figure 30.** Availability of NPMs through outpatient services of hospital pharmacies (n=71)



Yet, when considering the sales of NPMs outside the hospital context, out of the 51 countries and territories where NPMs are not dispensed exclusively in community pharmacies, 23 (45.1%) have established a “third list”, i.e., a category of non-prescription medicines that must be dispensed at a pharmacy, as shown in Figure 31.

**Figure 31.** Existence of a pharmacy-only category of NPM in countries where NPMs are not exclusive to pharmacies (n=51)



Figure 32 offers a geographical overview of the distribution channels of non-prescription medicines.

Additionally, Figure 33 indicates, for each responding country or territory (n=34), the diversity and relative weight of the different distribution channels for the provision of NPMs, including pharmacies, druggists<sup>9</sup>, supermarkets or other general retail establishments, and other types of establishments (including internet or mail order pharmacies, dispensing doctors and the informal sector).

<sup>9</sup> A druggist is an establishment that sells non-prescription medicines and other health care products without the supervision of a pharmacist, but that may be staffed by pharmacy technicians or a person with an intermediate pharmacy degree

Figure 32. Distribution of non-prescription medicines (n=71)

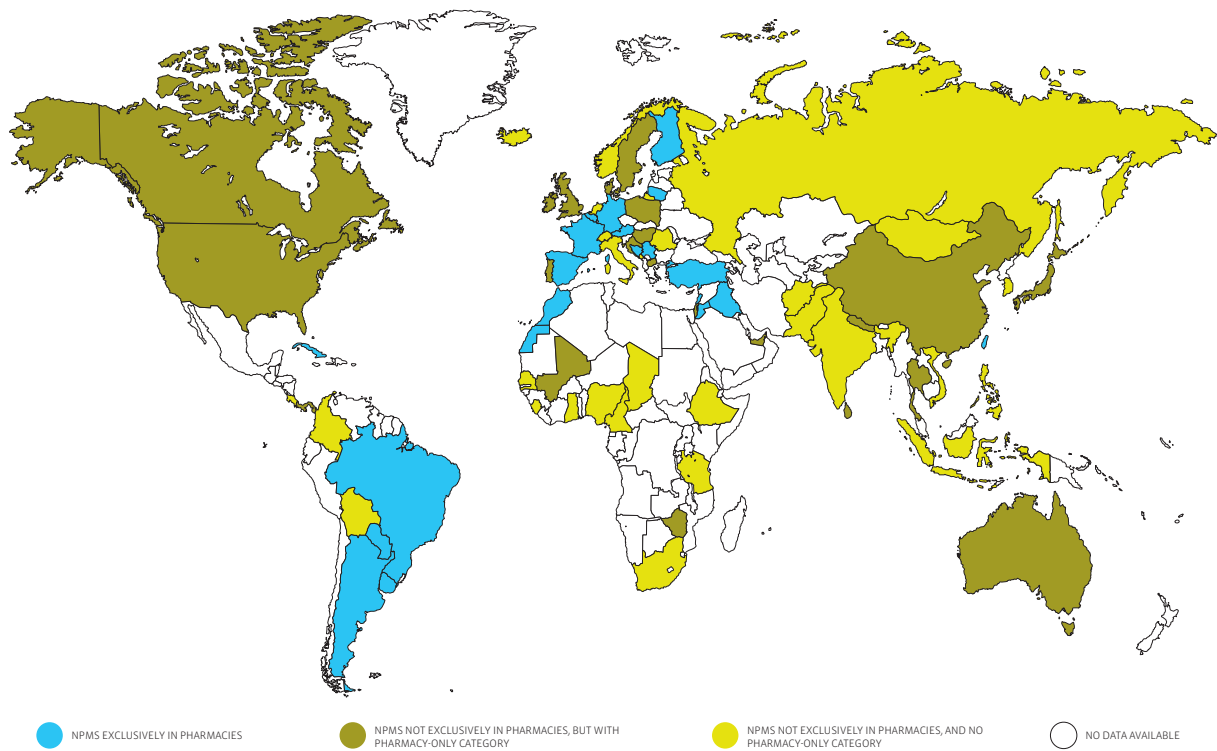
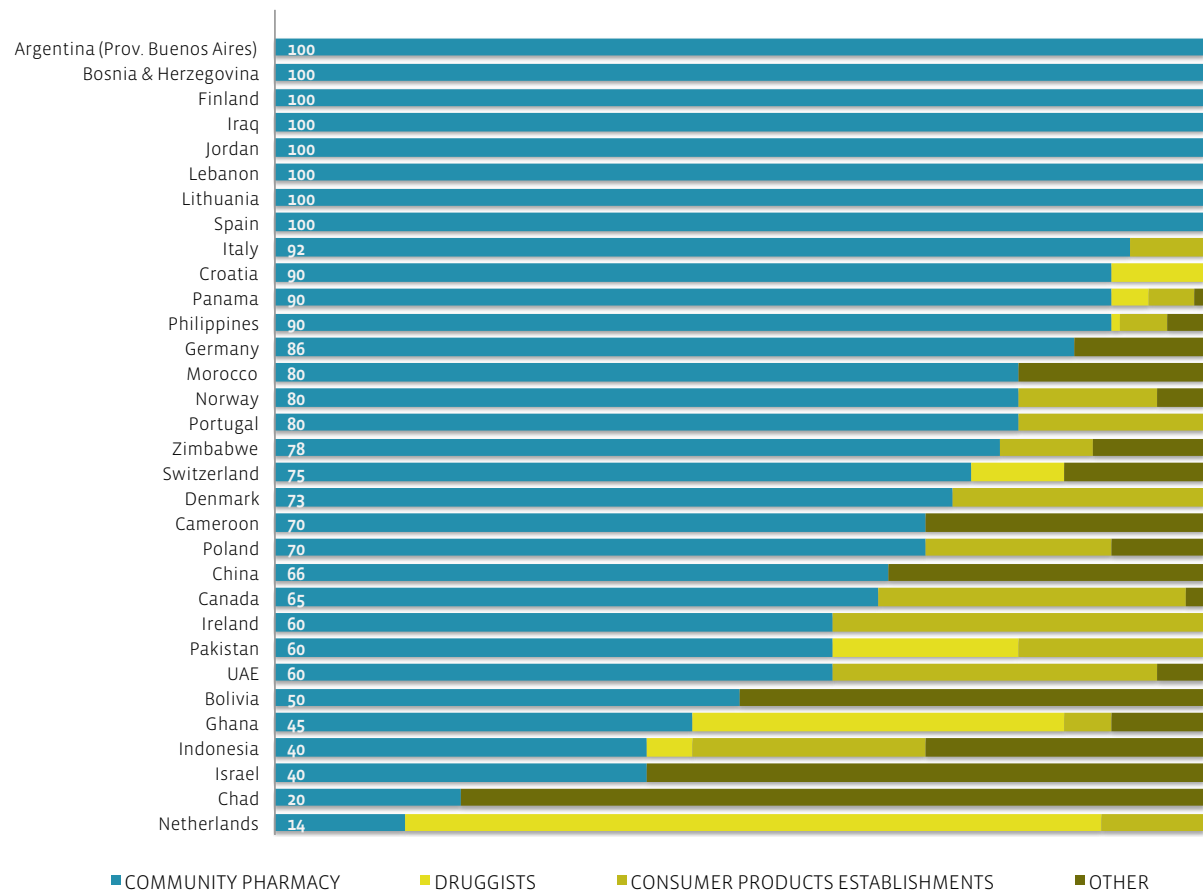


Figure 33. Market shares (in monetary value) of NPM of community pharmacies, druggists/parapharmacies, consumer products establishments and other sectors (n=34)



In terms of the availability of NPMs outside pharmacies, Table 14 lists the countries and territories included in this survey where these medicines are sold at other types of establishments or by other professionals.

**Table 14.** List of countries or territories with particular distribution systems for NPM (n=71)

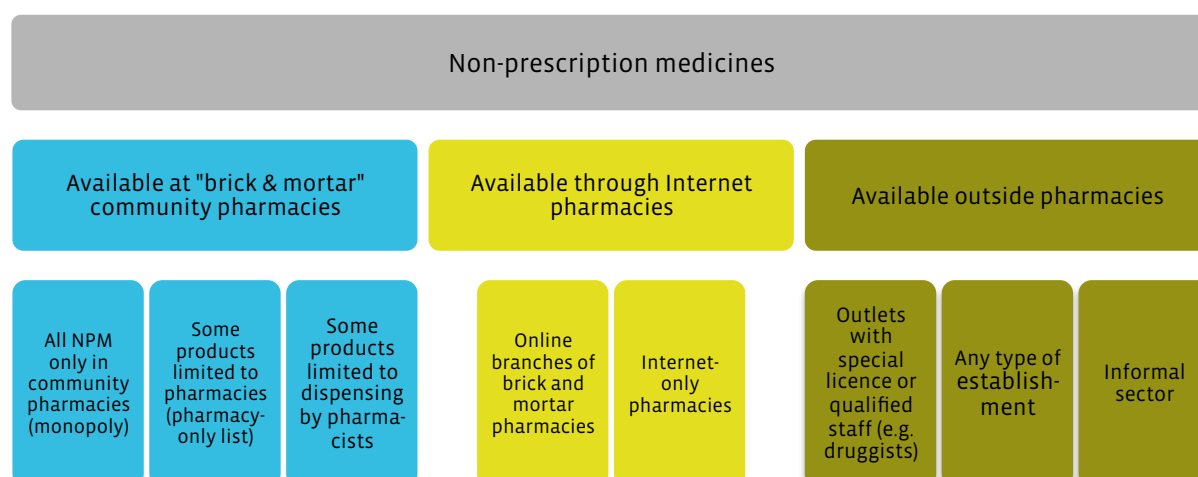
Internet pharmacies	Druggists / parapharmacies	Other establishments	Dispensing doctors
Australia	Afghanistan	Afghanistan	Afghanistan
Austria	Bolivia	Australia	Australia
Belgium	China	Canada	Austria
Brazil	Colombia	Colombia	Cameroon
Canada	Croatia	Costa Rica	Canada
China	Ethiopia	Denmark	France
Colombia	Ghana	Ethiopia	Ghana
Croatia	Hong Kong, China	Ghana	Hong Kong, China
Denmark	Hungary	Hong Kong, China	Hungary
Finland	Indonesia	Hungary	India
France	Italy	Iceland	Indonesia
Germany	Japan	India	Ireland
Hong Kong, China	Nepal	Indonesia	Lithuania
Hungary	Netherlands	Ireland	Mali
Indonesia	Nigeria	Israel	Nepal
Ireland	Pakistan	Italy	Netherlands
Israel	Panama	Macedonia	Nigeria
Italy	Philippines	Netherlands	Panama
Japan	Poland	Nigeria	Poland
Macedonia	Portugal	Norway	South Africa
Mongolia	Romania	Pakistan	Sri Lanka
Netherlands	Sierra Leone	Panama	Switzerland
Norway	Switzerland	Philippines	Tanzania
Philippines	Tanzania	Poland	Thailand
Poland	Thailand	Portugal	UK
Portugal	UAE	Sierra Leone	USA
Romania	UK	South Africa	Vietnam
South Africa	USA	Sri Lanka	Zimbabwe
Spain		Sweden	
Sweden		Tanzania	
Switzerland		UAE	
UK		UK	
USA		USA	
		Zimbabwe	
<b>33</b> <b>46.5% (of 71)</b>	<b>28</b> <b>39.4% (of 71)</b>	<b>34</b> <b>47.9% (of 71)</b>	<b>28</b> <b>39.4% (of 71)</b>

Thirteen countries in Africa, Latin America and South Asia indicated that NPMs can be obtained at informal sales points (such as street vendors or markets). This is of particular concern since, in most cases, not only

are these medicines sold without any professional supervision but their storage conditions are also not adequate. The presence of counterfeit medicines in these channels is also of concern.

It can be concluded that NPMs are distributed in different jurisdictions through a wide variety of channels that may co-exist in different combinations. Figure 34 provides a schematic overview of these channels.

**Figure 34.** Schematic overview of the different channels for the distribution of NPMs



#### 4.1.2 Distribution of prescription-only medicines (POMs)

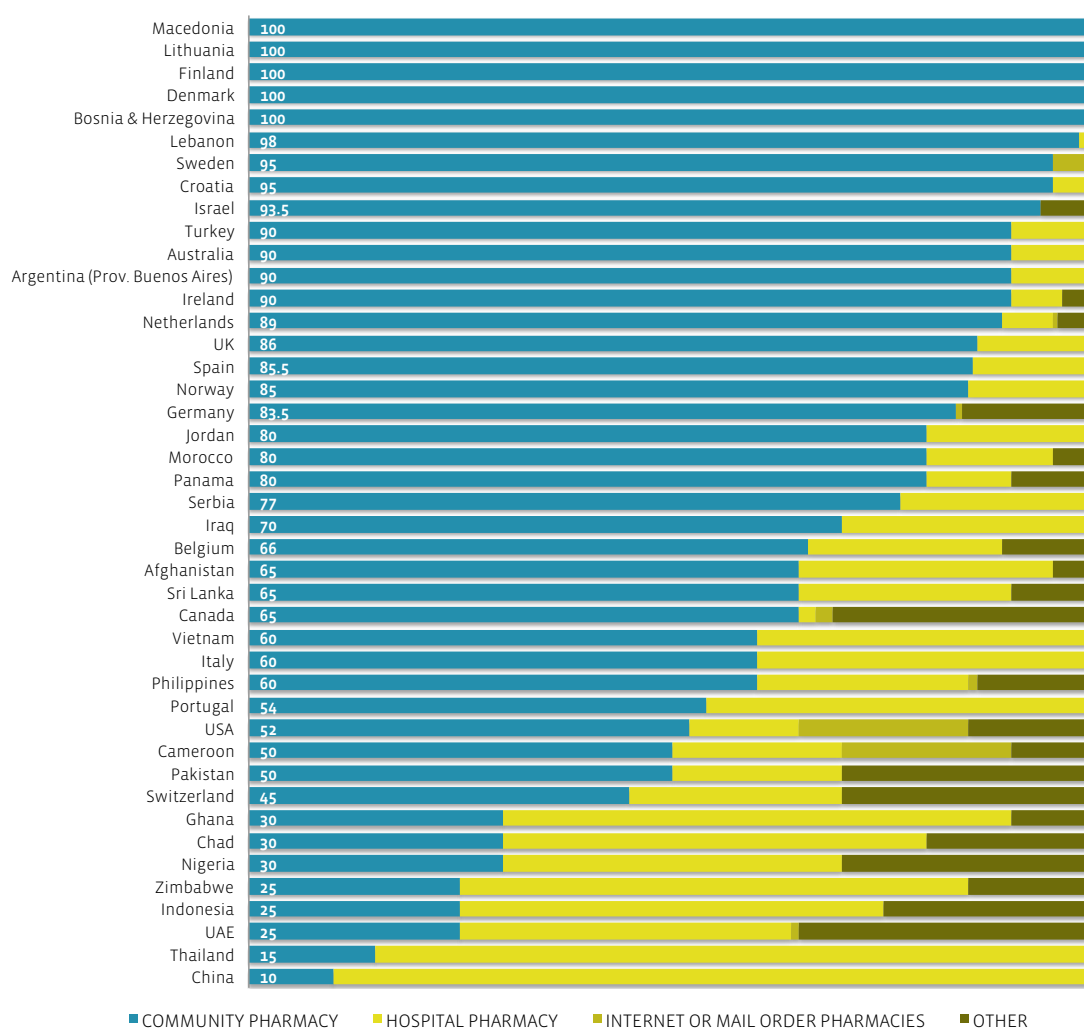
For POMs, the situation is more homogeneous worldwide, with medicines being dispensed almost exclusively through community pharmacies (70 out of 71 respondents; 98.6%) or hospital pharmacy outpatient service (60; 84.5%) in nearly all countries — although with important variations in the split between the two settings (as shown in Figure 35). As Table 15 indicates, the only two considerable exceptions are dispensing doctors, who may dispense POMs in 25 countries or territories (35.2%), and internet pharmacies, which are authorised to sell POMs in 14 jurisdictions (19.7%). Other (less statistically significant) exceptions include five countries where POMs may be sold by druggists or parapharmacies, eight where they can be bought in non-health care related establishments (like supermarkets or gas stations), and five where they can be obtained at informal sales points like street vendors or markets. These exceptions are detailed in Table 15.

**Table 15.** Outlets for prescription-only medicines other than community or hospital pharmacies (n=71)

Type of outlet	n (%)	Countries and territories
Dispensing doctors	25 (35.2%)	Austria, Cameroon, Canada, Chad, France, Ghana, Hong Kong (China), Hungary, India, Ireland, Japan, Mali, Nepal, Netherlands, Nigeria, Pakistan, Panama, Philippines, South Africa, Sri Lanka, Switzerland, Tanzania, UK, USA, Zimbabwe
Internet pharmacies	14 (19.7%)	Australia, Brazil, Canada, Colombia, Denmark, Finland, Germany, Netherlands, Philippines, South Africa, Sweden, Switzerland, UK, USA
Druggists or parapharmacies	5 (7%)	Bolivia, Colombia, Ethiopia, Nepal, Nigeria
Non-health care related establishments	8 (11.3%)	Cameroon, Canada, Chad, Ethiopia, Israel, Pakistan, Panama, Zimbabwe
Informal sales points	5 (7%)	Cameroon, Chad, Nigeria, Philippines, Senegal

In terms of the market share (in monetary value) of POMs of community pharmacies compared to that of hospital pharmacies outpatient service, internet or mail order sales and other sectors, there is also a wide variation of situations among the respondent countries and territories that provided such data (n=44), as can be seen in Figure 35. While in 11 countries community pharmacies dispense 50% or less of POMs (in monetary value), the global average stands at 68% and the median at 73.5%. For further details about these figures and the distribution of POMs in each country or territory, see Appendix 12.

**Figure 35.** Market shares (in monetary value) of POM of community pharmacies, hospital pharmacies, distance sales and other sectors (n=44)



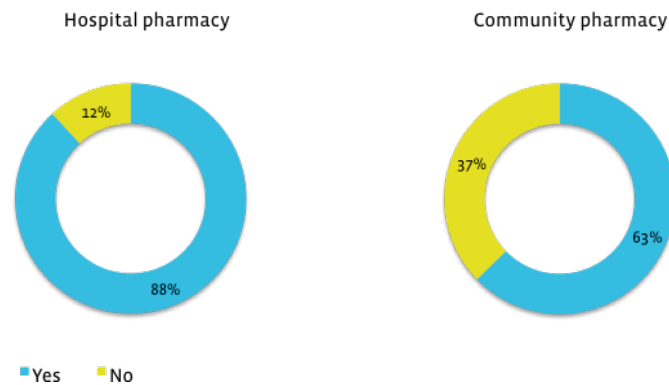
### 4.1.3 Distribution of specialty medicines

For the purpose of this survey, specialty medicines were defined as “usually high-cost medicines which are intended for use in rare conditions or which require special handling or ongoing clinical assessment or a limited distribution network”. The survey asked specifically about the distribution of medicines for patients living with HIV, cancer patients, and hepatitis C patients and provided a blank field for any other specialty medicines.

#### 4.1.3.1 HIV medicines

As shown on Figure 36, out of 59 respondents, 52 (88.1%) indicated that HIV medicines can be dispensed by hospital pharmacies’ outpatient service, and 37 (62.7%) referred that these medicines can be dispensed by community pharmacies. In the majority of countries and territories, the distribution of these medicines is split between hospital and community pharmacies.



**Figure 36.** Dispensing of HIV medicines by hospital and community pharmacies (n=59)

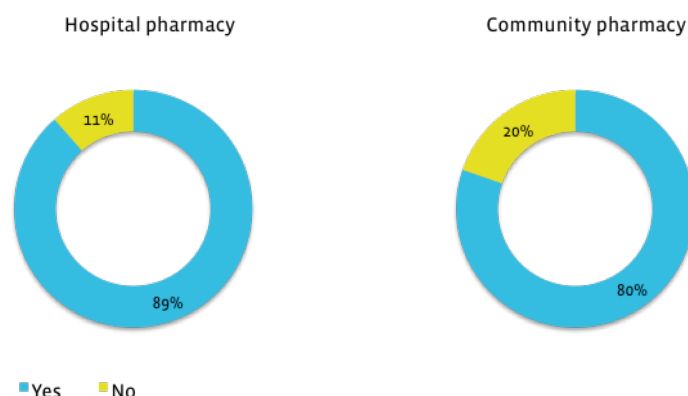
A few particular cases of HIV medicines distribution were also identified and are described in Table 16.

**Table 16.** Dispensing of HIV medicines, particular cases (n=59)

	n (%)	Countries and territories
<b>1. Brick &amp; mortar pharmacies</b>	<b>Both hospital and community pharmacies</b> 33 (55.9%)	Argentina (Province of Buenos Aires), Australia, Belgium, Bolivia, Brazil, Cameroon, Canada, Colombia, Costa Rica, Croatia, Finland, France, Hungary, Iceland, India, Indonesia, Israel, Italy, Japan, Jordan, Morocco, Netherlands, Norway, Panama, Russian Federation, Sierra Leone, South Africa, Switzerland, Tanzania, UK, Uruguay, USA and Zimbabwe
	<b>Only hospital pharmacies</b> 19 (32.2%)	Afghanistan, Chad, China, Cuba, Ethiopia, Ghana, Ireland, Lebanon, Macedonia, Mali, Mongolia, Pakistan, Poland, Portugal, Romania, Senegal, Spain, Thailand and UAE
	<b>Only community pharmacies</b> 4 (6.8%)	Germany (also online), Lithuania (also dispensing doctors), Serbia and Sweden (also online)
<b>2. Dispensing doctors</b>	10 (16.9%)	Canada, Ghana, Japan, Lithuania, Netherlands, Russian Federation, South Africa, Switzerland, UK and USA
<b>3. Internet</b>	8 (13.6%)	Canada, Colombia, Germany, Netherlands, Sweden, Switzerland, UK and USA

#### 4.1.3.2 Cancer medicines

As shown in Figure 37, a similar situation occurs for cancer medicines: out of 61 respondents, 54 (88.5%) indicated that these can be dispensed by hospital pharmacy outpatient service, and 49 (80.3%) that they can be dispensed by community pharmacies. In most countries and territories (44; 72%), cancer medicines distribution is carried out in both settings.

**Figure 37.** Dispensing of cancer medicines by hospital and community pharmacies (n=61)

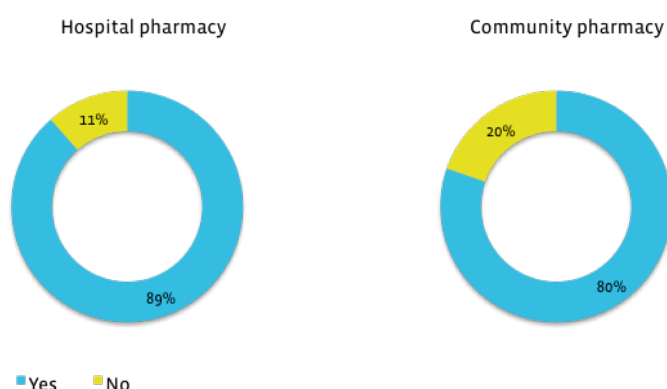
A few particular cases of cancer medicines distribution were also identified and are described in the Table 17.

**Table 17.** Dispensing of cancer medicines, particular cases (n=61)

	n (%)	Countries and territories
<b>1. Brick &amp; mortar pharmacies</b>	<b>Both hospital and community pharmacies</b> 44 (61.4%)	Argentina (Province of Buenos Aires), Belgium, Bolivia, Brazil, Cameroon, Canada, Chad, China, Colombia, Costa Rica, Croatia, Ethiopia, France, Ghana, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Lebanon, Mali, Mongolia, Morocco, Netherlands, Norway, Panama, Philippines, Poland, Russian Federation, Senegal, Sierra Leone, South Africa, Spain, Sri Lanka, Switzerland, Tanzania, UK, Uruguay, USA and Zimbabwe
	<b>Only hospital pharmacies</b> 10 (16.4%)	Afghanistan, Australia, Cuba, Macedonia, Pakistan, Portugal, Romania, Thailand, UAE and Vietnam
	<b>Only community pharmacies</b> 5 (8.2%)	Finland, Germany (also online), Lithuania (also dispensing doctors), Serbia, Sweden (also online)
<b>2. Dispensing doctors</b>	11 (18%)	Canada, Ghana, Ireland, Japan, Lithuania, Netherlands, Russian Federation, South Africa, Switzerland, UK and USA
<b>3. Internet</b>	8 (13.1%)	Canada, Colombia, Germany, Netherlands, Sweden, Switzerland, UK and USA

#### 4.1.3.3 Hepatitis C medicines

Figure 38 shows that a similar pattern emerges from the data concerning the distribution of medicines to treat hepatitis C. Out of 57 respondents, 54 (89%) indicated that these can be dispensed by hospital pharmacy outpatient service, and 49 (80%) that they can be dispensed by community pharmacies. In most countries and territories (35; 61.4%), hepatitis C medicines are distributed in both settings.

**Figure 38.** Dispensing of hepatitis C medicines by hospital and community pharmacies (n=57)

A few particular cases of hepatitis C medicines distribution were also identified and are described in Table 18.

**Table 18.** Dispensing of hepatitis C medicines, particular cases (n=57)

	n (%)	Countries and territories
<b>1. Brick &amp; mortar pharmacies</b>	<b>Both hospital and community pharmacies</b> 35 (61.4%)	Argentina (Province of Buenos Aires), Belgium, Bolivia, Brazil, Cameroon, Canada, China, Colombia, Costa Rica, Croatia, Finland, France, Hungary, Iceland, India, Indonesia, Israel, Italy, Japan, Jordan, Lebanon, Morocco, Netherlands, Norway, Panama, Philippines, Russian Federation, Senegal, Sierra Leone, South Africa, Switzerland, Tanzania, UK, Uruguay and USA
	<b>Only hospital pharmacies</b> 10 (16.4%)	Afghanistan, Australia, Cuba, Macedonia, Pakistan, Portugal, Romania, Thailand, UAE and Vietnam
	<b>Only community pharmacies</b> 5 (8.2%)	Finland, Germany (also online), Lithuania (also dispensing doctors), Serbia and Sweden (also online)
<b>2. Dispensing doctors</b>	11 (18%)	Canada, Ghana, Ireland, Japan, Lithuania, Netherlands, Russian Federation, South Africa, Switzerland, UK and USA
<b>4. Internet</b>	8 (13.1%)	Canada, Colombia, Germany, Netherlands, Sweden, Switzerland, UK and USA

#### 4.1.4 Dispensing by other entities

The survey also questioned whether pharmaceutical wholesalers or manufacturers are allowed to deliver certain types of medicines directly to patients' homes, thus bypassing any type of pharmacy and the possibility of interventions by pharmacists.

Only four countries (5.3%) indicated that this practice exists. In Colombia, according to the *Colegio Nacional de Químicos Farmacéuticos*, "direct selling from wholesalers to patients exists, but it is not frequent". In Hungary, this practice is limited to medicinal oxygen and solutions for continuous ambulatory peritoneal dialysis. Likewise, the Pharmaceutical Association of Israel indicated that direct distribution only occurs for certain special patients. Finally, in Thailand, this type of distribution exists but it is done under the close supervision of licensed pharmacists.

In this regard, in 2014 the Argentinian Pharmaceutical Confederation (COFA) requested FIP's assistance in advocating against a planned initiative of the National Agency for Medicines, Food and Medical Technology (ANMAT) to establish a new player in the medicines supply chain called "distributors of medicines under the initiative and responsibility of welfare systems and prepaid medicine corporations". An implication of this measure was that the organisations that provide subsidised medicines to their affiliates would be able to send medicines directly to patients' homes, thus bypassing the pharmacy. The project was finally withdrawn.

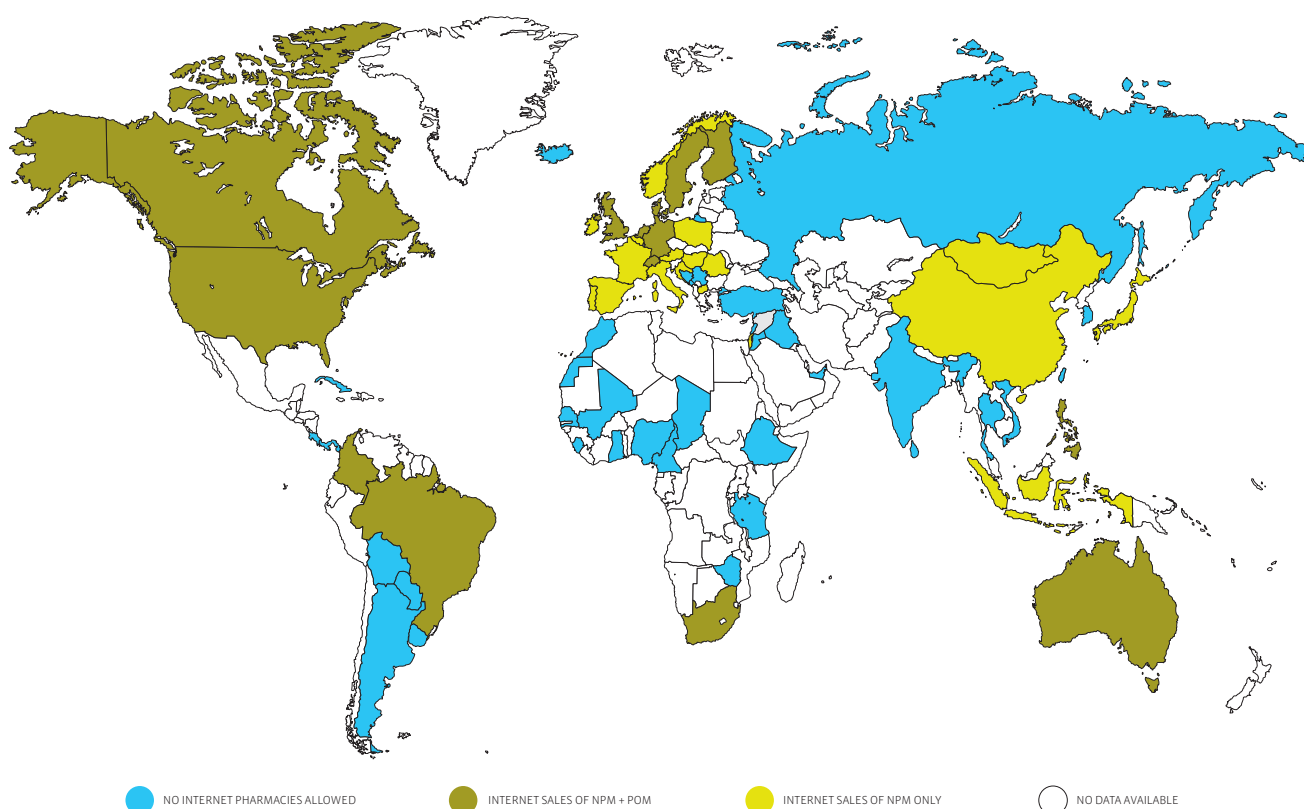
### 4.1.5 Internet sales of medicines

Figure 39 illustrates the global distribution of Internet sales of medicines. The specific situation of NPM and POM sales online has been described in their respective sections above.

In summary, internet sales are allowed in 33 countries and territories (49% of 67 respondents). In 19 countries (28%), they are allowed but only for NPMs, and in 14 (21%) jurisdictions, both NPMs and POMs can be sold online.

It should be noted that, as mentioned above, in several countries internet pharmacies are in fact online operations of "brick and mortar" pharmacies, and thus they are subject to the same dispensing standards as conventional pharmacies.

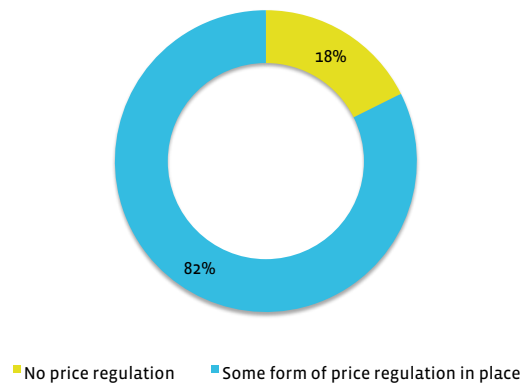
Figure 39. Internet sales of medicines (n=70)



## 4.1.6 Medicines price regulation

In 12 countries and territories (18% of 68 respondents), medicine prices are unregulated both for NPMs and POMs. This is shown in Figure 40.

**Figure 40.** Medicines price regulation by governments (n=68)



**The following countries and territories do not regulate medicines prices (n=12):**

Bolivia, Chad, Costa Rica, Hong Kong (China), Iraq, Nigeria, Panama, Sierra Leone, Sri Lanka, Tanzania, Uruguay, Zimbabwe

In all other 56 respondents, as shown in Table 19, there is some form of price regulation, with 36 (64.3%) countries or territories that regulate the price of all POMs, 30 (53.6%) that regulated the prices of reimbursable medicines and 18 (32.1%) where NPMs also have their price regulated.

**Table 19.** Medicine price regulations per country (n=56)

	POM	Reimbursable	NPM	Other cases
Afghanistan		✓		
Argentina (Province of Buenos Aires)	✓	✓	✓	
Australia		✓		
Austria	✓		✓	
Belgium	✓	✓	✓	
Bosnia and Herzegovina	✓	✓	✓	
Brazil	✓		✓	
Cameroon	✓	✓	✓	
Canada	✓			
China	✓	✓		
China Taiwan				✓
Colombia				✓
Croatia	✓	✓		
Cuba	✓		✓	
Denmark	✓			✓
Ethiopia	✓		✓	
Finland	✓	✓	✓	
France	✓			
Germany	✓	✓		
Hungary				✓
Iceland	✓			
India				✓

	POM	Reimbursable	NPM	Other cases
Korea, Rep. of	✓	✓	✓	
Lebanon	✓			
Lithuania	✓	✓	✓	
Macedonia	✓			
Mali	✓	✓	✓	
Mongolia		✓		
Montenegro		✓		
Morocco	✓	✓	✓	
Nepal				✓
Netherlands	✓	✓		
Norway	✓	✓		
Pakistan	✓		✓	
Paraguay	✓		✓	
Philippines				✓
Poland		✓		
Portugal	✓			
Romania	✓			
Russian Fed.		✓		
Senegal	✓	✓	✓	
Serbia	✓			
South Africa	✓			
Spain	✓	✓		

	POM	Reimbursable	NPM	Other cases		POM	Reimbursable	NPM	Other cases
Indonesia				✓	Sweden		✓		
Ireland		✓			Switzerland	✓			
Israel	✓	✓	✓		UAE	✓	✓		
Italy		✓			UK		✓		
Japan		✓			USA		✓		
Jordan	✓		✓						

In eight countries or territories, other price regulation systems are in place, as described in Table 20.

**Table 20.** Countries or territories with particular medicine price regulation systems (n=8)

<b>China Taiwan</b>	Medicines included in the formulary operated by the National Health Insurance Administration
<b>Colombia</b>	Only for some medicines, there is a maximum price fixed by the national health system
<b>Denmark</b>	Additionally to POMs, prices for pharmacy-only non-prescription medicine are also regulated.
<b>Hungary</b>	The margin is regulated for reimbursed medicines.
<b>India</b>	The Drug Price Control Order regulates the price of medicines in the List of Essential Medicines and some others.
<b>Indonesia</b>	The government does not regulate the price but the industry prints the selling price on the package
<b>Nepal</b>	Price regulation applies to medicines included in List of Essential Medicines
<b>Philippines</b>	The price is only regulated for a selection of prescription medicines.

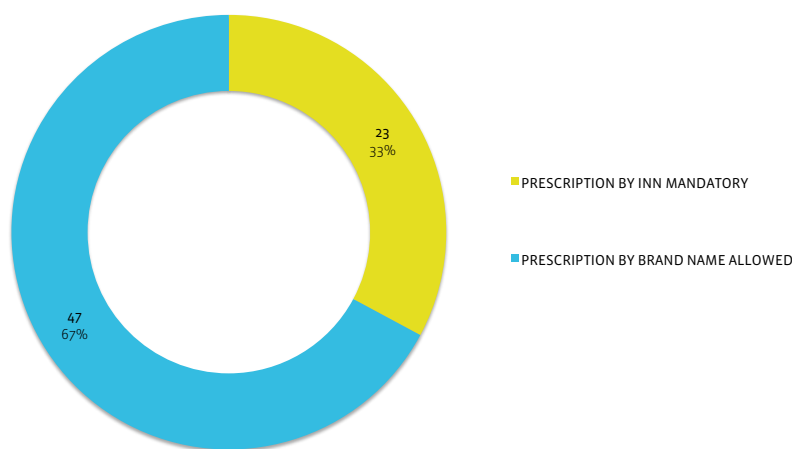
It should be noted that in the countries or territories where the price of NPMs is regulated, the distribution of these medicines is also largely limited to pharmacies. This is the case in Argentina (Province of Buenos Aires), Austria, Belgium, Bosnia and Herzegovina, Brazil, Cameroon, Cuba, Ethiopia, Finland, Israel, Jordan, Republic of Korea, Lithuania, Mali, Morocco, Pakistan, Paraguay and Senegal.

### 4.1.7 Generic substitution

The definition of generic substitution used in this study is “the practice of substituting a prescribed medicine, whether marketed under a trade name or generic name (branded or unbranded generic), with a less expensive equivalent medicine (with the same active ingredient, same dose and same dosage form), such as a branded or unbranded generic”.

The active engagement of pharmacies in terms of generic substitution leads to substantial savings for health care systems. However, it is not legally authorised or is subject to limited situations in some jurisdictions.

As shown in Figure 41, in one third of the responding countries and territories (23 out of 70; 33%), the concept of generic substitution is not entirely applicable because prescription by international non-proprietary name (INN) is mandatory.

**Figure 41.** Prescription by International Non-proprietary Name (INN) policy (n=70)

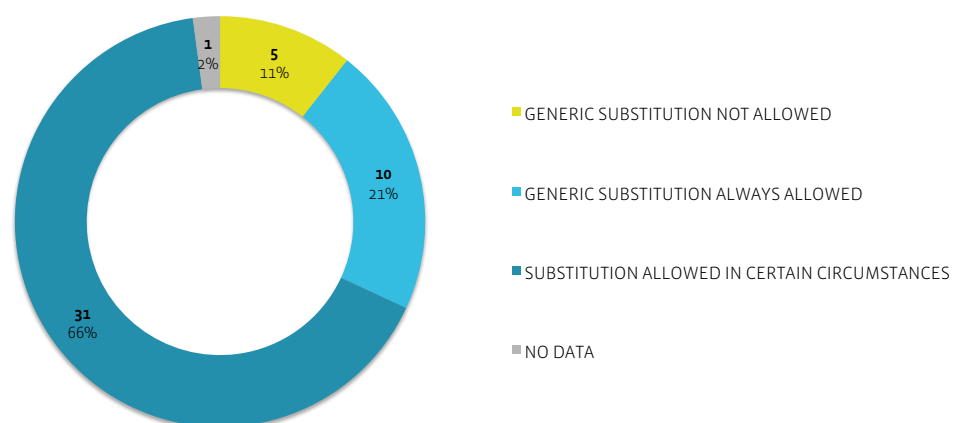
**Countries or territories with mandatory INN prescription: 23 (33.8%)**

Afghanistan, Argentina (Prov. Buenos Aires), China, Colombia, Cuba, France, Ghana, Lithuania, Macedonia, Mongolia, Nigeria, Norway, Panama, Paraguay, Philippines, Portugal, Romania, Russian Federation, Spain, Sri Lanka, Thailand, Uruguay and Vietnam

Of the remaining 47 respondents, where prescription by a medicine's brand name is allowed, generic substitution is allowed in all but five countries or territories (Austria, Hong Kong (China), India, Morocco and the United Kingdom).

Conversely, substitution is allowed in all circumstances in 10 countries (Brazil, Canada, Ethiopia, Iceland, Iraq, Italy, Montenegro, Netherlands, Pakistan and Sweden), but in 31 countries and territories substitution is subject to criteria and specific conditions: either the medicines in question must be on a list of interchangeable medicines published by the medicines regulatory agency, or the prescriber must expressly authorise the substitution, or the patient must authorise it, or it can only be done in the event that the original medicine is not available. Combinations of these conditions are also frequent.

For details of the policy followed in each country or territory, see Figure 42 and Appendix 13.

**Figure 42.** Generic substitution policies in countries or territories where prescription by INN is not mandatory (n=47)

Furthermore, the survey enquired about the existence of any measures or policies to promote the use of generics. Such measures exist in 50 out of 65 respondents (76.9%).

As shown in Table 21, in most countries and territories, this is done through financial incentives (or compensations) to pharmacies from third-party payers (public or private), or through a variety of measures detailed in Appendix 14. Other measures have a stricter character, by either making generic substitution mandatory or by only reimbursing this type of medicine when a generic version is available.

**Table 21.** Measures to promote the use of generic medicines (n=50)

Measures	N° countries (% of 50)	List of countries and territories
Only generic medicines are eligible for reimbursement by third party payers when a generic is available.	14 (28%)	Canada, Colombia, Denmark, Germany, Ghana, Indonesia, Ireland, Mongolia, Netherlands, Tanzania, Thailand, UAE, USA and Vietnam
Generic substitution is mandatory when available	15 (30%)	Afghanistan, Canada, Finland, Indonesia, Ireland, Mongolia, Nigeria, Panama, Poland, Portugal, Sweden, Tanzania, UAE, USA and Vietnam
Pharmacies are encouraged to dispense generics through financial incentives from third party payers (public or private).	23 (46%)	Australia, Brazil, Cameroon, China, France, Hungary, Italy, Japan, Jordan, Korea, Rep. of, Mali, Montenegro, Netherlands, Nigeria, Norway, Poland, Sweden, Switzerland, Tanzania, Turkey, UAE, USA and Zimbabwe
Other	20 (40%)	Belgium, Denmark, Finland, Iceland, India, Ireland, Israel, Lebanon, Lithuania, Panama, Philippines, Portugal, Romania, South Africa, Spain, Sri Lanka, Switzerland, UK, Uruguay and Vietnam

## 4.2 Recent developments in the legislation regulating the sales of medicines, medicines pricing or the use of generic medicines

There has been a total of 44 changes in these regulations since 2013, in nearly half of the responding countries and territories (33 out of 70 respondents, 47.1%). Most of these changes (93% of 30 respondents) have been initiated by the ministries of health, but often in collaboration or consultation with FIP member organisations (nine cases; 30%) or the ministries of economy (five cases; 17%). In one case (Costa Rica), change was promoted jointly by the pharmacists' organisation and the national parliament.

As shown in Table 22, recent developments and regulatory changes have taken different forms, but the most frequently mentioned element were changes in pricing policies by national governments, through which the prices of both branded and generic medicines were cut. This happened in nearly half of the responding countries and territories (14 out of 30), although through different policy options. In some places, public administrations achieved lower medicine prices by defining inclusion criteria for the reimbursed medicines list, or by including generics in that list and choosing to reimburse based on the generic's price, for example. Other countries opted for increasing the frequency of review of the reimbursed medicines list (Australia, Japan, Poland, for example), thus leading to an accelerated competition among manufacturers. Another approach was to change the list of countries that are used as external references for pricing policies, which has an international domino effect on medicines prices.



**Table 22.** Recent developments in the legislation regulating the sales of medicines, medicines pricing or the use of generic medicines (since January 2013)

Type of change	Number of changes	% of 44 (total changes)	Countries and territories
Medicine prices cut through pricing policies	14	32%	Australia, Canada, India, Ireland, Japan, Lebanon, Morocco, Norway, Poland, Portugal, Romania, South Africa, UAE and Vietnam
Remuneration of pharmacies modified	6	14%	Australia, Norway, Portugal, Romania, Serbia and South Africa
Regulation of medicines prices	4	9%	Costa Rica, Nepal, Panama and Russian Federation
Pharmacy-only NPMs introduced	4	9%	Costa Rica, Croatia, Macedonia and Portugal
Internet sales of medicines introduced	4	9%	Croatia, France, Japan and Poland
Changes in reimbursement system	3	7%	Belgium, Iceland and Russian Federation
Generic substitution introduced	2	5%	France and Ireland
Incentives for generic substitution introduced	2	5%	Finland and Portugal
NPM sales outside pharmacies introduced	2	5%	France and Macedonia
Deregulation of medicines prices	1	2%	China
High-cost medicines restricted to hospitals	1	2%	Turkey
Mandatory INN prescription introduced	1	2%	Russian Federation

In one way or another, most governments endeavour to develop pricing policies that allow them to curb health expenditure, focusing on pharmaceuticals. Naturally, this has a great impact on pharmacies and other medicines outlets, and challenges their capacity to support their structure and logistics, maintain their workforce, innovate in services and generally sustain the same level of quality. This is especially true when the remuneration of pharmacies and pharmacists depends on a margin on medicines' prices.

For this reason, changes in pharmacy remuneration models is another important international trend observed through this survey. Six countries (Australia, Norway, Portugal, Romania, Serbia and South Africa) reported changes (completed or in process) in their remuneration systems that may make pharmacies more resilient to fluctuations in medicine prices. In most cases, this change is a shift from a mark-up-based model to a system where fixed dispensing fees play an important role.

Other approaches to controlling pharmaceutical expenditure included the regulation of medicines prices, i.e., setting fixed prices for medicines (which happened in Nepal, Panama and Russia and is being discussed in Costa Rica), the limitation of the distribution of high-cost medicines to public hospital pharmacies (Turkey, for example), and the promotion of the use of generic medicines.

One exception that is in contrast with these policy options is the recent deregulation of medicine prices by China's National Development and Reform Commission. As of June 2015, the Chinese government decided to liberalise the price of all medicines, with the arguments of increasing competition, decreasing out-of-pocket expenditure and improving quality and innovation in the pharmaceutical market, which were allegedly compromised by the previous price control policy.

In terms of generic medicines policies, mandatory prescription by INN was introduced in Russia; generic substitution was introduced in Ireland and biosimilar substitution introduced in France (in limited circumstances); financial incentives for pharmacies to dispense generics were introduced in Portugal; and the obligation of pharmacies to offer information about cheaper generic medicines was introduced in Finland.

In relation to reimbursement systems, aside from the changes in reimbursable medicines lists, there were relevant changes in Belgium and Iceland that adopted new models by which reimbursement is no longer by package but rather according to all medicines used over a period of time. In Belgium, reimbursement for institutionalised long-term care patients is now per week of treatment. In Iceland, reimbursement calculations are now based on the individual's annual use of medicines, and the patient co-payment is capped to €440, or €305 for the elderly, children and disabled persons.

As for the distribution of non-prescription medicines, developments towards more liberal models took place in Macedonia, where NPMs can now be sold outside pharmacies, and France, where pregnancy and ovulation tests and lens care products are no longer sold exclusively by pharmacies. Despite the liberalisation of the NPM market in Macedonia, a pharmacy-only sub-category was introduced, and the same happened in Portugal, where the NPM market had been fully liberalised in 2005.

Such pharmacy-only NPM categories introduce an intermediate situation between the requirement of prescription by an authorised prescriber and a situation of general sales of medicines. They acknowledge that not all non-prescription medicines have the same therapeutic and safety profile, and recognise the role of the pharmacist in ensuring their responsible use.

Earlier in 2015, the National Association of Pharmacies of Portugal, considering that the liberalisation of the NPM market could not be reversed in Portugal and that the switch from POM to NPM was increasingly being done for economic reasons, advocated for an expansion of the pharmacy-only NPM list, and a full liberalisation of a shorter general sales list. This followed the publication in January 2015 by the Portuguese drug regulatory agency of a report that included an analysis of the NPM market in 2014 in comparison with 2005, just before the liberalisation took place. The report concluded that:

1. The announced improvement of access to NPMs did not happen, as currently the large majority of outlets selling these medicines are concentrated in the largest cities;
2. The price of OTC is now 12% higher than that of 2005, which is in contrast with the overall reduction of POM prices of over 30%;
3. The market is highly concentrated, with three companies selling over 80% of all NPMs sold outside pharmacies.
4. There was a significant increase (4.2%) in the number of units of NPMs sold.<sup>10</sup>

Other FIP member organisations are equally advocating for the implementation of pharmacy-only lists of NPM, such as those in Costa Rica and Croatia, where such regulatory developments are being negotiated. In Croatia, the intended change is that NPMs sold in drugstores or parapharmacies can only be dispensed under the supervision of a pharmacist.

Finally, another relevant trend observed in at least four countries was the introduction of online sales of medicines. This was mentioned by Croatia, France, Japan and Poland. In July 2015, it became mandatory for all online retailers of medicines in the European Union to display a common logo on their websites that gives patients and consumers the opportunity to verify the authenticity of the online pharmacy and the quality of the products they sell. It is up to each member state to determine the specific conditions for the sale of medicines through the internet, including prohibiting the online sale of POMs.

For further details on recent developments in the legislation regulating the sales of medicines, medicines pricing or the use of generic medicines, see Appendix 15.

<sup>10</sup> Instituto Nacional da Farmácia e do Medicamento (INFARMED), 2015. Vendas de medicamentos não sujeitos a receita médica fora das farmácias. Janeiro-Dezembro 2014. Available at <http://goo.gl/HHuZBA> [August 2015].

## 5 Scope of pharmacy practice

The survey aimed to produce an overview of the main services offered by community and hospital pharmacies around the world, and determine which of these services have been recently introduced or regulated. This regulation refers to the inclusion of these services in the legislation that regulates pharmacy practice. It should be noted that this form of regulation is not always necessary for the implementation of a given service. Yet, it indicates the extent to which the service is considered a legal prerogative or obligation of pharmacists, and it provides a framework of accountability. Regulation of new services can also be a requirement for their coverage by health insurance.

The survey also inquired about the approximate percentage of pharmacies that offer each service. This is a useful indicator to discern the extent to which the patients of each country or territory can benefit from a given service and understand if such services represent niches of innovation within a territory or if they constitute a widespread and consolidated element of pharmacy practice.

For the majority of services listed in the questionnaire, a definition was provided in the glossary, considering that the same activity may be known by a different name in different places. Likewise, several of the listed services may not yet be fully known in all countries and territories, which made the glossary definition all the more essential to interpret the question.

The survey results suggest that the questionnaire and/or the glossary may not have been entirely clear or that it was challenging to respond to it with the available data. Nevertheless, some interesting results have emerged and these are presented below.

Details of the services regulated and/or implemented in each country or territory can be found in Appendix 16, 17 and 18 (parts 1, 2 and 3, for community pharmacy) and Appendix 19 (hospital pharmacy).

Note that, unless indicated otherwise, the rate of countries and territories that have regulated each service is expressed as a percentage of the total sample of the survey (71). Although this calculation has some degree of inaccuracy (since non-respondents are considered not to have the service regulated), it was considered that this figure would be more realistic and more useful for FIP member organisations.

Likewise, for calculating the rate of implementation of each service, we have considered all respondents that marked any of the implementation ranges (0—10%, 11—25%, 26—50%, 51—75% or 76—100% of all pharmacies) or that simply marked the box saying that the service is implemented but did not specify a range. Respondents who indicated that the service is regulated but did not mark any of the boxes related to implementation of the service were not included in the calculation. In other words, when considering the tables in Appendices 16 to 19, the calculation of the implementation rate is the sum of all responses marked as A (0—10%), B (11—25%), C (26—50%), D (51—75%), E (76—100%) or ND (no data).

### 5.1 Overview of the current situation

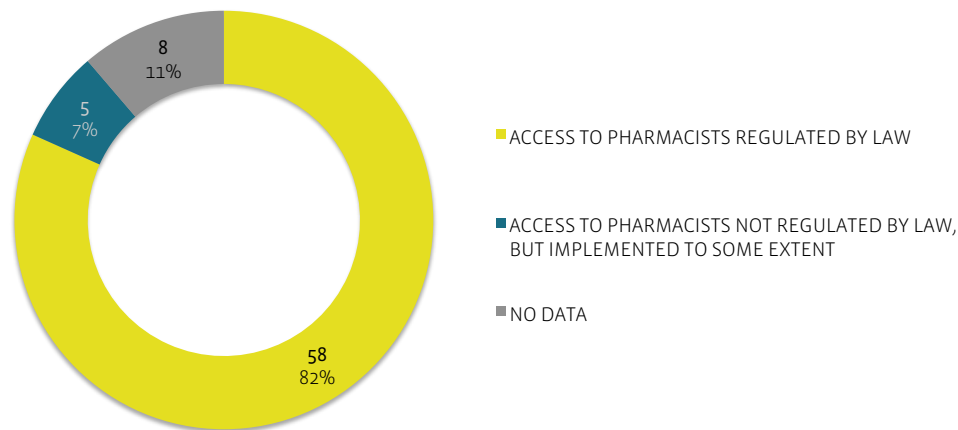
#### 5.1.1 Community pharmacy

##### 5.1.1.1 Access to a pharmacist

Although not a service as such, the survey began by inquiring about access to pharmacists by the population in the countries and territories where FIP has member organisations. Access to a pharmacist was defined as “the possibility to consult with a pharmacist and request their professional advice at a community pharmacy whenever the pharmacy is open to the public”. The presence of a pharmacist is also a necessary condition for the implementation of most of the services listed in this section.

In terms of the legal regulation of the access to a pharmacist in community pharmacies, 58 responding countries and territories reported that there are legal provisions to ensure this access. Figure 43 illustrates the proportion of respondents where legislation stipulates access to a pharmacist.

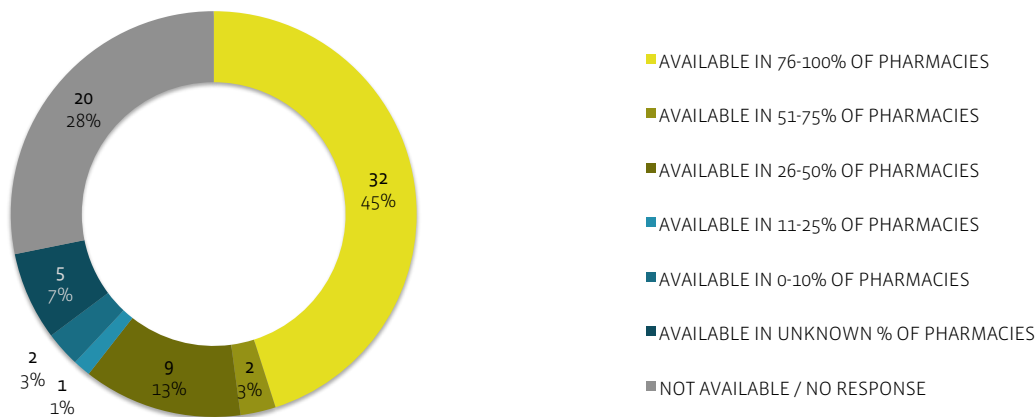
Figure 43. Legal regulation of access to a pharmacist per country or territory (n=71)



Regulating access to a pharmacist does not necessarily imply that pharmacists are present in all pharmacies. Conversely, pharmacists are available in some community pharmacies in places where this access is not regulated.

Figure 44 describes the extent to which pharmacists are effectively available in the community. Thirty-two respondents (54%) indicated that a pharmacist is present at all times in 76–100% of all pharmacies; two countries indicated that access to a pharmacist is guaranteed in 51–75% of all pharmacies, and 12 reported that a pharmacist is available in less than 50% of all pharmacies.

Figure 44. Access to a pharmacist per country or territory (n=71)



### 5.1.1.2 Collaborative practices with other health care professionals

Collaboration with other health care professionals is not a service offered by community pharmacies, but rather a way of working for pharmacists as a part of a health care team that join efforts to achieve the best possible outcomes for the patient and the health care system. Table 23 shows that there seems to be a long way to go before such practices are fully consolidated, as only five countries (Canada, Ethiopia, the Netherlands, Panama and South Africa) indicated that such collaboration takes place at more than 50% of all pharmacies. A larger group of 23 respondents indicated that such practices exist in up to a quarter of all pharmacies.

**Table 23.** Collaborative practices with other health care professionals in community pharmacies (n=71)

Number of countries or territories with...	n (%)
Collaborative practices in 76—100% of pharmacies	3 (4%)
Collaborative practices in 51—75% of pharmacies	2 (3%)
Collaborative practices in 26—50% of pharmacies	4 (6%)
Collaborative practices in 11—25% of pharmacies	9 (13%)
Collaborative practices in 0—10% of pharmacies	14 (20%)
Collaborative practices in unknown % of pharmacies	5 (7%)
No collaborative practices, or no response	34 (48%)
Regulation of this activity	21 (30%)

### 5.1.1.3 Compounding

Although compounding may not have the central role in a pharmacy's activities that it had a few decades ago, it continues to be essential to meet specific needs of patients that cannot be covered by industrially produced medicines, including formulations for children, elderly people or other patients who may not be able to take the available dosage forms or require doses that are specific to them, or may have allergies to some components.

As indicated in Table 24, compounding is available in more than three quarters of pharmacies in 14 countries or territories. The most frequent situation among respondents was that compounding is only available at a few pharmacies (less than 10%), with 18 responses (25%). It is a regulated service by pharmacies in 79% of the survey respondents (56 countries or territories).

**Table 24.** Availability of compounding services in community pharmacies (n=71)

Number of countries or territories with...	n (%)
Compounding available in 76—100% of pharmacies	14 (20%)
Compounding available in 51—75% of pharmacies	6 (8%)
Compounding available in 26—50% of pharmacies	5 (7%)
Compounding available in 11—25% of pharmacies	7 (10%)
Compounding available in 0—10% of pharmacies	18 (25%)
Compounding available in unknown % of pharmacies	4 (6%)
Service not available, or no response	17 (24%)
Regulation of this activity	56 (79%)

#### 5.1.1.4 Medicines use review/medication therapy management

Medicines use review (MUR)/medication therapy management (MTM) is an advanced professional service offered by pharmacists, through which patients may discuss their medication with a qualified pharmacist in a private consultation. It aims to collect patient-specific information, provide a review of all medicines to see if there is any overlap or interactions, give extra information on what medicines are for, discuss side effects of medicines, identify problems associated with medicines and negotiate strategies to improve patient adherence or resolve any medication-related problems. It may be especially important for elderly patients taking multiple medicines.

This is a relatively recent innovation in terms of pharmacy services, and it may require advanced clinical competencies, as well as a specific space within the pharmacy and a certain amount of time of a qualified pharmacist for each individual patient. It is being gradually introduced in several countries and territories, and it is encouraging to learn that this service is available to some extent in 36 countries or territories (51%). Yet, the most frequent situation (16 responses; 23%) is that this service is available in less than 10% of pharmacies. Table 25 indicates the implementation of this survey per ranges of percentage of pharmacies.

The MUR/MTM service is regulated in 22 countries or territories (31% of the sample).

**Table 25.** Availability of medicines use review/medication therapy management services in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	4 (6%)	Ethiopia, Korea (Rep. of), Netherlands and UK
51—75% of pharmacies	3 (4%)	Canada, Ghana and USA
26—50% of pharmacies	4 (6%)	Morocco, Nigeria, Spain and Tanzania
11—25% of pharmacies	6 (8%)	China, Finland, Pakistan, Panama, Philippines and UAE
0—10% of pharmacies	16 (23%)	Bolivia, Bosnia and Herzegovina, Costa Rica, Croatia, Denmark, Germany, Hungary, Indonesia, Italy, Poland, Portugal, Romania, South Africa, Thailand, Uruguay and Vietnam
Unknown % of pharmacies	3 (4%)	Iraq, Japan and Sierra Leone
Service not available, or no response	35 (49%)	Remaining countries and territories in the sample
Regulation of this activity	22 (31%)	Afghanistan, Australia, Bosnia and Herzegovina, Brazil, Canada, Costa Rica, Denmark, Ethiopia, France, Italy, Morocco, Netherlands, Nigeria, Pakistan, Philippines, Poland, Serbia, Sierra Leone, Tanzania, UAE, Uruguay and USA

#### 5.1.1.5 Preparing personalised dosage systems/dose administration aids

A personalised dosage system (PDS), or dosage administration aid (DAA), is a medication delivery system or storage device designed to simplify the administration of solid dose oral medicines and improve adherence. The service usually consists of repackaging medicines into labelled compartments according to administration times. The service may be complemented by technological aids that remind patients when to take medicines.

This service is regulated in 20 countries or territories (28%), and is available to some extent in 35 (49%). This does not mean that nearly half of the pharmacies in the survey's responding countries and territories offer the service, but simply that the service has been introduced in those territories. Table 26 breaks this figure into different ranges of implementation.

**Table 26.** Availability of personalised dosage systems/dose administration aid preparation services in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	6 (8%)	Canada, Denmark, Ethiopia, Japan, Netherlands and Switzerland
51—75% of pharmacies	4 (6%)	Finland, Iceland, UK and USA
26—50% of pharmacies	2 (3%)	Ghana and Spain
11—25% of pharmacies	7 (10%)	Afghanistan, Belgium, China, Germany, Ireland, Portugal and UAE
0—10% of pharmacies	15 (21%)	Austria, Bolivia, Bosnia and Herzegovina, Hungary, Italy, Morocco, Nigeria, Pakistan, Panama, Philippines, Poland, Romania, South Africa, Sweden and Thailand
Unknown % of pharmacies	1 (1%)	France
Service not available, or no response	36 (51%)	Remaining countries and territories in the sample
Regulation of this activity	20 (28%)	Afghanistan, Australia, Austria, Belgium, Canada, Denmark, Ethiopia, France, Germany, Iceland, Japan, Mongolia, Morocco, Netherlands, Nigeria, Pakistan, Philippines, Sweden, Switzerland and UAE

### 5.1.1.6 Other adherence improvement services

Medication adherence refers to the extent to which a person's behaviour in taking medicines corresponds with agreed recommendations/instructions from a health care provider. As well as helping patients, adherence improvement services aim to help pharmacists identify those patients who are not taking their medicines appropriately.

These services are regulated in 12 countries or territories (17%): Australia, Brazil, Costa Rica, Denmark, France, Hungary, Israel, Italy, Philippines, Switzerland, UAE and Uruguay.

Specific adherence improvement services are available in 20 (28%) countries and territories. Fifty-one respondents (72%) did not provide a response with regards to this service. Table 27 indicates where these services are available to some extent.

**Table 27.** Availability of other adherence improvement services in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	5 (7%)	Denmark, Ethiopia, Hungary, Korea (Rep. of) and UK
51—75% of pharmacies	3 (4%)	Ghana, Netherlands and USA
26—50% of pharmacies	2 (3%)	Costa Rica and Switzerland
11—25% of pharmacies	2 (3%)	Finland and UAE
0—10% of pharmacies	8 (11%)	Bolivia, Bosnia and Herzegovina, Indonesia, Italy, Philippines, Tanzania, Uruguay and Vietnam
Unknown % of pharmacies	0 (0%)	None
Service not available, or no response	51 (72%)	Remaining countries and territories in the sample
Regulation of this activity	12 (17%)	Australia, Brazil, Costa Rica, Denmark, France, Hungary, Israel, Italy, Philippines, Switzerland, UAE and Uruguay

### 5.1.1.7 Medication reconciliation

Medication reconciliation consists of a comprehensive medication review and the subsequent formulation of a personal medication record (including the name, dosage, frequency, and administration route for all medicines) for patients transferring between patient care settings or levels of care, in order to compare the medicines a patient is taking (or should be taking) with newly ordered medicines, with the aim of resolving discrepancies and avoiding potential problems. Twelve countries (17%) have introduced regulations for this service.

Table 28 indicates where medication reconciliation is offered by community pharmacies to some extent and where it is regulated.

**Table 28. Availability of medication reconciliation services in community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	3 (4%)	Ethiopia, Japan and Netherlands
51—75% of pharmacies	3 (4%)	Canada, Panama and UK
26—50% of pharmacies	3 (4%)	Ghana, Iraq and USA
11—25% of pharmacies	4 (6%)	China, Nigeria, Pakistan and UAE
0—10% of pharmacies	9 (13%)	Bolivia, Bosnia and Herzegovina, Germany, Hungary, Philippines, Romania, Spain, Tanzania and Thailand
Unknown % of pharmacies	0 (0%)	None
Service not available, or no response	49 (69%)	Remaining countries and territories in the sample
Regulation of this activity	12 (17%)	Afghanistan, Australia, Brazil, Costa Rica, Ethiopia, Iraq, Japan, Netherlands, Nigeria, Pakistan, Philippines and UAE

### 5.1.1.8 Administering vaccines and other injectable medicines

In 28 countries and territories (39%), community pharmacies collaborate in vaccination campaigns or offer the service of administering vaccines and other injectable medicines. The range of vaccines may be limited to seasonal influenza or include several others, depending on the jurisdiction and other factors. For an overview of the countries and territories that offer this service, see Table 29. The administration of vaccines or other injectable medicines by community pharmacies is regulated in 23 jurisdictions (32%).

**Table 29. Administration of vaccines and other injectable medicines by community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	4 (6%)	Canada, Costa Rica, Cuba and USA
51—75% of pharmacies	4 (6%)	Argentina (Province of Buenos Aires), Panama, Portugal and South Africa
26—50% of pharmacies	4 (6%)	Afghanistan, Australia, Ireland and Tanzania
11—25% of pharmacies	3 (4%)	Colombia, Pakistan and UK
0—10% of pharmacies	11 (15%)	Bolivia, Bosnia and Herzegovina, Brazil, China, Ghana, Jordan, Netherlands, Nigeria, Romania, Switzerland and UAE
Unknown % of pharmacies	2 (3%)	Mongolia and Sierra Leone
Service not available, or no response	43 (61%)	Remaining countries and territories in the sample
Regulation of this activity	23 (32%)	Afghanistan, Argentina (Province of Buenos Aires), Australia, Austria, Brazil, Canada, Chad, Colombia, Costa Rica, Cuba, Ghana, Ireland, Jordan, Mongolia, Morocco, Nigeria, Pakistan, Portugal, Sierra Leone, South Africa, Switzerland, Tanzania and USA



### 5.1.1.9 Complementary prescribing by pharmacists

Complementary prescribing was defined in the context of this survey as the legal authority that allows pharmacists to prescribe after the delegation of authority to the pharmacist by an independent prescriber such as a physician. In other words, pharmacists are authorised to prescribe certain prescription-only medicines, but only in certain circumstances (like the renewal of some prescriptions in long-term treatments or for patients with chronic conditions), and not independently but rather complementing the prescription determined by another health care professional.

This professional role is regulated in six countries (8% of the sample): Australia, Israel, Sierra Leone, Switzerland, Tanzania and the USA. It is, however, available also in Bosnia and Herzegovina, Ghana, the Netherlands and the United Kingdom. We have no data about the extent of implementation of complementary prescribing in Australia, Israel or Sierra Leone, but this activity is widely present in Switzerland, where more than 75% of pharmacies offer it. In other countries, such as the UK and USA, it exists, but is available for the time being in 11–25% of pharmacies.

In most countries and territories (89%), this activity is not part of the scope of practice of community pharmacists, or no response was provided. Further details are provided in Table 30.

**Table 30. Complementary prescribing by pharmacists in community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	1 (1.4%)	Switzerland
51—75% of pharmacies	0 (0%)	None
26—50% of pharmacies	0 (0%)	None
11—25% of pharmacies	2 (3%)	UK and USA
0—10% of pharmacies	4 (6%)	Bosnia and Herzegovina, Ghana, Netherlands and Tanzania
Unknown % of pharmacies	1 (1.4%)	Sierra Leone
Service not available, or no response	63 (89%)	Remaining countries and territories in the sample
Regulation of this activity	6 (8%)	Australia, Israel, Sierra Leone, Switzerland, Tanzania and USA

### 5.1.1.10 Independent prescribing by pharmacists

Independent prescribing is prescribing by a practitioner — such as a doctor, dentist, nurse, pharmacist or optometrist — responsible and accountable for the assessment of patients with undiagnosed and diagnosed conditions and for decisions about the clinical management, including prescribing. Pharmacist independent prescribers may prescribe autonomously for any condition within their clinical competence. It should be noted that this definition refers to medicines classified as prescription-only medicines.

This activity represents an expansion of pharmacists' roles and usually requires additional training, advanced clinical experience and certification, as well as a legal framework that supports this role by non-medical prescribers.

The survey results indicate that this activity is regulated in nine countries (13%), but is implemented to some extent in 15 countries (see Table 31 and Appendix 16, part 1, for details). This difference of six respondents (Bolivia, Bosnia and Herzegovina, Ghana, Netherlands, Nigeria and Panama) corresponds to jurisdictions where this activity exists but is not supported by a regulatory framework. This could be due to a shortage of medical professionals, resulting in prescribing practices by other health care professionals. It could also be due to the fact that the practice is carried out by pharmacists with advanced clinical training or in special situations (specific patients, night shifts, specific medicines, etc.), but does not necessarily require additional

regulation. Further research is necessary to fully understand the regulation and implementation of this practice worldwide.

This activity is neither practised nor regulated in 79% of responding countries and territories (or no answer was provided).

**Table 31. Independent prescription by pharmacists in the community pharmacy setting (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	1 (1.4%)	Ghana
51—75% of pharmacies	1 (1.4%)	Nigeria
26—50% of pharmacies	0 (0%)	None
11—25% of pharmacies	2 (3%)	Bolivia and Switzerland
0—10% of pharmacies	9 (13%)	Bosnia and Herzegovina, Canada, Israel, Netherlands, Panama, South Africa, Tanzania, UK and USA
Unknown % of pharmacies	2 (3%)	Poland and Sierra Leone
Service not available, or no response	56 (79%)	Remaining countries and territories in the sample
Regulation of this activity	9 (13%)	Canada, Israel, Poland, Sierra Leone, South Africa, Switzerland, Tanzania, UK and USA

#### 5.1.1.11 Disease management programmes in chronic conditions

According to the definition of the US Academy of Managed Care Pharmacy (AMCP), also used in this survey, disease management programmes are designed to improve the health of persons with chronic conditions and reduce associated costs from avoidable complications by identifying and treating such conditions more quickly and more effectively, thus slowing their progression. Disease management empowers individuals, working with other health care providers to manage their disease and prevent complications<sup>11</sup>.

In the survey questionnaire, this field was open so that respondents could indicate three conditions in which there are pharmacist-led management programmes in their country or territory. We present the results of the three most frequently mentioned programmes: asthma, diabetes and hypertension management.

##### 5.1.1.11.1 Asthma management programmes

Table 32 describes the global extent of asthma management programmes in terms of regulation and implementation.

**Table 32. Availability of asthma management programmes in community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	2 (3%)	Cuba and Ghana
51—75% of pharmacies	0 (0%)	None
26—50% of pharmacies	2 (3%)	Belgium and Finland
11—25% of pharmacies	1 (1%)	Nigeria

<sup>11</sup> Academy of Managed Care Pharmacy, Concept Series Paper on Disease Management. Available at <http://www.amcp.org/WorkArea/DownloadAsset.aspx?id=9295>

Service is available in...	n (%)	List of countries and territories
0—10% of pharmacies	3 (4%)	Croatia, Portugal and UAE
Unknown % of pharmacies	1 (1%)	France
Service not available, or no response	62 (87%)	Remaining countries and territories in the sample
Regulation of this activity	6 (8%)	Australia, Belgium, Cuba, France, Portugal and UAE

#### 5.1.1.11.2 Diabetes management programmes

Table 33 describes the global extent of diabetes management programmes in terms of regulation and implementation.

**Table 33.** Availability of diabetes management programmes in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	2 (3%)	Cuba and Ghana
51—75% of pharmacies	1 (1%)	USA
26—50% of pharmacies	1 (1%)	Finland
11—25% of pharmacies	2 (3%)	Nigeria and Philippines
0—10% of pharmacies	6 (8%)	Bosnia and Herzegovina, China Taiwan, Croatia, Netherlands, Portugal and UAE
Unknown % of pharmacies	1 (1%)	Thailand
Service not available, or no response	58 (82%)	Remaining countries and territories in the sample
Regulation of this activity	6 (8%)	Australia, Bosnia and Herzegovina, Cuba, Philippines, Portugal and UAE

#### 5.1.1.11.3 Hypertension management programmes

Table 34 describes the global extent of hypertension management programmes in terms of regulation and implementation.

**Table 34.** Availability of hypertension management programmes in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	2 (3%)	Cuba and Ghana
51—75% of pharmacies	1 (1%)	USA
26—50% of pharmacies	1 (1%)	Finland
11—25% of pharmacies	2 (3%)	Nigeria and Philippines
0—10% of pharmacies	5 (7%)	Croatia, Netherlands, Portugal, Thailand and UAE
Unknown % of pharmacies	0 (0%)	Thailand
Service not available, or no response	60 (85%)	Remaining countries and territories in the sample
Regulation of this activity	4 (6%)	Cuba, Philippines, Portugal and UAE

### 5.1.1.12 Dispensing emergency contraception

Emergency contraception, also termed post-coital contraception or morning-after pill, refers to methods of contraception that can be used to prevent pregnancy in the first few days after unprotected sexual intercourse or following contraceptive failure or misuse (such as forgotten pills or torn condoms).

This service is offered by pharmacies in 37 countries and territories (52%). This figure is broken down according to ranges of implementation in Table 35. The service is also regulated in a significant number of jurisdictions (27; 38%).

**Table 35. Dispensing emergency contraception by community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	23 (32%)	Argentina (Province of Buenos Aires), Austria, Belgium, Canada, Colombia, Croatia, Denmark, Ethiopia, Finland, Germany, Ghana, Iceland, Ireland, Italy, Lithuania, Morocco, Netherlands, Norway, Portugal, South Africa, Spain, Sweden and Switzerland
51—75% of pharmacies	3 (4%)	Bolivia, Nigeria and UK
26—50% of pharmacies	1 (1%)	Mongolia
11—25% of pharmacies	0 (0%)	None
0—10% of pharmacies	5 (7%)	Afghanistan, Bosnia and Herzegovina, Brazil, Tanzania and USA
Unknown % of pharmacies	5 (7%)	France, Indonesia, Israel, Poland and Zimbabwe
Service not available, or no response	34 (48%)	Remaining countries and territories in the sample
Regulation of this activity	27 (38%)	Afghanistan, Argentina (Province of Buenos Aires), Australia, Austria, Belgium, Brazil, Canada, Colombia, Croatia, Denmark, Ethiopia, Finland, France, Iceland, Israel, Italy, Mongolia, Norway, Portugal, Senegal, South Africa, Spain, Sweden, Switzerland, Tanzania, USA and Zimbabwe

### 5.1.1.13 Collecting expired medicines for safe disposal

Community pharmacies can play an important role in informing patients and consumers about the impact of waste caused by unused medicines in the environment, and collaborate in programmes to collect expired or unused medicines for their safe disposal.

This service is offered by pharmacies in 37 countries and territories (52%). This figure is broken down according to ranges of implementation in Table 36. The service is also regulated in a significant number of jurisdictions (27; 38%).

**Table 36. Collection of expired or unused medicines for safe disposal by community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	18 (25%)	Belgium, Canada, Croatia, Denmark, Ethiopia, Finland, Germany, Hungary, Iceland, Israel, Italy, Korea (Rep. of), Netherlands, Norway, Portugal, Spain, Sweden and Switzerland
51—75% of pharmacies	7 (10%)	Austria, Ireland, Nigeria, Panama, Tanzania, UK and Vietnam
26—50% of pharmacies	3 (4%)	Costa Rica, South Africa and USA
11—25% of pharmacies	3 (4%)	Afghanistan, Argentina (Province of Buenos Aires), China and UAE
0—10% of pharmacies	9 (13%)	Bosnia and Herzegovina, Brazil, Colombia, Ghana, Jordan, Pakistan, Romania, Thailand and Uruguay
Unknown % of pharmacies	5 (7%)	France, Japan, Mali, Poland and Sierra Leone

Service is available in...	n (%)	List of countries and territories
Service not available, or no response	26 (37%)	Remaining countries and territories in the sample
Regulation of this activity	18 (25%)	Afghanistan, Argentina (Province of Buenos Aires), Australia, Austria, Belgium, Brazil, Colombia, Costa Rica, Croatia, Denmark, Ethiopia, France, Hungary, Iceland, Israel, Italy, Jordan, Mali, Norway, Pakistan, Panama, Poland, Portugal, Romania, Sierra Leone, South Africa, Spain, Sweden, Tanzania, UAE, Uruguay, USA and Vietnam

#### 5.1.1.14 Providing first aid and arranging follow-up care

For the purpose of this survey, “first aid” was defined as providing help to a sick or injured person until full medical treatment is available. In several parts of the world, people may turn to pharmacies to receive first aid.

This service is offered by pharmacies in 27 countries and territories (38%). See Table 37 for further details.

**Table 37. Applying first aid and arranging follow-up care by community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	6 (8%)	Germany, Ireland, Lithuania, Paraguay, Spain and Switzerland
51—75% of pharmacies	3 (4%)	Jordan, Nigeria and Vietnam
26—50% of pharmacies	2 (3%)	Panama and UAE
11—25% of pharmacies	2 (3%)	Afghanistan and Morocco
0—10% of pharmacies	9 (13%)	Argentina (Province of Buenos Aires), Bosnia and Herzegovina, Canada, Ghana, Italy, Netherlands, Portugal, Tanzania and USA
Unknown % of pharmacies	5 (7%)	Australia, France, Israel, Russian Federation and Sierra Leone
Service not available, or no response	44 (62%)	Remaining countries and territories in the sample
Regulation of this activity	16 (23%)	Afghanistan, Australia, Canada, France, Jordan, Lithuania, Panama, Paraguay, Portugal, Russian Federation, Sierra Leone, Spain, Tanzania, UAE, USA and Vietnam

#### 5.1.1.15 Systematic pharmacovigilance

Pharmacovigilance is the process of systematically reporting medicine-medicine interactions, medicine-disease interactions, medicine-patient interactions and medicines-food interactions for the purpose of monitoring any adverse effects and drug-related problems.

This activity is carried out by community pharmacies in 41 countries and territories (58%), and is a regulated role of pharmacies in 38 jurisdictions (54%). Table 38 indicates the extent to which this activity is carried out by pharmacies around the world.

**Table 38. Systematic pharmacovigilance by community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	11 (15%)	Austria, Belgium, Germany, Ireland, Italy, Korea (Rep. of), Lithuania, Netherlands, Nigeria, Spain and Switzerland
51—75% of pharmacies	2 (3%)	Panama and USA
26—50% of pharmacies	3 (4%)	Cuba, Ghana and UAE

Service is available in...	n (%)	List of countries and territories
11—25% of pharmacies	5 (7%)	Croatia, Hungary, Mongolia, Paraguay and Vietnam
0—10% of pharmacies	12 (17%)	Argentina (Province of Buenos Aires), Bolivia, Bosnia and Herzegovina, Brazil, China, Colombia, Jordan, Nepal, Pakistan, Philippines, Tanzania and Uruguay
Unknown % of pharmacies	8 (11%)	France, Japan, Mali, Poland, Portugal, Russian Federation, Sierra Leone and UK
Service not available, or no response	30 (42%)	Remaining countries and territories in the sample
Regulation of this activity	38 (54%)	Afghanistan, Argentina (Province of Buenos Aires), Australia, Austria, Belgium, Bolivia, Bosnia and Herzegovina, Brazil, Colombia, Croatia, Cuba, France, Hungary, Italy, Japan, Jordan, Lithuania, Mali, Mongolia, Nepal, Netherlands, Pakistan, Paraguay, Philippines, Poland, Portugal, Romania, Russian Federation, Senegal, Serbia, Sierra Leone, Spain, Switzerland, Tanzania, UAE, Uruguay, USA and Vietnam

### 5.1.1.16 Home deliveries

Delivery of medicines to a patient's home is offered by community pharmacies in 29 countries and territories (41%). Table 39 provides further details about the availability of this service worldwide.

**Table 39.** Availability of home delivery services by community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	9 (13%)	Canada, Costa Rica, Cuba, Germany, Netherlands, South Africa, Switzerland, UK and Uruguay
51—75% of pharmacies	1 (1%)	Iceland
26—50% of pharmacies	2 (3%)	Belgium and Ireland
11—25% of pharmacies	4 (6%)	Bolivia, Ghana, Israel and USA
0—10% of pharmacies	11 (15%)	Bosnia and Herzegovina, Brazil, China, Finland, Hungary, Italy, Jordan, Mongolia, Panama, Philippines and the Russian Federation
Unknown % of pharmacies	2 (3%)	France and Portugal
Service not available, or no response	42 (59%)	Remaining countries and territories in the sample
Regulation of this activity	19 (27%)	Argentina (Province of Buenos Aires), Australia, Austria, Belgium, Brazil, Costa Rica, Cuba, France, Hungary, Iceland, Israel, Italy, Japan, Morocco, Netherlands, Philippines, Portugal, South Africa and Uruguay

### 5.1.1.17 Home care by pharmacists

Home care was defined for the purpose of this survey as the provision of professional services, such as medication therapy management or disease state management, by a pharmacist at a patient's home or other residential facilities, such as elderly homes or day-care centres. It is an important outreach activity that extends the services of pharmacists beyond the actual space of the pharmacy and into the community, especially for patients who are unable to go to a pharmacy.

This service is offered by community pharmacies in a quarter of the responding countries and territories (18). Table 40 provides details about the availability and regulation of this service in the responding countries and territories.

**Table 40.** Availability of home care services by community pharmacists (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	1 (1%)	Japan
51—75% of pharmacies	0 (0%)	None
26—50% of pharmacies	1 (1%)	Spain
11—25% of pharmacies	3 (4%)	Finland, Panama and Switzerland
0—10% of pharmacies	11 (15%)	Bosnia and Herzegovina, China, Germany, Ghana, Jordan, Morocco, Netherlands, Thailand, UAE, UK and USA
Unknown % of pharmacies	2 (3%)	Costa Rica and Portugal
Service not available, or no response	53 (75%)	Remaining countries and territories in the sample
Regulation of this activity	5 (7%)	Costa Rica, France, Japan, Portugal and USA

### 5.1.1.18 Point-of-care or diagnostic tests

Point-of-care or diagnostic tests include all activities in which the pharmacist or pharmacy staff tests a customer's health condition. This typically includes total cholesterol, blood pressure, blood glucose, etc. Such point-of-care tests can play an important role not only in monitoring particular clinical parameters for managing certain chronic diseases or conditions (such as diabetes, hypertension, hyperlipidaemia, etc.), but also in screening for undiagnosed conditions in the community.

In the survey questionnaire, this point was subdivided into seven specific types of point-of-care or diagnostic tests that are offered by some community pharmacies. The results are presented below.

#### 5.1.1.18.1 Blood pressure measurement

The determination of blood pressure is the most commonly available point-of-care test in community pharmacies among the responding countries and territories. A total of 40 respondents (56%) indicated that the service is offered to some extent. This service is only regulated in 18 jurisdictions (25%). Table 41 provides further details.

**Table 41.** Availability of the service of blood pressure measurement in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	10 (14%)	Bosnia and Herzegovina, Costa Rica, Germany, Lebanon, Lithuania, Portugal, South Africa, Switzerland, UK and USA
51—75% of pharmacies	6 (8%)	Brazil, Ghana, Israel, Nigeria, Panama and Spain
26—50% of pharmacies	7 (10%)	China, Croatia, Iceland, Italy, Mali, Morocco and Vietnam
11—25% of pharmacies	9 (13%)	Afghanistan, Canada, Denmark, Finland, Ireland, Mongolia, Philippines, Romania and Uruguay
0—10% of pharmacies	7 (10%)	Bolivia, Hungary, Indonesia, Netherlands, Pakistan, Tanzania and Thailand
Unknown % of pharmacies	1 (1%)	Poland
Service not available, or no response	31 (44%)	Remaining countries and territories in the sample
Regulation of this activity	18 (25%)	Afghanistan, Australia, Austria, Bosnia and Herzegovina, Brazil, Costa Rica, Hong Kong (China), Hungary, Iceland, Israel, Lebanon, Lithuania, Mongolia, Nigeria, Pakistan, Romania, South Africa and Uruguay

### 5.1.1.18.2 Determination of the blood sugar level (glycaemia)

Monitoring blood sugar levels in patients with diabetes mellitus is essential to achieve glycaemic control.

Table 42 (below) describes the availability of this service in the countries and territories that responded to the survey. The service is available in 38 territories (54%), and is regulated in 21 jurisdictions (30%).

**Table 42.** Availability of point-of-care glycaemia determination in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	8 (11%)	Bosnia and Herzegovina, Germany, Lebanon, Lithuania, Panama, Portugal, South Africa and UK
51—75% of pharmacies	1 (1%)	Mongolia
26—50% of pharmacies	6 (8%)	China, Croatia, Ghana, Italy, Switzerland and USA
11—25% of pharmacies	11 (15%)	Canada, Denmark, Ireland, Jordan, Mali, Morocco, Nigeria, Philippines, Spain, Uruguay and Vietnam
0—10% of pharmacies	10 (14%)	Colombia, Costa Rica, Hungary, Iceland, Indonesia, Netherlands, Pakistan, Romania, Tanzania and Thailand
Unknown % of pharmacies	2 (3%)	Brazil and Japan
Service not available, or no response	33 (46%)	Remaining countries and territories in the sample
Regulation of this activity	21 (30%)	Australia, Austria, Bosnia and Herzegovina, Brazil, Canada, Colombia, Costa Rica, Hungary, Iceland, Israel, Jordan, Lebanon, Mali, Mongolia, Nigeria, Pakistan, Romania, South Africa, Tanzania, Uruguay and USA

### 5.1.1.18.3 Weight, height and body mass index determination

Weight, height and body mass index determination is provided by community pharmacies in 37 countries or territories (52%) that responded to the survey. This figure is broken down per implementation ranges in Table 43.

**Table 43.** Availability of the service of weight, height and/or body mass index determination in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	8 (11%)	Bosnia and Herzegovina, Ethiopia, Germany, Lebanon, Portugal, South Africa, Switzerland and UK
51—75% of pharmacies	4 (6%)	China, Morocco, Nigeria and Spain
26—50% of pharmacies	4 (6%)	Ghana, Israel, Italy and Panama
11—25% of pharmacies	6 (8%)	Brazil, Finland, Ireland, Mali, Mongolia and Philippines
0—10% of pharmacies	13 (18%)	Bolivia, Canada, Croatia, Denmark, Hungary, Iceland, Netherlands, Pakistan, Romania, Tanzania, Thailand, UAE and USA
Unknown % of pharmacies	2 (3%)	Poland and Vietnam
Service not available, or no response	34 (48%)	Remaining countries and territories in the sample
Regulation of this activity	14 (20%)	Australia, Austria, Bosnia and Herzegovina, Brazil, Ethiopia, Hong Kong, China, Hungary, Iceland, Lebanon, Mongolia, Nigeria, Pakistan, South Africa and UAE



#### 5.1.1.18.4 Determination of the blood cholesterol level

Twenty-eight countries and territories (39%) indicated that point-of-care measurement of blood cholesterol levels is available to some extent in community pharmacies. Table 44 provides details of the implementation and regulation of this service.

**Table 44.** Availability of point-of-care blood cholesterol determination in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	5 (7%)	Bosnia and Herzegovina, Panama, Portugal, South Africa and UK
51—75% of pharmacies	1 (1%)	Germany
26—50% of pharmacies	4 (6%)	Italy, Lebanon, Switzerland and USA
11—25% of pharmacies	6 (8%)	Ireland, Mongolia, Nigeria, Philippines, Spain and Uruguay
0—10% of pharmacies	11 (15%)	Canada, China, Croatia, Ghana, Hungary, Iceland, Indonesia, Morocco, Netherlands, Pakistan and Romania
Unknown % of pharmacies	1 (1%)	Brazil and Japan
Service not available, or no response	43 (61%)	Remaining countries and territories in the sample
Regulation of this activity	14 (20%)	Australia, Austria, Bosnia and Herzegovina, Canada, Hungary, Iceland, Israel, Lebanon, Mongolia, Nigeria, Pakistan, South Africa, Uruguay and USA

#### 5.1.1.18.5 Cardiovascular risk assessment

Cardiovascular risk assessment was defined for the purpose of this survey as a group of tests and an evaluation of health factors that have been proven to indicate a person's chance of having a cardiovascular event such as a heart attack or a stroke. Some elements of the assessment may include the person's age, family history, weight, smoking habits, blood pressure, diet, physical activity and diabetes.

This service is offered by some pharmacies in 18 countries, as described in Table 45.

**Table 45.** Availability of cardiovascular risk assessment services in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	0 (0%)	None
51—75% of pharmacies	1 (1%)	Portugal
26—50% of pharmacies	1 (1%)	UK
11—25% of pharmacies	6 (8%)	Canada, China, Ireland, Nigeria, Switzerland and USA
0—10% of pharmacies	9 (13%)	Bosnia and Herzegovina, Croatia, Finland, Germany, Ghana, Hungary, Italy, Mongolia and Netherlands
Unknown % of pharmacies	1 (1%)	Hong Kong (China)
Service not available, or no response	53 (75%)	Remaining countries and territories in the sample
Regulation of this activity	6 (8%)	Bosnia and Herzegovina, Canada, Hong Kong (China), Hungary, Mongolia and Nigeria

#### 5.1.1.18.6 Colon cancer screening

Colorectal cancer often develops from small lesions in the wall of the colon or rectum (such as adenomatous polyps), which may bleed without being noticed. A faecal occult blood test (FOBT) can be used to detect the presence of blood in the stool, and is a useful screening method for colorectal cancer. The role of pharmacies

may be to collaborate in screening campaigns, by raising awareness about the need to regularly screen the early development stages of colorectal cancer. Pharmacies may also distribute the kits for patients to collect stool samples in their homes, and to collect these samples back from patients and forward them to the appropriate laboratory for analysis. This service takes advantage of the network of community pharmacies and explores their potential for participation in public health initiatives, particularly in disease prevention and screening.

This service is available in 11 of the countries (15%) that responded to the survey, with Spain being the only country where it is offered by a larger number of pharmacies. Table 46 provides details of where the service is available and regulated.

**Table 46.** Participation of community pharmacies in colon cancer screening campaigns (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	0 (0%)	None
51—75% of pharmacies	0 (0%)	None
26—50% of pharmacies	1 (1%)	Spain
11—25% of pharmacies	0 (0%)	None
0—10% of pharmacies	9 (13%)	Bosnia and Herzegovina, China, Germany, Ghana, Italy, Netherlands, Nigeria, Portugal and USA
Unknown % of pharmacies	1 (1%)	Switzerland
Service not available, or no response	60 (85%)	Remaining countries and territories in the sample
Regulation of this activity	4 (6%)	Australia, Italy, Spain and USA

#### 5.1.1.18.7 Screening for infectious diseases

In the survey questionnaire, this field related to screening for infectious diseases was open so that respondents could indicate two such diseases for which point-of-care testing is available in community pharmacies in their country or territory. Overall, this is not a commonly offered service by pharmacies worldwide. It is available in some countries for different diseases, and it may constitute an opportunity for community pharmacies to increase their role in public health by expanding the screening for undiagnosed infectious diseases.

**HIV.** HIV testing in community pharmacies is available in three countries: in Mongolia (in 51 to 75% of pharmacies), in Spain (26 to 50% of pharmacies) and in Australia (percentage of pharmacies not indicated). The service is regulated in all three countries. Panama also indicated that the screening of sexually transmitted infections is available at less than 10% of its pharmacies, but did not specify which diseases are covered.

In France, as of September 2015, a self-test for HIV will become available at community pharmacies.

**Tuberculosis.** Diagnostic tests for tuberculosis are available at community pharmacies in Mongolia (in 51 to 75% of pharmacies) and Panama (in less than 10% of pharmacies). The service is regulated in both countries.

**Other diseases.** In Ghana, diagnostic point-of-care tests are available in some community pharmacies for malaria (in 51 to 75% of pharmacies) and typhoid fever (less than 10% of pharmacies).

In Switzerland, testing for bladder infections is available in 11 to 25% of pharmacies.

Rapid point-of-care tests for influenza and streptococcal pharyngitis (“strep throat”) are available in less than 10% of community pharmacies in the USA.

#### 5.1.1.18.8 Other point-of-care tests

Some community pharmacies in Australia and France offer a service for monitoring long-term anticoagulation therapy by determining the international normalised ratio (INR), a standardised measurement of prothrombin time, which is the time it takes blood to clot after addition of tissue factor<sup>12</sup>. In Australia, this service is regulated, but the percentage of pharmacies that offer it was not revealed. In France, this is also a regulated service that was recently introduced and is available so far in up to 10% of the pharmacies.

In Portugal, between 75 and 100% of community pharmacies offer a point-of-care test for determining blood triglycerides levels. The service is regulated.

In Ghana, over three quarters of all pharmacies offer a point-of-care pregnancy test.

In the Philippines, less than 10% of pharmacies offer a bone density determination test.

#### 5.1.1.19 Tuberculosis DOTS programmes

DOTS (directly observed treatment, short-course), is the name given to the tuberculosis (TB) control strategy recommended by the World Health Organization. Through DOTS programmes, pharmacies dispense anti-TB medicines to patients, which are taken under direct observation by pharmacists.

Pharmacists also play an important role in patient counselling and community education about TB, and through a standardised recording and reporting system that allows assessment of treatment results. Furthermore, pharmacies role in referring suspected TB patients to medical doctors is also fundamental to promote the cure of the disease and prevent further transmission in the community. Some pharmacists may also be involved in TB case detection by sputum smear microscopy.

This service is offered by community pharmacies in 14 countries or territories (20%) and is regulated in eight (11%). See Table 47 for implementation details.

**Table 47. Availability of Tuberculosis DOTS programmes in community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	0 (0%)	None
51—75% of pharmacies	1 (1%)	Mongolia
26—50% of pharmacies	1 (1%)	Nigeria
11—25% of pharmacies	1 (1%)	Tanzania
0—10% of pharmacies	9 (13%)	Bosnia and Herzegovina, Costa Rica, Ghana, India, Indonesia, Netherlands, Panama, Philippines and South Africa
Unknown % of pharmacies	2 (3%)	Japan and Nepal
Service not available, or no response	57 (80%)	Remaining countries and territories in the sample
Regulation of this activity	8 (11%)	Chad, Costa Rica, Mongolia, Nepal, Nigeria, Sri Lanka, Tanzania and Vietnam

<sup>12</sup> Plüddemann, A. et al. (2012). *Point-of-care INR coagulometers for self-management of oral anticoagulation: primary care diagnostic technology update*. Br J Gen Pract. 2012 Nov; 62(604): e798–e800. Available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3481522/>.

### 5.1.1.20 Participating in or organising health promotion campaigns

The network of community pharmacies, their closeness to patients and healthy persons in the community and their availability without an appointment places them in an ideal situation to improve public health by raising public awareness about certain health conditions or problems and providing health education and/or professional services for screening patients, detecting risk factors, providing assistance to patients, referring them to appropriate health care professionals, etc.

Community pharmacies participate in public health campaigns in 41 of the responding countries and territories (58%), and this role is formally regulated in 21 of them (30%). See Table 48 for implementation details.

**Table 48. Participation of community pharmacies in public health campaigns (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	9 (13%)	Belgium, Croatia, Denmark, Ethiopia, Ghana, Panama, Portugal, Spain and UK
51—75% of pharmacies	5 (7%)	Ireland, Italy, Mongolia, Switzerland and USA
26—50% of pharmacies	6 (8%)	Canada, Costa Rica, Cuba, Finland, Lebanon and Philippines
11—25% of pharmacies	8 (11%)	Germany, Hungary, Israel, Jordan, South Africa, Tanzania, UAE and Vietnam
0—10% of pharmacies	7 (10%)	Bosnia and Herzegovina, Brazil, Morocco, Netherlands, Nigeria, Romania and Thailand
Unknown % of pharmacies	6 (8%)	France, Japan, Mali, Poland, Russian Federation and Sierra Leone
Service not available, or no response	30 (42%)	Remaining countries and territories in the sample
Regulation of this activity	21 (30%)	Argentina (Province of Buenos Aires), Australia, Austria, Belgium, Brazil, Costa Rica, Cuba, Ethiopia, France, Hong Kong, China, Italy, Jordan, Lebanon, Mongolia, Philippines, Portugal, Russian Federation, Serbia, Sierra Leone, Spain and UAE

### 5.1.1.21 Smoking cessation programmes

A pharmacy-based smoking cessation programme may include several elements that address the complexity of this multifactorial health problem. For example, pharmacists may encourage smokers to consider quitting and remind them that they can turn to the pharmacy for support. It may also include advice on the use of nicotine-replacement therapies or other products, as well as ongoing counselling and support, and referral services when appropriate.

A total of 27 respondents (38%) indicated that community pharmacies offer smoking cessation programmes to some extent. The service is regulated in 11 (15) countries and territories. See Table 49 for implementation details.

**Table 49. Availability of smoking cessation programmes in community pharmacies (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	2 (3%)	Austria and Ireland
51—75% of pharmacies	3 (4%)	France, Mongolia and UK
26—50% of pharmacies	4 (6%)	Israel, Panama, Spain and USA

Service is available in...	n (%)	List of countries and territories
11—25% of pharmacies	5 (7%)	Canada, Denmark, Italy, Switzerland and UAE
0—10% of pharmacies	12 (17%)	Bosnia and Herzegovina, Brazil, China, Costa Rica, Croatia, Finland, Ghana, Korea (Rep. of), Netherlands, Portugal, South Africa and Thailand
Unknown % of pharmacies	1 (1%)	Japan
Service not available, or no response	44 (62%)	Remaining countries and territories in the sample
Regulation of this activity	11 (15%)	Australia, Austria, Bosnia and Herzegovina, Brazil, Canada, France, Hong Kong (China), Mongolia, UAE, USA and Vietnam

### 5.1.1.22 Syringe or needle exchange programmes

Syringe or needle exchange programmes offer injecting drug users the option to exchange used needles for sterile ones and possibly other injection equipment at little or no cost. They are usually part of harm reduction strategies that aim to minimise the health, social and economic consequences of intravenous drug use, such as the transmission of blood-borne diseases through shared syringes or the disposal of injection material on streets or in normal garbage. This service also offers pharmacies the opportunity to provide support to drug users and refer them to other health care professionals or clinics when appropriate.

This service is offered by community pharmacies in 15 countries or territories (21%) and is regulated in eight (11%). See Table 50 for implementation and regulation details.

**Table 50.** Availability of syringe/needle exchange programmes in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	0 (0%)	None
51—75% of pharmacies	2 (3%)	Switzerland and UK
26—50% of pharmacies	2 (3%)	Portugal and Spain
11—25% of pharmacies	1 (1%)	Hungary
0—10% of pharmacies	10 (14%)	Belgium, Bosnia and Herzegovina, Denmark, France, Ireland, Jordan, Netherlands, Tanzania, UAE and USA
Unknown % of pharmacies	0 (0%)	None
Service not available, or no response	56 (79%)	Remaining countries and territories in the sample
Regulation of this activity	8 (11%)	Australia, France, Ireland, Spain, Switzerland, Tanzania, USA and Vietnam

### 5.1.1.23 Methadone maintenance (opioid replacement) therapy

Methadone maintenance (opioid replacement) therapy consists of the dispensing of daily oral administration of methadone over a prolonged period as an oral substitute for heroin or other morphine-like drugs for patients who are dependent on or addicted to these drugs.

This service is available through community pharmacies in 20 countries or territories (28%) and it is regulated in 16 (23%) jurisdictions. Table 51 provides details of where the service is available and regulated.

**Table 51.** Availability of methadone maintenance therapy programmes in community pharmacies (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	2 (3%)	Austria and Croatia
51—75% of pharmacies	2 (3%)	Belgium and UK
26—50% of pharmacies	2 (3%)	Spain and Switzerland
11—25% of pharmacies	2 (3%)	Argentina (Province of Buenos Aires) and Canada
0—10% of pharmacies	10 (14%)	Bosnia and Herzegovina, Germany, Ghana, Italy, Jordan, Netherlands, Norway, Panama, Tanzania and USA
Unknown % of pharmacies	2 (3%)	France and Ireland
Service not available, or no response	51 (72%)	Remaining countries and territories in the sample
Regulation of this activity	16 (23%)	Argentina (Province of Buenos Aires), Australia, Austria, Belgium, Bosnia and Herzegovina, Canada, Croatia, France, Ghana, Ireland, Norway, Spain, Switzerland, Tanzania, USA and Vietnam

#### 5.1.1.24 Other services by community pharmacies

Belgium stated that two patient follow-up services for diabetes and renal failure are available from 51 to 75% of community pharmacies in the country.

Switzerland mentioned the *NetCare* programme, which is a triage system for patients with acute conditions. This service is available in 11 to 25% of Swiss pharmacies.

### 5.1.2 Hospital pharmacy

#### 5.1.2.1 Medicines use review/medication therapy management

Through medicines use review/medication therapy management, hospital pharmacists may discuss patients' medication with the patients themselves and with the members of the health care team attending them. This professional service aims to provide a review of all medicines, identify and intervene in any medicine-related problems, provide additional information on each medicine and possible therapeutic alternatives, and generally optimise medication therapy outcomes.

Table 52 provides an overview of where this service is part of hospital pharmacists' scope of practice, and where it is regulated.

**Table 52.** Provision of medicines use review/medication therapy management services by hospital pharmacists (n=71)

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	11 (15%)	Australia, Canada, Ethiopia, Hungary, Iceland, Iraq, Japan, Netherlands, Spain, Switzerland and USA
51—75% of pharmacies	3 (4%)	China Taiwan, Ghana and Vietnam
26—50% of pharmacies	5 (7%)	Brazil, China, Nigeria, Philippines and UAE
11—25% of pharmacies	7 (10%)	Costa Rica, Indonesia, Pakistan, Panama, Tanzania, Thailand and Uruguay

Service is available in...	n (%)	List of countries and territories
0—10% of pharmacies	8 (11%)	Bolivia, Bosnia and Herzegovina, Croatia, Cuba, Finland, Morocco, Portugal and South Africa
Unknown % of pharmacies	4 (6%)	Israel, Korea (Rep. of), Mali and Sierra Leone
Service not available, or no response	33 (46%)	Remaining countries and territories in the sample
Regulation of this activity	28 (39%)	Austria, Bosnia and Herzegovina, Brazil, Canada, Chad, China Taiwan, Costa Rica, Cuba, Ethiopia, Hong Kong, China, Hungary, Iceland, Indonesia, Iraq, Lebanon, Mongolia, Netherlands, Nigeria, Pakistan, Philippines, Portugal, Serbia, Sierra Leone, South Africa, Tanzania, UAE, Uruguay and Vietnam

### 5.1.2.2 Medicines selection and/or prescription

Through medicines selection and prescription, hospital pharmacists may adopt an active role in assisting clinicians and the whole health care team in selecting the most adequate medicines for any given patient.

Please see Table 53 for details about the availability and regulation of this service around the world.

**Table 53. Medicines selection and prescription by hospital pharmacists (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	15 (21%)	Australia, Canada, China Taiwan, Colombia, Cuba, Ethiopia, Ghana, Hungary, Iraq, Japan, Netherlands, Philippines, South Africa, Switzerland and USA
51—75% of pharmacies	4 (6%)	Afghanistan, Brazil, Uruguay and Vietnam
26—50% of pharmacies	4 (6%)	China, Nigeria, Tanzania and UAE
11—25% of pharmacies	5 (7%)	Mongolia, Pakistan, Panama, Paraguay and Thailand
0—10% of pharmacies	2 (3%)	Bosnia and Herzegovina and Morocco
Unknown % of pharmacies	5 (7%)	Israel, Korea (Rep. of), Mali, Senegal and Sierra Leone
Service not available, or no response	36 (51%)	Remaining countries and territories in the sample
Regulation of this activity	28 (39%)	Afghanistan, Argentina (Province of Buenos Aires), Australia, Austria, Bolivia, Brazil, Canada, China Taiwan, Colombia, Cuba, Ethiopia, Hungary, Iraq, Lebanon, Mali, Mongolia, Nigeria, Pakistan, Paraguay, Philippines, Senegal, Serbia, Sierra Leone, South Africa, Tanzania, UAE, Uruguay, Vietnam and Zimbabwe

### 5.1.2.3 Preparation of personalised medication systems

Preparation of personalised medication systems consists of organising patients' medicines into individual containers or packages and dispensing them in an as ready-to-administer form as possible in order to reduce medication errors and medicines-related costs.

Table 54 describes the implementation pattern for this service and its regulation.

**Table 54. Preparation of personalised medication systems by hospital pharmacists (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	9 (13%)	Australia, Brazil, China Taiwan, Ethiopia, Iraq, Netherlands, Portugal, Switzerland and USA
51—75% of pharmacies	2 (3%)	Japan and Spain
26—50% of pharmacies	7 (10%)	Afghanistan, Argentina (Province of Buenos Aires), Costa Rica, Ghana, Hungary, Philippines and Uruguay
11—25% of pharmacies	2 (3%)	China and Nigeria
0—10% of pharmacies	8 (11%)	Bolivia, Bosnia and Herzegovina, Cuba, Morocco, Pakistan, Panama, Sweden and UAE
Unknown % of pharmacies	3 (4%)	France, Korea (Rep. of) and Sierra Leone
Service not available, or no response	40 (56%)	Remaining countries and territories in the sample
Regulation of this activity	18 (25%)	Afghanistan, Argentina (Province of Buenos Aires), Austria, Brazil, China Taiwan, Cuba, Ethiopia, France, Hungary, Iraq, Netherlands, Nigeria, Pakistan, Philippines, Sierra Leone, Sweden, UAE and Uruguay

#### 5.1.2.4 Pharmaceutical care and patient follow-up

According to the American Society of Health-System Pharmacists, pharmaceutical care in the hospital pharmacy context includes the following elements: collecting and organising patient-specific information, determining the presence of medication-therapy problems, summarising patients' health care needs, specifying pharmacotherapeutic goals, designing a pharmacotherapeutic regimen, designing a monitoring plan, developing a pharmacotherapeutic regimen and corresponding monitoring plan in collaboration with the patient and other health professionals, initiating the pharmacotherapeutic regimen, monitoring the effects of the pharmacotherapeutic regimen, and redesigning the pharmacotherapeutic regimen and monitoring plan.<sup>13</sup>

Table 55 provides details of where this professional activity is practised and regulated.

**Table 55. Pharmaceutical care and patient follow-up by hospital pharmacists (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	6 (8%)	Canada, China Taiwan, Ethiopia, Iraq, Netherlands and USA
51—75% of pharmacies	5 (7%)	Australia, Colombia, Ghana, Japan and Spain
26—50% of pharmacies	8 (11%)	Argentina (Province of Buenos Aires), Brazil, China, Cuba, Philippines, Portugal, Switzerland and UAE
11—25% of pharmacies	6 (8%)	Costa Rica, Hungary, Iceland, Indonesia, Nigeria and Thailand
0—10% of pharmacies	8 (11%)	Bolivia, Bosnia and Herzegovina, Croatia, Morocco, Pakistan, Panama, South Africa and Uruguay
Unknown % of pharmacies	5 (7%)	France, Korea (Rep. of), Sierra Leone, Tanzania and Vietnam
Service not available, or no response	33 (46%)	Remaining countries and territories in the sample

<sup>13</sup> American Society of Health-System Pharmacists (ASHP), *ASHP Guidelines on a Standardized Method for Pharmaceutical Care*. <https://www.ashp.org/DocLibrary/BestPractices/OrgGdlStdMethod.aspx>



Regulation of this activity	25 (35%)	Afghanistan, Argentina (Province of Buenos Aires), Austria, Brazil, Canada, China Taiwan, Colombia, Costa Rica, Cuba, Ethiopia, Hong Kong, China, Hungary, Iceland, Indonesia, Iraq, Japan, Lebanon, Mongolia, Nigeria, Pakistan, Philippines, Sierra Leone, South Africa, UAE and Uruguay
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### 5.1.2.5 Medication reconciliation

As for community pharmacy, medication reconciliation consists of a comprehensive medication therapy review and subsequent formulation of a personal medication record (including the name, dosage, frequency, and administration route for all medicines) for patients transferring between patient care settings or levels of care, in order to compare the medicines a patient is taking (or should be taking) with newly ordered medicines, with the aim of resolving discrepancies and avoiding potential problems.

Table 56 provides an overview of where this service is implemented and regulated.

**Table 56. Medication reconciliation by hospital pharmacists (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	7 (10%)	Australia, Canada, Ethiopia, Hungary, Iraq, Netherlands and USA
51—75% of pharmacies	3 (4%)	Ghana, Japan and Spain
26—50% of pharmacies	3 (4%)	China Taiwan, Cuba and Indonesia
11—25% of pharmacies	7 (10%)	Afghanistan, Brazil, Nigeria, Pakistan, Philippines, Thailand and UAE
0—10% of pharmacies	7 (10%)	Bolivia, Bosnia and Herzegovina, China, Costa Rica, Morocco, Panama and Portugal
Unknown % of pharmacies	4 (6%)	France, Israel, Korea (Rep. of), Sierra Leone
Service not available, or no response	40 (56%)	Remaining countries and territories in the sample
Regulation of this activity	17 (24%)	Afghanistan, Brazil, Canada, China Taiwan, Costa Rica, Cuba, Ethiopia, France, Hong Kong, China, Hungary, Iraq, Netherlands, Pakistan, Philippines, Sierra Leone, Tanzania and UAE

### 5.1.2.6 Collaborative practices with other health care professionals

Collaborative pharmacy practice is defined as the clinical practice where pharmacists collaborate with other health care professionals in order to care for patients, carers and public.

Table 57 indicates the extent to which hospital pharmacists collaborate with other colleagues in the health care team around the world.

**Table 57. Collaborative practices of hospital pharmacists with other health care professionals (n=71)**

Service is available in...	n (%)	List of countries and territories
76—100% of pharmacies	11 (15%)	Australia, Canada, China Taiwan, Cuba, Ethiopia, Ghana, Hungary, Indonesia, Iraq, Netherlands and Portugal
51—75% of pharmacies	6 (8%)	Brazil, Japan, Senegal, Spain, Switzerland and USA
26—50% of pharmacies	1 (1%)	China

11—25%of pharmacies	8 (11%)	Iceland, Mongolia, Pakistan, Panama, Tanzania, Thailand, UAE and Vietnam
0—10%of pharmacies	11 (15%)	Afghanistan, Bolivia, Bosnia and Herzegovina, Costa Rica, Croatia, Finland, Morocco, Nigeria, Philippines, South Africa and Uruguay
Unknown % of pharmacies	5 (7%)	France, Israel, Korea (Rep. of), Russian Federation, Sierra Leone
Service not available, or no response	29 (41%)	Remaining countries and territories in the sample
Regulation of this activity	25 (35%)	Afghanistan, Austria, Brazil, Canada, China Taiwan, Costa Rica, Cuba, Ethiopia, Hong Kong, China, Hungary, Iceland, Iraq, Lebanon, Mongolia, Pakistan, Philippines, Russian Federation, Senegal, Serbia, Sierra Leone, South Africa, Tanzania, UAE, Uruguay and Vietnam

### 5.1.2.7 Influence on prescribing

Hospital pharmacists may influence prescribing by applying their expertise in pharmacotherapeutics to both the clinical management of individual patients, in collaboration with the prescribing physician, and by using medicine-related evidence to inform decisions about the inclusion of the most cost-effective medicines in a hospital formulary, for example.

Table 58 offers an overview of the extent to which hospital pharmacists have an active role in influencing prescribing practices in the responding countries and territories.

**Table 58. Influence on prescribing by hospital pharmacists (n=71)**

Activity practiced in...	n (%)	List of countries and territories
76—100% of pharmacies	9 (13%)	Australia, Ethiopia, Ghana, Hungary, Iraq, Morocco, Netherlands, Portugal and USA
51—75% of pharmacies	4 (6%)	Canada, China Taiwan, Israel and Japan
26—50%of pharmacies	7 (10%)	China, Cuba, Iceland, Indonesia, Nigeria, Tanzania and UAE
11—25%of pharmacies	5 (7%)	Iceland, Mongolia, Pakistan, Panama, Tanzania, Thailand, UAE and Vietnam
0—10%of pharmacies	5 (7%)	Brazil, Costa Rica, Mongolia, Pakistan and Uruguay
Unknown % of pharmacies	5 (7%)	France, Korea (Rep. of), Sierra Leone, Switzerland and Vietnam
Not practiced, or no response	36 (51%)	Remaining countries and territories in the sample
Regulation of this activity	22 (31%)	Afghanistan, Brazil, Canada, China Taiwan, Costa Rica, Cuba, Ethiopia, Hong Kong, China, Hungary, Iceland, Indonesia, Iraq, Lebanon, Mongolia, Pakistan, Philippines, Serbia, Sierra Leone, South Africa, Tanzania, UAE and Uruguay

### 5.1.2.8 Procurement of medicines and medical devices

Procurement is an important part of efficient drug management and supply at all levels in all health care institutions. An effective procurement process ensures the availability of the right drugs in the right quantities, available at the right time, for the right patient and at reasonable prices, and at recognisable standards of quality. Thus, procurement is not simply the act of buying but encompasses a complex range of

operational, business, information technology, safety and risk management, and legal systems, all designed to address an institution's needs.<sup>14</sup>

Table 59 describes the extent to which medicines' procurement is part of hospital pharmacists' activities around the world.

**Table 59. Procurement of medicines and medical devices by hospital pharmacists (n=71)**

Activity practiced in...	n (%)	List of countries and territories
76—100% of pharmacies	25 (35%)	Australia, Bosnia and Herzegovina, Brazil, Canada, China, Colombia, Cuba, Ethiopia, Ghana, Hungary, Indonesia, Iraq, Israel, Japan, Nepal, Netherlands, Philippines, Portugal, South Africa, Switzerland, Thailand, UAE, Uruguay, USA and Vietnam
51—75% of pharmacies	5 (7%)	Afghanistan, China Taiwan, Costa Rica, Mongolia and Nigeria
26—50% of pharmacies	1 (1%)	Pakistan
11—25% of pharmacies	3 (4%)	Morocco, Panama and Senegal
0—10% of pharmacies	1 (1%)	Tanzania
Unknown % of pharmacies	4 (6%)	France, Mali, Russian Federation and Sierra Leone
Not practiced, or no response	32 (45%)	Remaining countries and territories in the sample
Regulation of this activity	39 (55%)	Afghanistan, Argentina (Province of Buenos Aires), Australia, Austria, Bolivia, Bosnia and Herzegovina, Brazil, Chad, China, Colombia, Costa Rica, Croatia, Cuba, Ethiopia, France, Ghana, Hong Kong, China, Hungary, Indonesia, Iraq, Lebanon, Mali, Mongolia, Nepal, Netherlands, Nigeria, Pakistan, Philippines, Russian Federation, Senegal, Serbia, Sierra Leone, South Africa, Sri Lanka, Tanzania, UAE, Uruguay, Vietnam and Zimbabwe

### 5.1.2.9 Access to patient information

Pharmacists should obtain, prepare, or have immediate access to comprehensive medication histories for each patient, from the patient's medical record or other databases (e.g., a medication profile), or both. A pharmacist-conducted medication history for each patient is desirable. Electronic medical records should be constructed so that medication histories and other data required for medication management, including medication reconciliation, are available to all health professionals caring for a patient<sup>15</sup>.

See Table 60 for details about the prevalence and regulation of this aspect of hospital pharmacy practice in the responding countries and territories.

<sup>14</sup> Ombaka, E, 2009. *Current status of medicines procurement*. *American Journal of Health-System Pharmacy*. Available at [http://www.ajhp.org/content/66/5\\_Supplement\\_3/s20.full](http://www.ajhp.org/content/66/5_Supplement_3/s20.full)

<sup>15</sup> American Society of Health-System Pharmacists, 2013. *ASHP Guidelines: Minimum Standard for Pharmacies in Hospitals*. Available at: <https://www.ashp.org/DocLibrary/BestPractices/SettingsGdIMinHosp.aspx>

**Table 60.** Access to patient information by hospital pharmacists (n=71)

Activity practiced in...	n (%)	List of countries and territories
76—100% of pharmacies	13 (18%)	Australia, Canada, China Taiwan, Costa Rica, Cuba, Ethiopia, Ghana, Iraq, Israel, Netherlands, Portugal, Switzerland and USA
51—75% of pharmacies	2 (3%)	Japan and Uruguay
26—50% of pharmacies	6 (8%)	Iceland, Philippines, Spain, Tanzania, Thailand and UAE
11—25% of pharmacies	4 (6%)	Brazil, China, Hungary and Pakistan
0—10% of pharmacies	8 (11%)	Afghanistan, Bolivia, Bosnia and Herzegovina, Indonesia, Mongolia, Nigeria, Panama and South Africa
Unknown % of pharmacies	3 (4%)	France, Korea (Rep. of) and Sierra Leone
Not practiced, or no response	35 (49%)	Remaining countries and territories in the sample
Regulation of this activity	23 (32%)	Afghanistan, Argentina (Province of Buenos Aires), Austria, Brazil, Costa Rica, Cuba, Ethiopia, France, Hong Kong, China, Iceland, Iraq, Japan, Lebanon, Mongolia, Nigeria, Pakistan, Philippines, Serbia, Sierra Leone, South Africa, Tanzania, UAE and Uruguay

#### 5.1.2.10 Other services and activities

Afghanistan reported that systematic pharmacovigilance is practised in less than 10% of the country's hospital pharmacies.

China Taiwan reported that pharmacists provide to support to operating rooms in a few hospital pharmacies (less than 10%), and also that a computerised physician's order entry and clinical decision support system is in place in 75 to 100% of hospital pharmacies.

## 5.2 Recent changes and developments in the scope of practice of community and hospital pharmacies/pharmacists

### 5.2.1 Community pharmacy

When considering how much the profession has changed over the past two and a half years in terms of its scope of practice, we have classified the services and activities described in the previous chapters into four main categories:

1. **Services that aim to improve medicines use** — this covers all professional activities that are focused on individual patients and endeavour to elicit how patients actually use medicines in order to assist them and empower them to obtain the best possible results from their treatment.
2. **Services that are mostly focused on the life cycle of medicines or health care products** — preparation, delivery, disposal).
3. **Prevention and primary health care services**, gathering all activities related to health promotion, disease prevention, disease screening and follow-up of clinical parameters.
4. **Harm reduction activities** — this covers those services provided by pharmacies that help mitigate and minimise in a non-judgemental way the negative health, social and economic consequences of high risk practices, such as drug use.

The services and activities considered in this survey were clustered under these four categories as described in Table 61.

**Table 61.** Classification of professional services and activities by pharmacists/pharmacies

Category	Services or activities
Services for improving medication use	Medicines use review, preparing personalised dosage systems, adherence improvement services, medication reconciliation, asthma management, diabetes management, hypertension management, anticoagulation management, HIV management, hepatitis C management and home care by pharmacists
Product-focused services	Compounding medicines, dispensing emergency contraception medicines, collecting expired medicines for safe disposal, systematic pharmacovigilance and home deliveries of medicines and other health care products
Primary health services	Administration of vaccines, smoking cessation programmes, health campaigns, blood glucose determination, blood pressure measurement, blood cholesterol determination, weight, height and/or BMI determination, cardiovascular risk assessment, colon cancer screening, HIV test (self-test), providing first aid, TB DOTS programmes, TB testing, influenza /strep throat testing
Harm reduction activities	Syringe exchange programmes and methadone maintenance therapy

Undeniably, this classification is imperfect and debatable, as some of these services or activities may be classified in different manners, and some of them — such as dispensing emergency contraception or TB DOTS programmes — certainly have elements from more than one category. This classification was based on key aspects of each particular service.

It should be noted that access to a pharmacist, collaborative practices with other health care professionals, complementary prescribing by pharmacists and independent prescribing by pharmacists were not included

in this classification, since they do not correspond to the notion of professional services or they cannot be classified under any of the four groups. Innovation in these four areas is described in Table 62.

**Table 62.** Recent changes in terms of access to a pharmacist, collaborative practices and prescribing practices by pharmacists (n=71)

Concept or type of activity	New implementers	Increase in relation to 2012	List of countries and territories
Access to a pharmacist	3	5%	Israel, Mongolia and UAE
Collaborative practices with other health care professionals	4	10.3%	Belgium, Brazil, Mongolia and USA
Complementary prescribing by pharmacists	2	25%	USA and Vietnam
Independent prescribing by pharmacists	5	50%	Canada, Israel, Switzerland, UK and USA

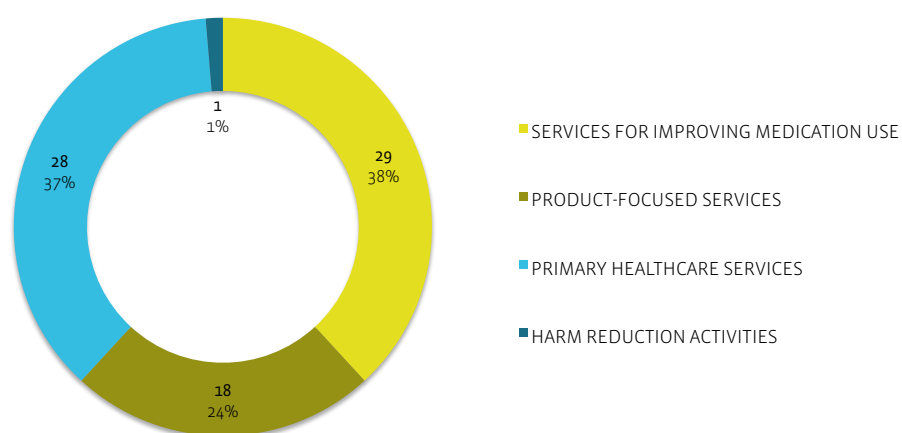
Through this classification in four clusters, we intended to investigate the extent to which the profession has evolved at global and country level towards a focus on the patient and the use of medicines, and towards a greater role of pharmacies in primary health care, in coordination with health care systems. Likewise, we aimed to find out how much innovation there has been within the profession in terms of specific pharmacy services.

For this analysis, any service or activity implemented or regulated to any extent in any country or territory in the study was assigned a value of 1. Hence, the analyses presented below provide an idea of how the focus of pharmacy practice has evolved around those four categories, and of how widely implemented each service is around the world.

In global terms, we observed a 10% increase in the total number of services and activities offered in the surveyed countries and territories, from 748 to 824 (an increase of 76). This represents an increase of the average number of services per country from 10.5 to 11.6.

These 76 newly implemented services are distributed among the four categories as described in Figure 45. Most new services and activities either aim at improving medicines use (38%) or have a primary health care focus (37%).

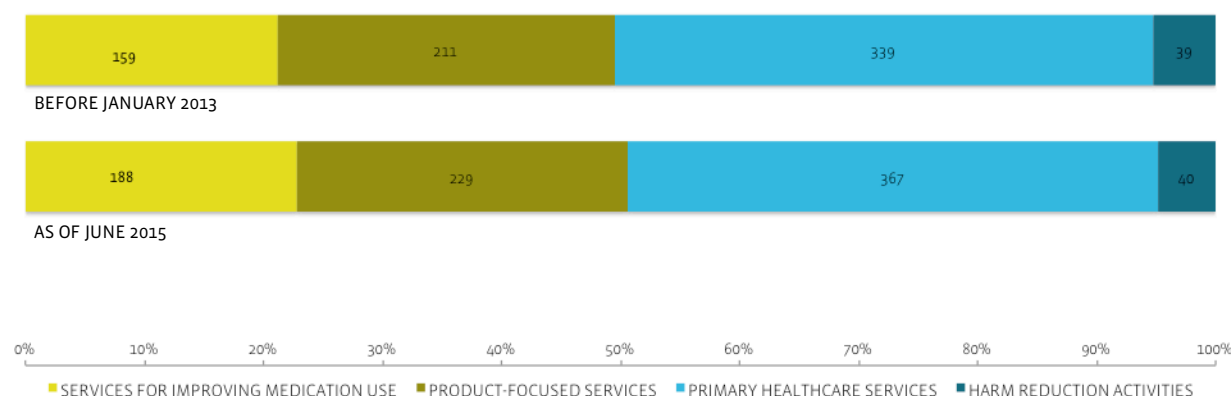
**Figure 45.** Global distribution of newly implemented services in community pharmacy per category (n=76)



In terms of the relative weight of each of the four categories in the overall scope of practice, there has been a slight increase of 1.6% in the share of services focusing on medication use but overall, no major changes have occurred in the balance of these four categories, as can be seen in Figure 46. Nevertheless, the data seem to

suggest that the scope of practice of community pharmacy is gradually expanding towards more patient-focused services for improving medicines use.

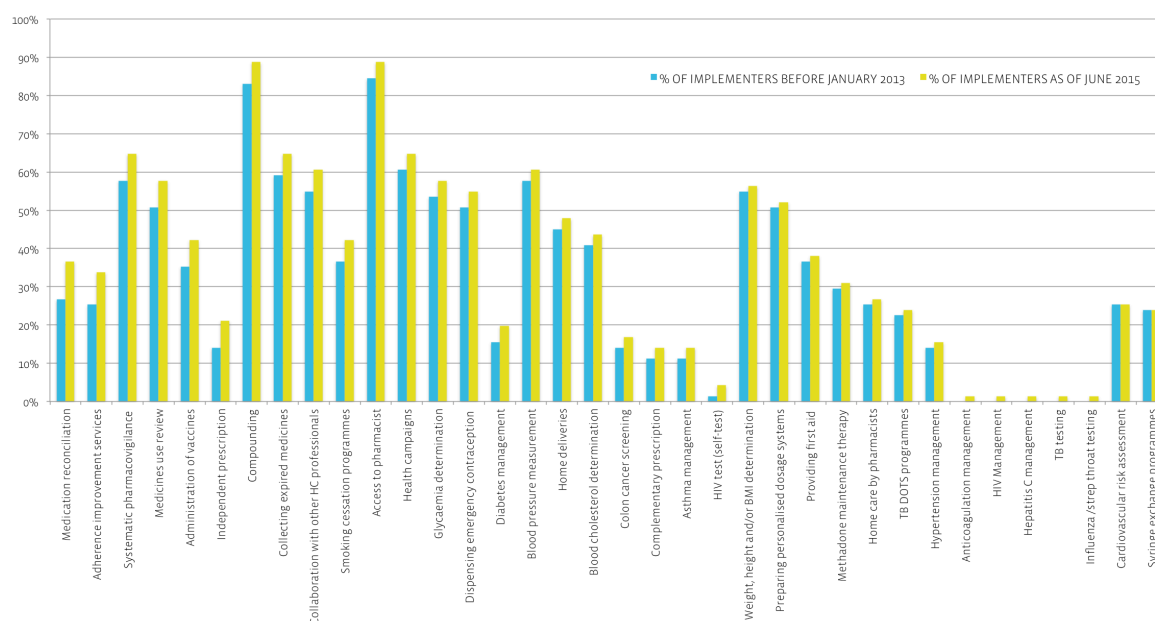
**Figure 46.** Global evolution of the scope of practice of community pharmacies, balance of types of services (2012—2015)



When considering the recent evolution in more detail, it seems that the top five services that mostly increased at global level both in absolute and relative terms, were medication reconciliation (10% increase), various adherence improvement services (8% increase), systematic pharmacovigilance (7%), medicines use review (7%) and administration of vaccines (7%).

Figure 47 illustrates the variation in terms of the percentage of countries and territories (out of 71) that implemented each service either before January 2013, or between January 2013 and June 2015. Note that, for this analysis and the following one, which consider individual services and activities, we included the four exceptions mentioned above (access to a pharmacist, collaborative practices with other health care professionals, complementary prescribing by pharmacists and independent prescribing by pharmacists).

**Figure 47.** Variation in the implementation of community pharmacy services between 2012 and June 2015 (services are ordered according to the amount of variation between the two dates)

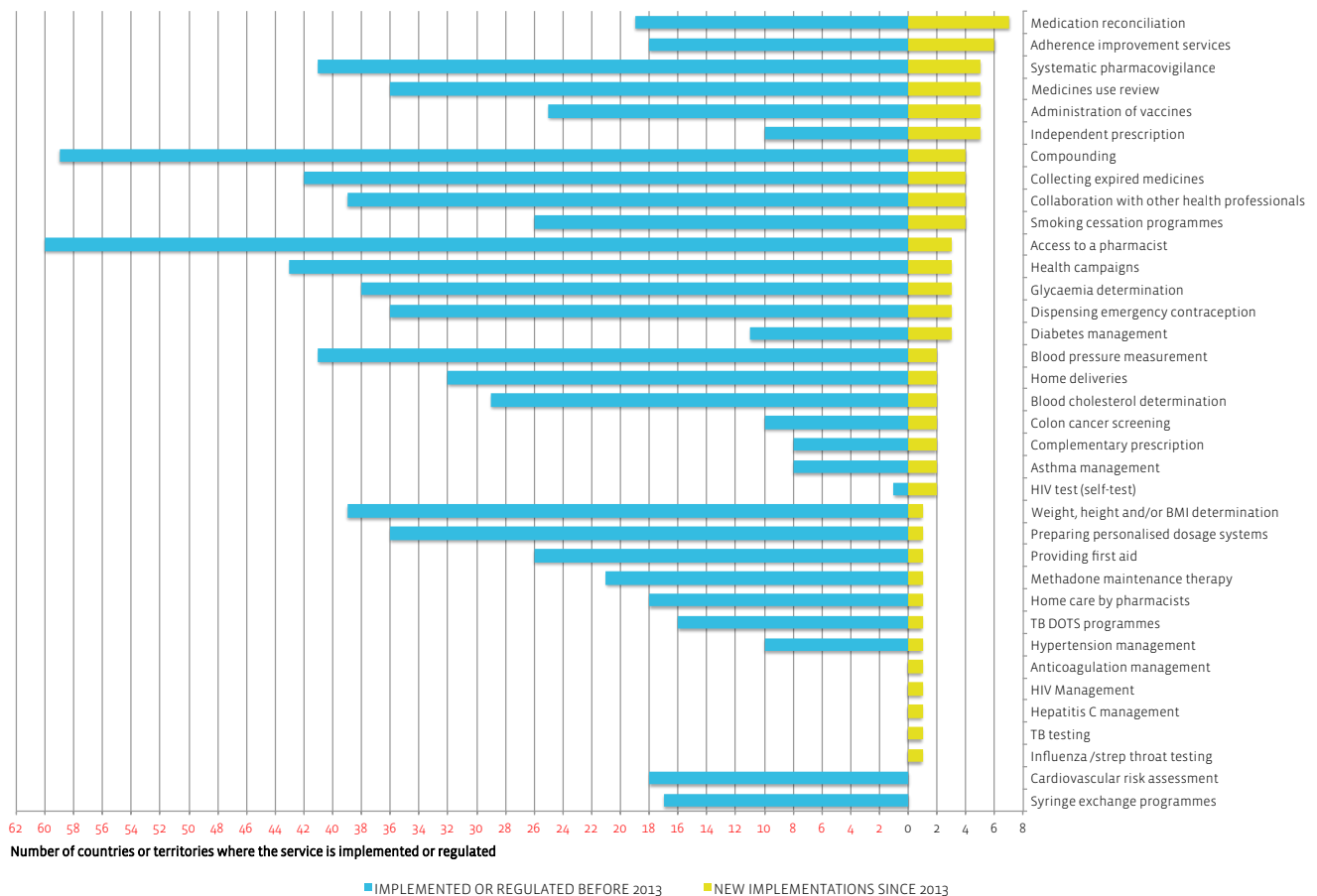


Also for each individual service, we considered the number of countries and territories that have implemented the service before or after January 2013. Figure 48 shows the most prevalent services and activities overall, and the ones that have been most introduced in the past two and half years.

It should be noted that some of the services located in the lower part of the vertical axis can be considered trailblazers, i.e., services not implemented in any of the surveyed countries before January 2013. This is the case, for example, of the management of medicines use in patients on chronic anticoagulation therapy or the point-of-care testing for influenza or strep throat.

Other services, such as cardiovascular risk assessment or syringe exchange programmes, had no new implementers since January 2013.

**Figure 48.** Global prevalence of individual professional services by community pharmacies, and most implemented services since January 2013.

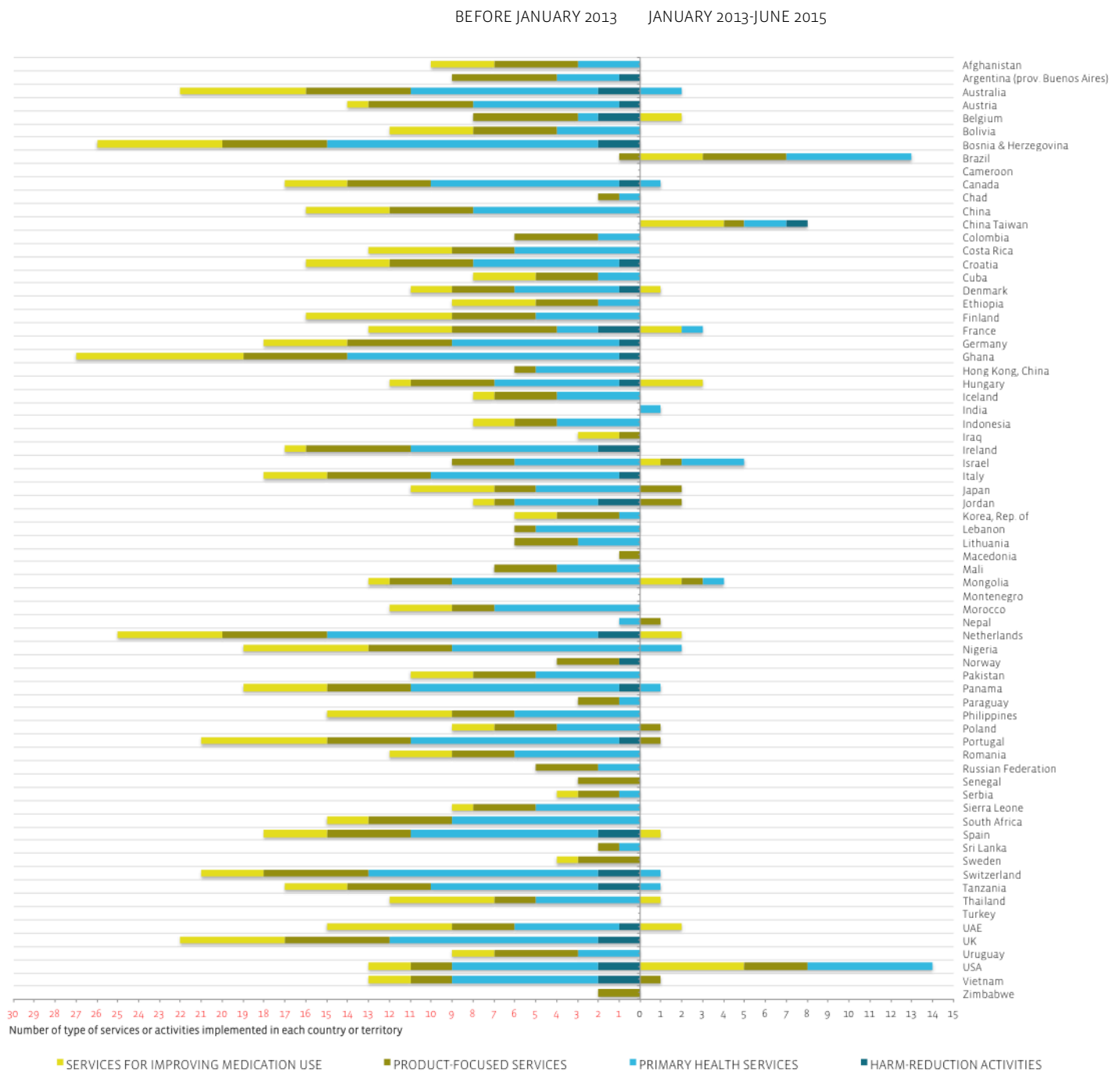


In terms of the evolution of the scope of community pharmacy practice at country level, Figure 49 illustrates how the profession is changing in each country or territory according to the four categories defined above. The graph shows the balance of the four categories in the composition of the scope of practice before January 2013 and as of June 2015.

The USA, Brazil, China Taiwan and Israel were the countries that reported most changes in the past two and half years. Several countries, like Australia, Bosnia and Herzegovina, Ghana, the Netherlands, Portugal, Switzerland and the UK, had a broad scope of services already implemented before January 2013.



**Figure 49.** Community pharmacy scope of practice at country level: balance of types of services and evolution between 2012 and June 2015 (n=71)



### 5.2.2 Hospital pharmacy

With regards to hospital pharmacy, the survey inquired about the implementation and regulation of a list of nine services: pharmaceutical care and patient follow-up, medicines use review, medicines selection and prescription, medication reconciliation, collaboration with other health care professionals, influence on prescribing, access to patient information, procurement of medicines and medical devices and preparing personalised medication systems.

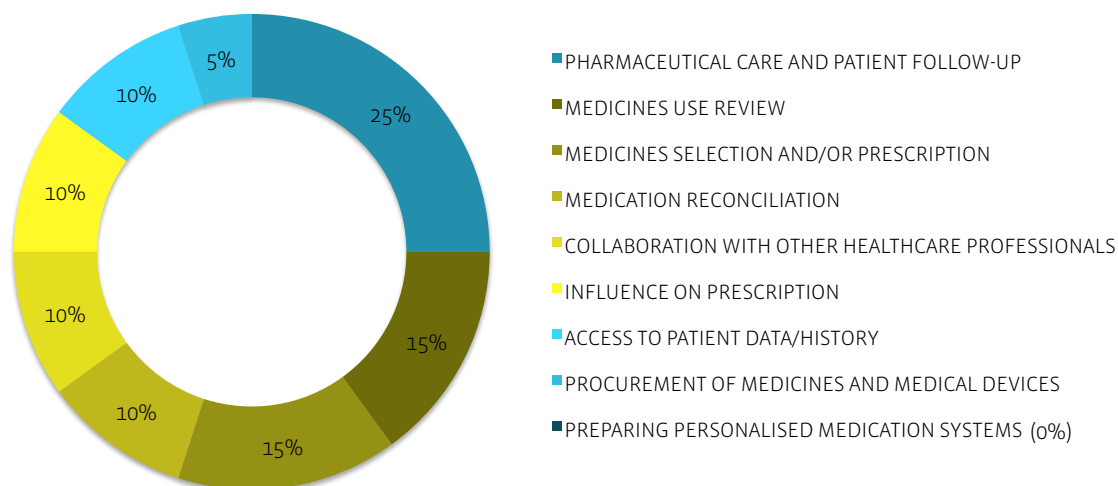
In this case, clustering these services into categories was not deemed necessary, and all nine services are considered individually.

In global terms, we observed a 6% increase in the total number of services and activities offered in the surveyed countries and territories, from 348 to 368 (an increase of 20). This represents an increase of the average number of services per country from 4.9 to 5.2.

Although this is a lower figure than for community pharmacy, it represents a significant amount of change over a period of just 30 months. This lower figure could also be related to a less diversified list of services included in the questionnaire.

The increase of 20 newly implemented services is distributed as described in Figure 50.

**Figure 50.** Global distribution of newly implemented services in hospital pharmacy (n=20)

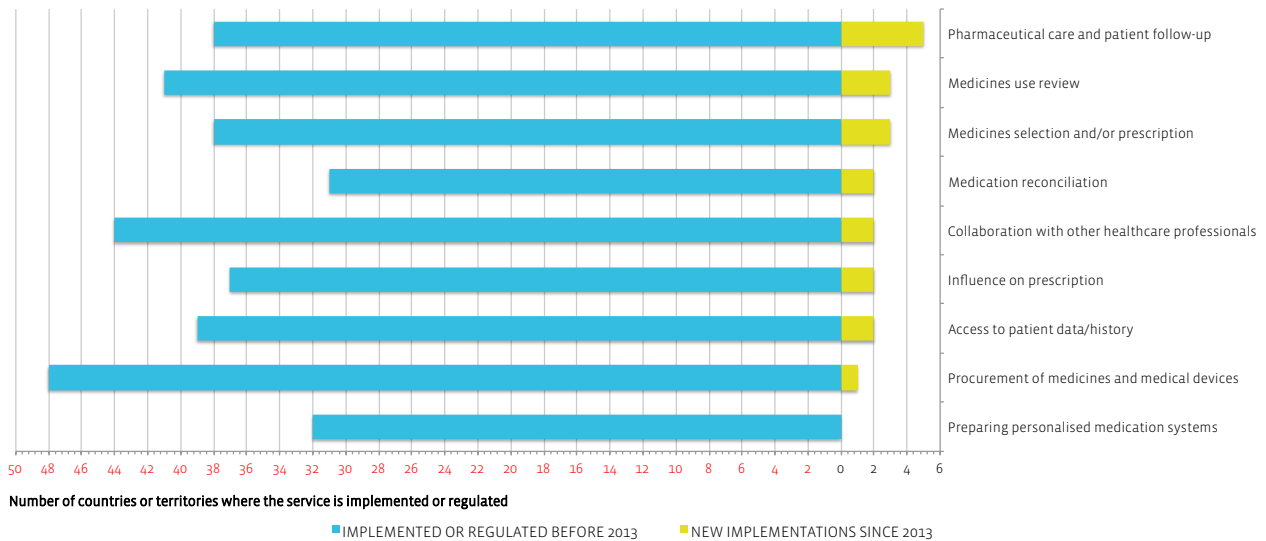


As can be seen in Figures 50 and 51, the most frequently newly implemented hospital pharmacy service between January 2013 and June 2015 was pharmaceutical care and patient follow-up, which amounted to a quarter of all changes. This was followed by medicines use review and medicines selection and prescription.

This is in line with the trend observed for community pharmacy, with a gradual expansion towards activities focusing on the patient and aiming to improve medicines use and health outcomes.

With regards to the evolution of each individual service, we considered the number of countries and territories that implemented the service before or after January 2013. Figure 51 shows the most prevalent services and activities overall, and the ones that have been most introduced in the past two and half years.

**Figure 51.** Global prevalence of individual professional services by hospital pharmacies, and most implemented services since January 2013



As Figure 51 shows, the most prevalent hospital pharmacy activity among the 71 surveyed countries and territories is the procurement of medicines and medical devices, with 49 responses (69%). This was followed by collaborative practices with other health care professionals, with 46 responses.

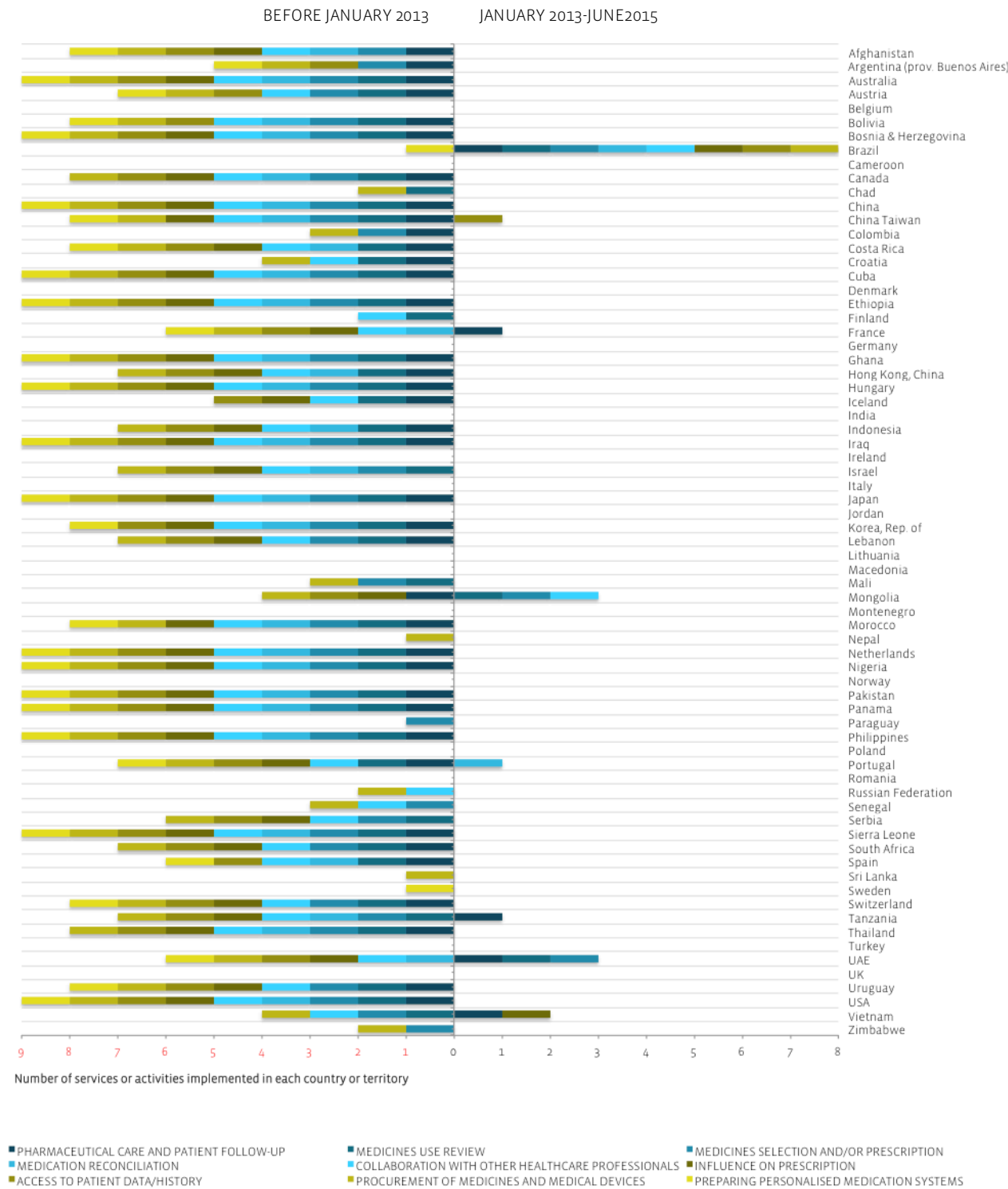
Finally, the scope of practice in hospital pharmacy in each individual country or territory is described in Figure 52, which also illustrates how the list of services varied since January 2013.

Brazil stands out as the country with the most profound change in the scope of practice of its hospital pharmacies, which was also the case for community pharmacy, and may be related to the recent changes in regulations promoted by the country's Federal Council of Pharmacy.

Mongolia and the UAE also had a considerable amount of change, each having implemented three new services or activities.

However, it should be noticed that the section before the “date line” of January 2013 is dense, with many respondents indicating that a good part of the listed services were already in place before January 2013. In fact, 16 countries or territories (22.5%) had already implemented all nine services before 2013. It is therefore unsurprising that the amount of change (or at least with regards to those nine services) is not so high.

Figure 52. Hospital pharmacy scope of practice at country level: services and evolution between 2012 and June 2015 (n=71)



## Final remarks

Globalisation affects our profession in many ways, from macro-economic dynamics to trends in policy-making and even in terms of professional services. In the same way that threats can hardly be contained to a country or a region, neither can ideas and innovative solutions to new and old problems.

As a global federation, FIP and its member organisations form a close network of collaboration and mutual support, through which we can identify global challenges and share local solutions.

With this report, we hope to provide our members with an insight into how much the profession is changing and the trends that may shape it. Likewise, the report offers an overview of the main innovations in terms of pharmacy services, as well as the tactical approaches used in several countries to move the profession in the desired path.

We intend to repeat this exercise periodically in the future, in order to continue monitoring trends, to find out how the changes that are now being negotiated have developed, and to provide up-to-date evidence and analyses that our member organisations may use in advocacy work and strategic planning in your organisation.

We look forward to receiving any comments readers may have on this report, and to hearing how it may have helped to advance pharmacy in our members' countries.



## Appendices

Appendix 1. Glossary

Appendix 2. List of respondents per WHO region

Appendix 3. List of respondents per income level group

Appendix 4. Access to pharmacies, data per country or territory

Appendix 5. Ownership of community pharmacies, data per country or territory

Appendix 6. Social pharmacies models and details

Appendix 7. Countries and territories where community pharmacy licences are required

Appendix 8. Premises and workforce requirements for community pharmacies

Appendix 9. Countries and territories with mandatory quality assurance systems for community pharmacies

Appendix 10. Countries and territories with voluntary quality assurance systems for community pharmacies

Appendix 11. Non-prescription medicines (NPMs): where they can be obtained and respective market shares

Appendix 12. Prescription-only medicines (POMs): where they can be obtained and respective market shares

Appendix 13. Generic substitution in countries or territories where prescription by INN is not mandatory

Appendix 14. Measures to promote the use of generic medicines

Appendix 15. Recent developments in legislation regulating the sales of medicines, medicines pricing or the use of generic medicines. Country details

Appendix 16. Scope of practice. Services offered by community pharmacies, PART 1

Appendix 17. Scope of practice. Services offered by community pharmacies, PART 2

Appendix 18. Scope of practice. Services offered by community pharmacies, PART 3

Appendix 19. Scope of practice. Services offered by hospital pharmacies

## Appendix 1. Glossary

# Glossary

The purpose of this glossary is to support the use of the questionnaire being used for the study entitled *FIP 2015 Global Survey on Trends in the Regulation of Pharmacy and Access to Medicines*, carried out by the International Pharmaceutical Federation (FIP). This is an adapted version of the glossary developed by the working group<sup>16</sup> that conducted the study *International Assessment of Remuneration Models for Community and Hospital Pharmacy* (2013), commissioned by FIP. The definitions used have been taken from the following sources: World Health Organization, Organization for Economic Cooperation and Development, U.S. National Library of Medicine National Institutes of Health, European Association of Hospital Pharmacists, Pharmaceutical Pricing and Reimbursement Information / Vienna WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, European Union legislative documents among others.

Access to a pharmacist	Possibility to consult with a pharmacist and request their professional advice at a community pharmacy whenever the pharmacy is open to the public.
Adherence improvement services	Medication adherence refers to the extent to which a person's behaviour in taking medication corresponds with agreed recommendations/instructions from a health care provider. Adherence improvement services aim to improve medication adherence for patients and help pharmacists to identify those patients who are not taking their medicines appropriately.
Branch pharmacy	A branch pharmacy is attached to a pharmacy and is operated under its supervision. The branch pharmacy has its own independent premises and professionally qualified staff. Branch pharmacies may retail the same products as the pharmacy and may also dispense prescription medicines. Branch pharmacies (or a limited number of branch pharmacies) may be allowed even in countries where pharmacy chains are forbidden.
Cardiovascular risk assessment	A group of tests and evaluation of health factors that have been proven to indicate a person's chance of having a cardiovascular event such as a heart attack or a stroke. Some elements of the assessment may include the person's age, family history, weight, smoking habits, blood pressure, diet, physical activity, diabetes.
Chain (of community pharmacies)	A group of pharmacies owned by the same company, under a common brand name and image.
Community pharmacy	A health care facility dispensing medicines (such as prescription medicines and non-prescription medicines, reimbursable and non-reimbursable medicines) and other health care products to out-patients and offering further services.
Complementary prescribing / dependent prescribing by pharmacists	Legal authority that allows pharmacists to prescribe after the delegation of authority to the pharmacists by an independent prescriber such as a physician.

<sup>16</sup> The working group was formed by Veronika J. Wirtz, Sabine Vogler, Lena Lepuschütz, Zaheer-Ud-Din Babar, Warren A. Kaplan<sup>1</sup> and Erika L. Crable



Compounding area	A designated area with adequate space and conditions for the orderly placement of the equipment and materials used in compounding activities, including the preparation, mixing, assembling, altering, packaging and labelling of a medicine, medicine-delivery device or device.
Disease management programmes in chronic conditions	Disease management programmes are designed to improve the health of persons with chronic conditions and reduce associated costs from avoidable complications by identifying and treating chronic conditions more quickly and more effectively, thus slowing the progression of those diseases. Disease management empowers individuals, working with other health care providers to manage their disease and prevent complications. (AMCP definition)
Dispensing doctors/physicians	Physicians who have been granted the right to dispense medicines to their patients.
Dispensing emergency contraception	Emergency contraception, or post-coital contraception, refers to methods of contraception that can be used to prevent pregnancy in the first few days after unprotected sexual intercourse and contraceptive failure or misuse (such as forgotten pills or torn condoms).
Druggist/parapharmacy	An establishment that sells non-prescription medicines and other health care products without the supervision of a pharmacist, but that may be staffed by pharmacy technicians or a person with an intermediate pharmacy degree
Establishment (market entry)	Setting up and operating a new community pharmacy
First aid	Providing help to a sick or injured person until full medical treatment is available.
Generic substitution	The practice of substituting a prescribed medicine, whether marketed under a trade name or generic name (branded or unbranded generic), with a less expensive equivalent medicine (with the same active ingredient, same dose and same dosage form), such as a branded or unbranded generic.
Health promotion campaigns	Public health campaigns where pharmacies and/or pharmacists take an active role in raising public awareness about certain health conditions or problems and provide health education and professional services for screening patients, detecting risk factors, providing assistance to patients, referring them to appropriate health care professionals, etc.
Home care by pharmacists	The provision of professional services — such as medication therapy management or disease state management — by a pharmacist at a patient's home or other residential facilities, such as homes for the elderly or day-care centres.
Home deliveries	The delivery of medicines to a patient's home. This service does not include the professional services of a pharmacist.
Independent community pharmacy	A community pharmacy that is not part of a chain.
Independent prescribing by pharmacists	Independent prescribing is prescribing by a practitioner eg. doctor, dentist, nurse, pharmacist or optometrist responsible and accountable for the assessment of patients with undiagnosed and diagnosed conditions and for decisions about the clinical management, including prescribing. Pharmacist independent prescribers may prescribe autonomously for any condition within their clinical competence.
Jurisdiction	The country, state, province or region in which an organisation operates
Less regulated system (Liberalised system)	A system where the state gives a higher degree of freedom to private initiative (of individuals or corporations) to operate in a particular field of activity or the economy, through a less restrictive legal framework and a lesser role in overseeing that activity. (See "More regulated system")

Licences for community pharmacies	A licence issued by an official regulatory body, such as a governmental agency, for establishing and operating a community pharmacy
Managing pharmacist/technical director/chief pharmacist	The person responsible for controlling or administering the pharmacy. This person may be a licensed pharmacist but not necessarily in all cases as there are countries/regions where non-pharmacists are allowed to manage a pharmacy. Pharmacy managers / chief pharmacists are employed in those cases where the pharmacy owner does not have role in controlling or administering the pharmacy (e.g. because the pharmacy is owned by a company).
Medication reconciliation	A comprehensive medication therapy review and subsequent formulation of a personal medication record (including the name, dosage, frequency, and administration route for all medicines) for patients transferring between patient care settings or levels of care, in order to compare the medicines a patient is taking (or should be taking) with newly ordered medicines, with the aim of resolving discrepancies or avoiding potential problems.
Medicine use review/medication therapy management	An advanced professional service offered by pharmacists, through which patients may discuss their medication with a qualified pharmacist in a private consultation. It aims to collect patient-specific information, provide a review of all medicines to see if there is any overlap or interactions, give extra information on what medicines are for, discuss side effects of medicines, identify problems associated with medicines and negotiate strategies to improve patient adherence or resolve any medication-related problems.
Methadone maintenance treatment/opiate replacement therapy and other addiction management programmes	The dispensing of daily oral methadone, and supervised administration, over a prolonged period as a substitute for heroin or other morphine-like drugs for patients who are dependent on or addicted to these drugs.
More regulated system	A system where the state holds a stronger role in overseeing and defining criteria through legislation for the functioning of a particular field of activity or the economy. (See “Less regulated system”)
Non-proprietary name prescribing (generic prescribing) (international non-proprietary name, INN)	Prescribing medicines by their non-proprietary name, i.e. the name of the active ingredient instead of the brand name.
Non-prescription medicines	Medicines which may be dispensed without a medical prescription.
Personalised dosage systems/dose administration aids/monitored dosage systems	A medication delivery system or storage device designed to simplify the administration of solid oral dose medicines and improve adherence. The service usually consists in repackaging medicines into labelled compartments according to administration times. The service may be complemented by technological aids that remind patients when to take medicines.
Pharmaceutical wholesaler	An entity performing all activities consisting of procuring, holding, supplying or exporting medicines, apart from supplying medicines to the public.
Pharmacists	Persons who have completed studies in pharmacy at university level (granted by adequate diploma) and who are licensed to practise pharmacy. They may be either salaried or self-employed pharmacists delivering services irrespectively of the place of service provision.
Pharmacovigilance	Systematically reporting medicine-medicine interactions; medicine-disease interactions; medicine-patient interactions and medicines-food interactions
Pharmacy technicians	A health care provider who performs pharmacy-related functions, generally working under the direct supervision of a licensed pharmacist.

Point-of-care or diagnostic tests	All activities in which the pharmacist/pharmacy staff tests the pharmacy customer's health condition. This typically includes total cholesterol, blood pressure, blood glucose, etc.
Prescription medicines (prescription-only medicines)	Medicines that can be dispensed only on written prescription by a medical doctor or another authorised health care professional.
Prescription-only medicines	See "Prescription medicines"
Private consultation room	A space inside the pharmacy for confidential conversation between a pharmacist and a patient about his or her medication and general health matters that cannot be overheard by others. This room may also be used for the provision of professional services by pharmacists, such as administration of injectable medicines, point-of-care tests, medication therapy management and others.
Psychotropic medicines	Any medicine that affects brain function and results in alterations in perception, behaviour, mood or consciousness.
Public dispensing area	A publicly accessible and open space in community pharmacies where non-private interactions between patients/customers and pharmacists or other staff members occur.
Reimbursable non-prescription medicines	Medicines which may be dispensed without a prescription but are eligible for reimbursement and whose costs may be fully or partially (a specific percentage) covered by third party payers.
Reimbursable prescription medicines	Medicines that can be dispensed only on written prescription by a health professional and which are eligible for reimbursement and whose costs may be fully or partially (a specific percentage) covered by third party payers.
Social pharmacies	Pharmacies owned by entities of the social sector of the economy (third sector) such as non-profit organisations, social cooperatives and charity organisations.
Specialty medicines	Usually high-cost medicines which are intended for the use in rare conditions or which require special handling or ongoing clinical assessment or a limited distribution network.
Syringe exchange programmes/needle exchange programmes	Offering injecting drug users the option to exchange used needles for sterile needles and possibly other injection equipment at little or no cost.
Third party payer	Public or private organisation that pays or insures health or medical expenses on behalf of beneficiaries or recipients. Public insurance include national health insurance, social security, <i>mutuelle/mutualiteit</i> , etc.
Tuberculosis DOTS programmes	DOTS (directly observed treatment, short-course), is the name given to the tuberculosis control strategy recommended by the World Health Organization. The provision of DOTS by pharmacists includes case detection by sputum smear microscopy, directly observed standardised treatment regimen, patient education about tuberculosis and a standardised recording and reporting system that allows assessment of treatment results.
Vertical integration	Combined ownership by the same individual owner or corporation of community pharmacies and wholesale companies and/or pharmaceutical manufacturers

## Appendix 2. List of respondents per WHO region

AFRO		EMRO		EURO		PAHO		SEARO		WPRO	
Cameroon Chad Ethiopia Ghana Mali Nigeria Senegal Sierra Leone South Africa Tanzania Zimbabwe		Afghanistan Iraq Jordan Lebanon Morocco Pakistan UAE		Austria Belgium Bosnia and Herzegovina Croatia Denmark Finland France Germany Hungary Iceland Ireland Israel Lithuania Macedonia Montenegro Netherlands Norway Poland Portugal Romania Russia Serbia Spain Sweden Switzerland Turkey UK		Argentina (Buenos Aires) Bolivia Brazil Canada Colombia Costa Rica Cuba Panama Paraguay Uruguay USA		India Indonesia Nepal Sri Lanka Thailand		Australia China China, Taiwan Hong Kong, China Japan Mongolia Philippines Korea (Rep. of) Vietnam	
AFRO	n=11	EMRO	n=7	EURO	n=28	PAHO	n=11	SEARO	n=5	WPRO	n=9
% of sample	15.5%	% of sample	9.9%	% of sample	39.4%	% of sample	15.5%	% of sample	7.0%	% of sample	12.7%
% FIP countries & territories in the region	50% (n=22)	% FIP countries & territories in the region	64% (n=11)	% FIP countries & territories in the region	80% (n=35)	% FIP countries & territories in the region	91.7% (n=12)	% FIP countries & territories in the region	100% (n=5)	% FIP countries & territories in the region	90% (n=10)
% of WHO region	23.4% (n=47)	% of WHO region	33.3% (n=21)	% of WHO region	52.8% (n=53)	% of WHO region	31.4% (n=35)	% of WHO region	45.4% (n=11)	% of WHO region	33.3% (n=27)

Overall % of WHO members= 36,6% (n=194)

### Appendix 3. List of respondents per income level group, using the 2015 classification of the World Bank

Low income		Lower middle income		Upper middle income		High income			
Afghanistan Chad Ethiopia Mali Nepal Sierra Leone Tanzania Zimbabwe		Bolivia Cameroon Ghana India Indonesia Morocco Nigeria Pakistan Philippines Senegal Sri Lanka Vietnam		Argentina Bosnia and Herzegovina Brazil China Colombia Costa Rica Cuba Iraq Jordan Lebanon Macedonia Mongolia Montenegro Panama Paraguay Romania Serbia South Africa Thailand Turkey		Australia Austria Belgium Canada China Taiwan Croatia Denmark Finland France Germany Hong Kong, China Hungary Iceland Ireland Israel Italy Japan Korea, (Rep. of) Lithuania Netherlands Norway Poland Portugal Russian Federation Spain Sweden Switzerland UAE UK Uruguay USA			
n	8	n	12	n	20	n	31	Total	71
% of sample	11.3%	% of sample	16.9%	% of sample	28.1 %	% of sample	43.7%	% of sample	100%
% of FIP countries in this group	57.1% (n=14)	% of FIP countries in this group	52.2% (n=23)	% of FIP countries in this group	86.9 % (n=23)	% of FIP countries in this group	81.6% (n=38)	% of FIP countries & territories	72.4% (n=98)
% of World's low income countries and territories	23.5% (n=34)	% of World's lower middle income countries and territories	24% (n=50)	% of World's upper middle income countries and territories	36.4 % (n=55)	% of World's high income countries and territories	41.3% (n=75)	% of World's countries and territories	33.2% (n=214)

World population covered by this survey: 5.6 billion

% of world population (latest official figures, n=7.1 billion): 78.9%

#### Appendix 4. Access to pharmacies, data per country or territory

Country or territory	Income level	Number of community pharmacies	Inhabitants /pharmacy	Pharmacies/ 10,000 inhabitants	Pharmacies /1,000km <sup>2</sup>
Afghanistan	Low	15,000	1,790	5.59	23.00
Argentina (Province of Buenos Aires)	Upper middle	4,410	9,780	2.65	1.61
Australia	High	5,456	4,322	2.31	0.71
Austria	High	1,328	6,482	1.54	16.11
Belgium	High	4,942	2,278	4.39	163.22
Bolivia	Lower middle	4,380	2,289	4.37	4.04
Bosnia and Herzegovina	Upper middle	1,200	3,125	3.20	23.44
Brazil	Upper middle	77,339	2,644	3.78	9.14
Cameroon	Lower middle	387	56,635	0.18	0.82
Canada	High	9,558	3,740	2.67	1.05
Chad	Low	31	356,125	0.03	0.02
China	Upper middle	432,659	3,168	3.16	46.39
China Taiwan	High	7,900	2,970	3.37	244.89
Colombia	Upper middle	20,000	2,410	4.15	19.25
Costa Rica	Upper middle	1,019	4,684	2.13	19.96
Croatia	High	1,155	3,662	2.73	20.63
Cuba	Upper middle	2,141	5,236	1.91	19.50
Denmark	High	220	25,786	0.39	5.18
Ethiopia	Low	No data	No data	No data	No data
Finland	High	814	6,726	1.49	2.68
France	High	22,510	2,937	3.40	35.15
Germany	High	20,441	3,976	2.52	58.63
Ghana	Lower middle	2,540	10,647	0.94	11.16
Hong Kong, China	High	606	12,023	0.83	574.95
Hungary	High	2,319	4,241	2.36	25.88
Iceland	High	67	4,940	2.02	0.67

Country or territory	Income level	Number of community pharmacies	Inhabitants /pharmacy	Pharmacies/ 10,000 inhabitants	Pharmacies /1,000km <sup>2</sup>
India	Lower middle	700,000	1,730	5.78	244.41
Indonesia	Lower middle	20,496	12,464	0.80	11.31
Iraq	Upper middle	6,586	5,553	1.80	15.06
Ireland	High	1,737	2,666	3.75	25.22
Israel	High	498	16,811	0.59	24.50
Italy	High	18,201	3,339	3.00	61.88
Japan	High	57,071	2,223	4.50	156.58
Jordan	Upper middle	2,747	2,325	4.30	30.93
Korea (Rep. of)	High	21,142	2,394	4.18	211.61
Lebanon	Upper middle	2,744	1,563	6.40	268.23
Lithuania	High	1,384	2,100	4.76	22.08
Macedonia	Upper middle	848	2,442	4.09	33.34
Mali	Low	579	25,093	0.40	0.47
Mongolia	Upper middle	1,200	2,524	3.96	0.77
Montenegro	Upper middle	50	12,400	0.81	3.72
Morocco	Lower middle	12,000	2,807	3.56	26.89
Nepal	Low	16,000	1,752	5.71	111.61
Netherlands	High	1,974	8,578	1.17	58.24
Nigeria	Lower middle	2,800	65,809	0.15	3.07
Norway	High	778	6,676	1.50	2.56
Pakistan	Lower middle	1,200	159,821	0.06	1.36
Panama	Upper middle	1,250	3,011	3.32	16.81
Paraguay	Upper middle	2,545	2,752	3.63	6.41
Philippines	Lower middle	20,000	5,148	1.94	67.08
Poland	High	13,144	2,928	3.42	42.14
Portugal	High	2,885	3,574	2.80	31.54
Romania	Upper middle	8,508	2,330	4.29	37.01
Russia	High	50,674	2,842	3.52	3.09

Country or territory	Income level	Number of community pharmacies	Inhabitants /pharmacy	Pharmacies/ 10,000 inhabitants	Pharmacies /1,000km <sup>2</sup>
Senegal	Lower middle	1,030	13,738	0.73	5.35
Serbia	Upper middle	3,000	2,368	4.22	34.00
Sierra Leone	Low	1,157	5,629	1.78	16.15
South Africa	Upper middle	3,044	18,017	0.56	2.51
Spain	High	21,854	2,120	4.72	43.80
Sri Lanka	Lower middle	2,548	8,114	1.23	40.62
Sweden	High	1,300	7,534	1.33	3.17
Switzerland	High	1,763	4,688	2.13	44.08
Tanzania	Low	847	57,649	0.17	0.96
Thailand	Upper middle	13,555	5,045	1.98	26.53
Turkey	Upper middle	24,614	3,178	3.15	31.98
UAE	High	2,500	3,306	3.03	29.90
UK	High	14,361	4,532	2.21	59.36
Uruguay	High	1,050	3,242	3.08	6.00
USA	High	32,500	9,883	1.01	3.55
Vietnam	Lower middle	10,250	8,957	1.12	33.06
Zimbabwe	Low	451	29,940	0.33	1.17

Countries & Territories	Sum	Average	Average	Average
n=71	1,743,287	15,546	26.32	51.37



## Appendix 5. Ownership of community pharmacies, data per country or territory

ND = No data

NA = Not applicable

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other							
Afghanistan	No	✓	✓	✓				✓	✓	No						✓	ND	ND	2	786 Pharmacies	2	No	
Argentina (Province of Buenos Aires)	No	✓	✓		✓	✓				Yes	✓	✓	✓			✓	Yes ND	Yes ND	4	ND	ND	No	
Australia	Yes	✓	✓							No	✓	✓	✓	✓	✓	✓	Yes ND	No	ND	My Chemist Retail Group (branded as Chemist Warehouse)	19	No	
																				Sigma Pharmaceuticals	16		
																				Australian Pharmaceutical Industries Ltd.	9.5		
Austria	Yes	✓	✓	✓					✓	No						No	NA	NA	NA	NA	NA	✓	
Belgium	No	✓	✓	✓	✓			✓	✓	Yes							✓	No	Yes ND	15	All social pharmacies together	12	✓
																					Other chains of pharmacies (of >6 pharmacies each)	2.5	
																					Lloydspharma	2	
Bolivia	No	✓	✓	✓	✓		✓	✓	✓	Yes							✓	No	Yes ND	20	Farmacorp	8	ND
																					Farmacias Bolivia	5	
																					Farmacias	4	
																					Farmacias Chavez	2	
																					Farmacias Eliezer	1	
Bosnia and Herzegovina	No	✓		✓	✓	✓			✓	No							✓	No	Yes 400	70	Moja apoteka	6	No
																					JU Apoteke Sarajevo	6	
																					BPharm	4	
																					Lupriv	4	
																					Oaza zdravlja	3	
Brazil	No	✓	✓	✓	✓	✓	✓	✓	✓	No	✓					✓	No	No	20	No data	ND	No	

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other							
Cameroon	Yes	✓	✓					✓		No	✓	✓	✓	✓	✓	✓	No	NA	NA	NA	Not applicable	NA	No
Canada	No	✓	✓		✓			✓		No		✓	✓	✓			✓	No	No	64	Shopper's Drug mart	31.8	✓
																					Katz Group (branded as Rexall/Rexall Pharma Plus)	16.7	
																					Jean Coutu	12.2	
																					McKesson (branded as Medicine Shoppe franchise & other brands)	7.9	
Chad	Yes	✓								No	✓	✓	✓	✓	✓		No	Yes ND	NA	NA	NA	NA	No
China	No	✓		✓	✓				✓								✓	No	No	36.6	Chongqing TongJunGe Drugstore Chain Company	1.9	✓
																					Guangdong Dashenlin Chain Drugstore Ltd.	1.5	
																					GuoDa Drugstore	2.2	
																					Laobaixing Pharmacy	1.3	
																					Yunnan Hongxiang Yixintang Pharmacy	1.4	
China Taiwan	Yes	✓								No							✓	ND	ND	ND	ND	ND	ND
Colombia	No	✓	✓	✓	✓	✓	✓	✓	✓	No							✓	No	No	10	ND	ND	✓
Costa Rica	No	✓		✓	✓	✓	✓	✓	✓	No							✓	No	No	30	Fischel	7.8	✓
																					Sucre	6.8	
																					Walmart	5.3	
																					Chavarría	2.2	
																					Don Gerardo	2	
Croatia	No	✓		✓	✓	✓			✓	Yes							✓	No	Yes ND	70	Prima Pharme	10	✓
																					Pablo	ND	
																					Gradska ljekarna Zagreb	ND	
																					Vaše Zdravlje	ND	
																					ZU Farmacia	ND	

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?	
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other								
Cuba	No					✓				No							No	NA	NA	NA	NA	NA	NA	No
Denmark	Yes	✓								No	✓	✓	✓	✓	✓	✓	No	NA	NA	NA	NA	NA	NA	No
Ethiopia	No	✓	✓	✓	✓	✓	✓	✓	✓	No							✓	No	No	ND	ND	ND	✓	
Finland	Yes	✓								No	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No	
France	Yes	✓	✓							Yes	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No	
Germany	Yes	✓	✓							No							No	NA	NA	NA	NA	NA	No	
Ghana	No	✓	✓	✓	✓	✓	✓	✓	✓	No							✓	No	Yes 400	18	ND	ND	✓	
Hong Kong. China	No	✓	✓	✓	✓				✓	Yes							✓	No	No	16	Watsons	8.6	✓	
Hungary	No	✓		✓	✓	✓		✓	✓	No	✓	✓	✓				✓	Yes ND	No	25	ND	ND	No	
Iceland	No	✓	✓	✓	✓				✓	No							✓	No	No	70	ND	ND	✓	
India	No	✓		✓	✓	✓			✓	No						✓	✓	No	No	ND	ND	ND	ND	
Indonesia	No	✓	✓	✓	✓		✓	✓	✓	No							✓	No	No	5	ND	ND	No	
Iraq	Yes	✓								No	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No	
Ireland	No	✓	✓	✓	✓				✓	No							✓	No	No	52	Boots	16	✓	
																					Lloyds	5		
Israel	No	✓	✓	✓	✓	✓		✓	✓	No	✓						✓	No	No	30	ND	ND	✓	
Italy	Yes	✓	✓			✓				Yes	✓		✓			✓	✓	No	No	1.7	Boots	5	No	
																					Celesio	0.9		
Japan	No	✓	✓	✓	✓		✓		✓	No							✓	No	No	ND	Ain Pharmaciez Inc.	2.2	✓	
																					Nihon Chouzai Co.,Ltd.	2.1		
																					Qol Co., Ltd.	1.3		
																					Sogo Medical Co., Ltd.	1		
																					Medical System Network Co., Ltd.	0.9		

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other							
Jordan	Yes	✓	✓			✓	✓	✓		No		✓	✓		✓		✓	Yes ND	Yes ND	NA	Pharmacy ONEI	8	No
																					Dawacom	5	
																					Orange Pharmacy	1	
																					Drug Centre	0.5	
Korea (Rep. of)	Yes	✓								No	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No
Lebanon	Yes	✓								No	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No
Lithuania	No	✓		✓	✓	✓	✓	✓	✓	Yes	✓	✓	✓		✓		✓	No	No	85	Camelia vaistine	30	✓
																					Eurovaistine	30	
																					Gintarine vaistine	24	
																					Benu vaistine	9	
																					Norfos vaistine	8	
Macedonia	Yes	✓	✓							No							✓	No	Yes 100	26	ND	ND	No
Mali	Yes	✓	✓					✓		No	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No
Mongolia	No	✓	✓	✓	✓			✓	✓	No							✓	No	No	ND	Asia pharma	N/A	✓
																					Europharma	N/A	
																					MEIC	N/A	
																					Monos pharma	N/A	
Montenegro	No	✓		✓	✓	✓		✓	✓	No							✓	No	No	ND	Montefarm	35	✓
																					Lijek	20	
																					Tea Medica	15	
																					Meditas	3	
Morocco	Yes	✓	✓							No							No	NA	NA	NA	NA	NA	No
Nepal	No	✓	✓	✓					✓	Yes							✓	ND	NA	1	ND	ND	ND

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other							
Netherlands	No	✓	✓	✓	✓	✓	✓	✓	✓	No	✓						✓	No	No	32	Mediq	11	✓
																					BENU	5	
																					Alliance	3	
Nigeria	Yes	✓					✓	✓		No	✓	✓	✓	✓	✓		✓	No	Yes 200	10	Health plus pharmacy	5	No
																					Mediplus	3	
																					Alph	2	
Norway	No	✓	✓	✓	✓	✓	✓	✓	✓	No	✓		✓				✓	No	No	85	Apotek 1	37	✓
																					Vitusapotek	28	
																					Boots	0.2	
Pakistan	Yes		✓							No			✓	✓	✓		✓	No	Yes ND	40	ND	ND	No
Panama	No	✓	✓	✓	✓	✓	✓	✓	✓	Yes	✓				✓		✓	No	No	20	Cadenas Rey-Metro Plus	10	✓
																					Cadena 99	8	
																					Farmacias Arrocha	3	
																					Farmacias Extra	1	
																					Farmacias Veraguas	1	
Paraguay	No	✓	✓	✓	✓	✓		✓	✓	Yes							✓	No	No	20	Farmacenter	16	✓
																					Vicente Scavone	5	
																					Punto farma Mayo	5	
																					Farmatitu	3	
																					Mayo	3	
Philippines	No	✓	✓	✓	✓	✓	✓	✓	✓	Yes							✓	No	No	90	Mercury Drug Corporation	47	✓
																					Watsons Philippines	6	
																					South Star Drugstore	ND	
																					The Generics Pharmacy	ND	
																					Generika Drugstore	ND	
Poland	No	✓		✓	✓					No	✓	✓					✓	No	No	40	Dbam o Zdrowie (DOZ)	5	ND
																					Dr. Max	2.5	
																					Farmacol	1.5	

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?	
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other								
Portugal	No	✓	✓	✓	✓				✓	Yes	✓	✓	✓	✓	✓		No	Yes 4	No	NA	NA	NA	No	
Romania	No	✓		✓	✓				✓	No							✓	No	No	56	Catena	NA	✓	
																					Farmacia Richter	NA		
																					Farmaciile Dona	NA		
																					Help Net	NA		
																					Sensiblu	NA		
Russia	No	✓		✓	✓	✓	✓	✓	No								✓	No	No	64.2	A.V.E. Group	3.1	✓	
																					Rigla	3.11		
																					Doctor Stoletov (including Ponds)	2.39		
																					Implosion	2.28		
																					A5 Group	2.21		
Senegal	Yes	✓								No	✓	✓	✓	✓	✓		No	NA	NA	NA	NA	NA	No	
Serbia	No	✓		✓	✓	✓		✓	✓	No							✓	No	No	ND	ND	ND	✓	
Sierra Leone	No	✓	✓	✓	✓		✓		✓	Yes							✓	ND	No	2	ND	ND	✓	
South Africa	No	✓		✓	✓	✓		✓	✓	Yes	✓		✓				✓	No	Yes ND	42	Clicks	18.4	No	
																					Courier pharmacies	ND		
																					Dischem	ND		
																					Medirite	ND		
																					PicknPay	ND		
Spain	Yes	✓	✓							No	✓	✓	✓	✓	✓	✓	No	NA	NA	NA	Not applicable	NA	No	
Sri Lanka	No	✓	✓	✓	✓	✓		✓	✓	No								✓	No	No	9	Cargills	6.12	✓
																						Arpico	3.6	
																						Raajya Osusala	1.1	
																						Harcourts	0.8	
																						Healthguard	0.4	

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?							Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?	
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals		Other	Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics								Other
Sweden	No	✓	✓	✓	✓	✓			✓	No	✓	✓	✓				✓	No	No	92	Apotek Hjärtat AB	30	✓
																					Apoteket AB	25	
																					Kronans Apotek AB	21	
																					Apoteksgruppen	10	
																					Lloyds Apotek	ND	
Switzerland	No	✓	✓	✓	✓	✓	✓	✓	No							✓	No	No	40	Amavita	25	✓	
																				Sun Store	7		
																				Benu	6		
																				Bähler	3		
Tanzania	No	✓	✓	✓	✓	✓		✓	✓	No							✓	No	No	ND	ND	ND	ND
Thailand	No	✓	✓	✓	✓	✓	✓	✓	Yes							✓	✓	No	No	NA	Boots Retails	2	✓
																					Watson	1.5	
																					P&F	0.3	
Turkey	Yes	✓								No							No	NA	NA	NA	NA	NA	✓
UAE	No	✓		✓				✓	✓	No							✓	No	No	50	Healthfirst	12.5	✓
																					Ibn Sina	12.5	
																					Aster	10	
																					Other chains: Life, Medcina, Al Manara	10	
																					Boots	5	
UK	No	✓	✓		✓					No							✓	No	No	64	Boots	20	✓
																					LloydsPharmacy	11.1	
																					Co-operative/Well	5.4	
																					rowlands pharmacy	3.5	
																					Tesco	2.3	

Country or territory	Ownership restricted to pharmacists?	Who can own community pharmacies?								Do social pharmacies exist?	Who is not allowed to own a community pharmacy?						Do pharmacy chains exist?	Max. number of pharmacies per owner?	Min. distance pharm. of same owner? (m)	% pharmacies in chains	Top chains	Market share of each top chain (%)	Vertical integration allowed?
		Individual pharmacists	Partnerships of pharmacists	Non-pharmacists	Limited companies	The state	Universities	Hospitals	Other		Physicians /prescribers	Wholesalers	Pharm. Industry	Third party payers	Private clinics	Other							
Uruguay	No	✓	✓	✓	✓	✓	✓	✓	✓	Yes	✓						✓	Yes 15	Yes 1 Km	16	Farmashop	11	✓
																					San Roque	3	
																					Lyon Pigalle	ND	
																					Remediar	ND	
																					3 chains: Tienda Inglesa, Tunel- Sacoa y Trouville	ND	
USA	No	✓	✓	✓	✓	✓	✓	✓	✓	Yes	✓					✓	✓	No	No	51	Walgreens	25	No
																					CVS	24	
																					Rite Aid	14	
																					Walmart	14	
Vietnam	Yes	✓						✓		Yes	✓				✓		✓	No	No	0.01	ND	ND	No
Zimbabwe	Yes	✓	✓			✓		✓		No	✓						✓	No	No	18	Premier Service	5.2	✓
																					Greetings Pharmacies	3.1	
																					Kenlink Pharmacies	2.9	
																					Medix Pharmacies	2.9	

Note: The existence of pharmacy chains is not incompatible with ownership restriction to pharmacists provided that the chain is owned by a (group of) pharmacist(s).



## Appendix 6. Social pharmacies models and details

Country or territory	Brief description of existing social pharmacy models
Argentina (Province of Buenos Aires)	Mutual associations, syndicates and welfare organisations that exclusively serve their affiliates. They have to abide by the general establishment criteria for community pharmacies (demographic and geographic).
Belgium	Social pharmacies are owned by third party payers ( <i>mutualités</i> ). Apart from the ownership model, there is no other difference to other pharmacies, and they serve the same population.
Bolivia	There are only a few owned by the church. Their prices are cheaper and they are for people with little resources.
Croatia	There is only one social pharmacy in Zagreb, owned by Caritas (a charity organisation). It serves disadvantaged citizens, and they obtain medicines at no cost.
France	In France, there are 52 pharmacies belonging to private social insurance companies ( <i>pharmacies mutualistes</i> ) and 57 pharmacies belonging to the miners' social security scheme. A managing pharmacist runs those pharmacies without owning them. These pharmacies serve only patients who are affiliated to this specific social insurance scheme.
Germany	The German Pharmacy Law contains the possibility for municipalities to open a "Notapotheke" if this is ultimately necessary to avoid a state of emergency because no pharmacist is willing to establish a pharmacy in a certain region (Section 17 Pharmacy Law). In such a case, the municipality would have to apply for the licence (instead of a pharmacist), and employ a responsible pharmacist. This has never been used, because there have always been enough community pharmacies.
Hong Kong, China	A non-governmental organisation (NGO), St James Settlement, owns a community pharmacy to provide dispensing service to people in need.
Italy	In theory pharmacies owned by municipalities are considered as social pharmacies. In practice, no difference exists with private pharmacies.
Japan	There is no difference other than their ownership. The practice is expected to be the same, though it may depend on the purpose.
Lithuania	Lithuania has charity pharmacies run by the Catholic church. They serve socially supported patients, by providing medicines at no cost.
Nepal	Social pharmacies are run by charity organisations, usually around hospitals.
Panama	Social pharmacies work as "Patronatos" (public-private partnerships). The economic contribution is public and private, including NGOs. They are for patients with little resources, after economic and social evaluation.
Paraguay	The local health council supports the creation of non-profit social pharmacies whose activities aim to cover the health needs of people in situations of social exclusion. There are no differences in terms of the required qualification.
Philippines	The government has a programme called <i>Botika ng Barangay</i> that allows non-profit organisations and social cooperatives to set up a community pharmacy that provides a set of OTC medicines and a limited number of prescription medicines (antimicrobials, etc). This was intended to address the geographical accessibility issue of some localities. However, the government no longer allows the opening of such outlets, and is instead converting them to regular pharmacies or RONPDs (retail outlets of non-prescription drugs).
Portugal	Social pharmacies are owned by entities such as mutual insurance organisations and Catholic charities. The legal regime is the same for community pharmacies (same opening hours, open to the general public, same establishment criteria, products and services) except for the rules concerning exemptions to ownership since these legal entities (social economy) have a tax exemption regime.

Country or territory	Brief description of existing social pharmacy models
Sierra Leone	Social pharmacies are owned by NGOs that offer health-related services to the community. They have a specific target population they serve. For example, the Planned Parenthood Association Sierra Leone owns a social pharmacy attached to its clinic. Its services target mostly young women of child-bearing age and offer reproductive health and birth control services. The range of medicines stocked are mostly non-prescription medicines.
South Africa	Few have a primary health care focus
Thailand	Some universities run social pharmacies.
Uruguay	An example is the Pharmacy of the Red Cross of Uruguay ( <i>Farmacia Cruz Roja Uruguay</i> ). Regulations are the same as for community pharmacies.
USA	Some of these pharmacies are government owned or funded entities or are charity organisation run or supported and even staffed by volunteers.
Vietnam	Some rural provinces want to keep subsidised pharmacies in order to help poorer people. The People's Committee pays for a part of the cost and the pharmacy covers the remainder part.

## Appendix 7. List of countries and territories where community pharmacy licences are required

Country or territory	Who issues community pharmacy licences?	Duration of licences (years)	Can they be sold?	Can they be inherited?
Afghanistan	Governmental agency	5	Yes	ND
Australia	Approval to dispense PBS medicines in a pharmacy is subject to approval by the Secretary of the Department of Health or a delegate. Recommendations for approval of applications are made by the Australian Community Pharmacy Authority (the ACPA). The approval and regulation of pharmacy premises are the responsibility of authorities that operate in the Australian State and Territories.	1	Yes	Yes
Austria	The licence for the establishment of a new pharmacy is granted by the district authority in the location where the pharmacy is planned to be situated. A licence to operate an already existing pharmacy is granted by the Austrian Chamber of Pharmacists	Indefinite	Yes	Yes
Belgium	Ministry responsible for public health	Indefinite	Yes	No
Bolivia	Health Secretary ( <i>Secretaría de Salud</i> )	Indefinite	Yes	No
Bosnia and Herzegovina	Ministry of Health	Indefinite	Yes	No
Brazil	Anvisa (National Health Surveillance Agency)	No data	Yes	No
Cameroon	Council of the Order of Pharmacists (Pharmaceutical Society)	Indefinite	No	No
Chad	Ministry of Health	Indefinite	No	No
China	Local Food and Drug Administration at county or city level	5	Yes	Yes
Costa Rica	Pharmaceutical Society (Colegio de Farmacéuticos) and Ministry of Health	2	Yes	Yes
Croatia	Ministry of Health	Indefinite	Yes	No
Denmark	National Board of Health	Indefinite	No	No
Ethiopia	Health Bureau/Regional office of the Food, Medicine and Health Care Administration and Control Authority	5	No	No
Finland	Finnish Medicines Agency	Indefinite	No	No
France	Regional health authority	Indefinite	Yes	Yes
Germany	Competent authorities of the Federal States	Indefinite	No	No
Ghana	Pharmacy Council	1	Yes	Yes
Hong Kong, China	Department of Health	1	No	No
Hungary	National Institute of Pharmacy and Nutrition	Indefinite	No	No
Iceland	MA (Icelandic Medicines Agency)	Indefinite	No	No
India	State Drugs Control Department	5	No	No
Indonesia	DinKes (Health Department Office in the region)	5	No	No
Iraq	Syndicate of Iraqi Pharmacists	1	Yes	Yes
Israel	Ministry of Health	Depends on inspections	Yes	Yes
Japan	The governor (or the mayor)	6	No	No

Country or territory	Who issues community pharmacy licences?	Duration of licences (years)	Can they be sold?	Can they be inherited?
Jordan	Jordan Food and Drug Administration	Indefinite	No	Yes
Korea (Rep. of)	Ministry of Health and Welfare	Indefinite	No	No
Lebanon	Ministry of Health	Indefinite	Yes	No
Lithuania	State Medicines Control Agency	Indefinite	Yes	No
Macedonia	Ministry of Health	Indefinite	No	No
Mali	Ministry of Health	Indefinite	Yes	No
Mongolia	Special Permission Committee of local area	5	No	No
Montenegro	No data	Indefinite	No data	No data
Morocco	Ministry of Home Affairs & National Council of the Order of Pharmacists	Indefinite	No	No
Nepal	Department of Drug Administration, Ministry of Health	No data	No	No
Nigeria	Pharmacists Council of Nigeria	1	No	No
Norway	Norwegian Medicines Agency	Indefinite	No	No
Pakistan	Ministry of Health	5	No	No
Panama	Ministry of Health, National Pharmacy and Drug Administration	1	Yes	Yes
Philippines	Food and Drug Administration	3	No	No
Poland	Regional Pharmaceutical Inspectorate (Law Farm. Article 99) after hearing the opinion of the Pharmaceutical Chamber (Law on Chambers of Article 7)	No data	No data	No data
Portugal	INFARMED (National Institute for Pharmacy and Medicines; regulatory agency)	Indefinite	Yes	Yes
Romania	Ministry of Health	Indefinite	Yes	Yes
Russian Federation	Regional Ministry of Health and Federal Service of Healthcare Surveillance of Russian Federation	Indefinite	No	No
Senegal	Ministry of Health	Indefinite	Yes	No
Sierra Leone	Pharmacy Board of Sierra Leone	1	Yes	Yes
South Africa	National Department of Health	No data	Yes	No
Spain	Regional Departments of Health (Consejerías de Sanidad de las Comunidades Autónomas)	Indefinite	Yes	Yes
Sri Lanka	Ministry of Health	1	No	No
Tanzania	Pharmacy Council	1	No	No
Thailand	Food and Drug Administration	1	Yes	Yes
UAE	Ministry of Health and local authorities	1	Yes	Yes
UK	Local Clinical Commissioning Group	No data	Yes	No
Uruguay	Ministry of Public Health (Ministerio de Salud Pública)	5	Yes	No
USA	State Boards of Pharmacy	1	No data	No data
Vietnam	The Health Bureau of Provinces (State)	5	No	No
Zimbabwe	Medicines Regulatory Authority, Local Authority and Health Professions Authority	1	No	No

## Appendix 8. Premises and workforce requirements for community pharmacies, country data

Country or territory	Premises requirements						Workforce requirements				
	Minimum surface (m <sup>2</sup> )	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff	Observations/details
Afghanistan	53	✓	✓	✓	✓		✓		✓		
Argentina (Province of Buenos Aires)	50	✓	✓	✓	✓	Toilets	✓	✓			One pharmacist/6 employees
Australia	10	✓		✓		Min. dispensing area 10m <sup>2</sup>	*	✓			There must be a pharmacist present whenever a pharmacy is open. (*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
Austria	120	✓		✓	✓		✓				On average 11 employees per pharmacy, 3-4 are pharmacists.
Belgium		✓	✓	✓	✓		✓				
Bolivia	45	✓		✓	✓		✓			✓	
Bosnia and Herzegovina	70	✓	✓	✓	✓		✓	✓	✓		One pharmacist and 0.5 technicians per shift
Brazil		✓	✓				✓			✓	
Cameroon		✓		✓	✓		✓	✓	✓	✓	One or several assisting pharmacists. Trainees and pharmacy students may execute statutory operations.
Canada		✓	✓	✓	✓		✓				
Chad							*				(*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
China		✓	✓	✓	✓		✓		✓	✓	Additional staff: traditional Chinese medicine dispenser; salesperson.
China Taiwan	18	✓	✓	✓			✓				
Colombia		✓		✓			✓	✓			

Country or territory	Premises requirements						Workforce requirements				
	Minimum surface (m <sup>2</sup> )	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff	Observations/details
Costa Rica		✓	✓	✓			✓			✓	Workforce requirements depend on pharmacy's workload and services, including certified technicians and other support workforce. If the pharmacy administers IV medicines or measures blood pressure, this must be done by a competent professional, according to legislation.
Croatia	85	✓		✓	✓	Pharmacy manager's office, wardrobe for employees, kitchen, toilet, washing area	✓	✓			At least 2 pharmacists for pharmacies open from 07.00-20.00 h
Cuba		✓		✓	✓		✓		✓	✓	There must be at least 2 pharmacy employees.
Denmark		✓		✓	✓		*	✓	✓		(*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
Ethiopia		✓		✓	✓		✓				
Finland		✓		✓		The law only states that the space should be sufficient.	*	✓			Sufficient staff with pharmaceutical education. (*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
France				✓	✓		✓	✓	✓		
Germany	110	✓		✓	✓	Room for night duty	✓	✓	✓		Required staff, especially pharmacists, must be available in sufficient numbers to ensure the proper operation of the pharmacy. Pharmaceutical activities cannot be conducted by anyone but pharmacists.
Ghana		✓	✓	✓	✓		✓		✓	✓	
Hong Kong, China				✓			✓				
Hungary	80	✓	✓	✓	✓		✓	✓	✓		Number of pharmacists and technicians will depend on the number of prescriptions and pharmacy care services, and opening hours

Country or territory	Premises requirements						Workforce requirements				
	Minimum surface (m <sup>2</sup> )	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff	Observations/details
Iceland			✓	✓			✓	✓			Always 2 pharmacists on duty but it is possible to get an exemption for 1 pharmacist on duty
India	10			✓	✓	Compounding area only if it is called a pharmacy. Only pharmacies can do compounding, apart from selling pre-packed medicines. If the name is “chemist and druggist” (usually called medical stores), there is no such requirement.	✓				At least one registered pharmacist is required.
Indonesia		✓	✓	✓	✓		✓	✓	✓		A second pharmacist is required if the pharmacist is on leave
Iraq	20	✓		✓	✓		✓			✓	A janitor is required.
Ireland			✓								
Israel	60	✓	✓	✓	✓	Office	✓	✓	✓	✓	Number of pharmacists depends on workload since only a pharmacist can hand out medicines. Technicians must be licensed.
Italy							*				(*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
Japan				✓	✓		✓	✓			The number of pharmacists engaged in dispensing must be more than the number arrived at when average number of prescriptions filled per day is divided by 40.
Jordan		✓	✓	✓	✓	Special area for keeping narcotics	*	✓			A pharmacist must be on duty to dispense medicines (*No specific requirement reported, but ownership is restricted to pharmacists)

Country or territory	Premises requirements					Workforce requirements				
	Minimum surface (m <sup>2</sup> )	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff
Korea (Rep. of)				✓	✓		*			(*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
Lebanon	72	✓	✓	✓	✓		✓			
Lithuania	30	✓		✓	✓		✓			
Macedonia	26	✓		✓	✓		✓		✓	
Mali	77	✓			✓		✓	✓	✓	✓
Mongolia		✓		✓	✓	Space requirements depend on pharmacy category. Other required spaces: toilet and information board.	✓	✓	✓	✓
Montenegro		✓		✓	✓		✓		✓	
Morocco	25			✓			✓	✓		Another pharmacist is required when turnover is > MAD 3.5m (EUR 320,000)
Nepal	120	✓	✓		✓		✓		✓	
Netherlands		✓		✓			✓			
Nigeria	200	✓	✓	✓	✓		✓	✓	✓	✓
Norway		✓	✓	✓	✓		✓			
Pakistan							*			(*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)
Panama		✓	✓	✓	✓		✓	✓	✓	There must be 3 technicians for every pharmacist.
Paraguay					✓		✓		✓	



Country or territory	Premises requirements						Workforce requirements				
	Minimum surface (m <sup>2</sup> )	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff	Observations/details
Philippines	15	✓			✓		✓		✓		Technicians must be trained and certified by appropriate government agency (Technical Education and Skills Development Authority)
Poland	80	✓				In towns of max. 1,500 inhabitants, area must be at least 60m <sup>2</sup> . Pharmacies must be on ground floor and be accessible for people with disabilities.	✓				
Portugal	95	✓	✓	✓	✓		✓	✓			At least 2 pharmacists per pharmacy (including the technical director)
Romania	50	✓	✓	✓	✓		✓			✓	
Russian Federation		✓		✓			✓	✓	✓		Pharmacists and technicians must be certified.
Senegal		✓	✓		✓		*				(*No specific requirement reported, but pharmacy ownership is restricted to pharmacists.)
Serbia	75	✓		✓	✓		✓	✓	✓		Pharmacists must be licensed by Pharmaceutical Chamber of Serbia. Technicians must be licensed by Chamber of Nurses and Health Technicians of Serbia.
Sierra Leone	37	✓	✓	✓		Office for pharmacist	✓		✓		
South Africa			✓	✓	✓		✓				Details at <a href="http://www.sapc.za.org/G_PublicationsD.asp">http://www.sapc.za.org/G_PublicationsD.asp</a>
Spain	70	✓	✓	✓	✓		✓	✓			The number of pharmacists will be considered according to the activity of the pharmacy.
Sri Lanka		✓		✓			✓				

Country or territory	Premises requirements						Workforce requirements				
	Minimum surface (m²)	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff	Observations/details
Sweden		✓						✓			At least one pharmacist or prescriptionist <sup>17</sup> that is responsible for ensuring that the quality of the services provided by the pharmacy meet the criteria set by the government and who is approved by the Medical Products Agency. At least one pharmacist or prescriptionist has to be present at all times that the pharmacy is open.
Switzerland		✓	✓	✓	✓	Space requirements are specified in canton health laws. Pharmacy premises must be fire-safe.	✓				
Tanzania		✓	✓	✓	✓		✓		✓		
Thailand											
Turkey	35				✓		✓	✓			For pharmacies that have a turnover > TRY 3m (EUR 985,000) per year, there must be at least one more pharmacist other than the owner of the pharmacy. This pharmacist is called second pharmacist.
UAE	30	✓		✓	✓	OTC area	✓	✓	✓	✓	A second pharmacist is required If the pharmacy is open for more than 8 and less than 12 hours a day, and 4 licensed pharmacists are required for pharmacies open 24 hours/day. Other staff: cashier, general salesperson.

<sup>17</sup> A prescriptionist is a pharmacy professional with a three-year, first-cycle study university programme education (bachelor's degree) that provides knowledge in chemistry, biological science and pharmaceutical science. Most prescriptionists work in community pharmacies, dispensing medicines and providing advice to patients.

Country or territory	Premises requirements						Workforce requirements				
	Minimum surface (m <sup>2</sup> )	Dispensing area	Private consult. room	Storage area	Other areas	Observations/details	Managing pharmacist	Other pharmacists	Pharmacy technicians	Other staff	Observations/details
UK						Space/functional areas requirements are based on specific scenario and volume of services / items dispensed		✓		✓	In England, the Pharmaceutical Services Negotiating Committee (PSNC) determines the number of dispensing staff hours that must be logged for the number of prescriptions dispensed.
Uruguay	42	✓		✓	✓	Toilet	✓		✓		Technicians must have a degree issued by an authorised institution or a certificate issued by the managing pharmacist, indicating a minimum experience of 5 years.
USA		✓	✓	✓	✓	Some state laws have specific space requirements	✓	✓	✓	✓	Pharmacist licensure requirements
Vietnam	10	✓	✓	✓	✓		✓		✓		
Zimbabwe	10	✓	✓		✓		*	✓			At least one pharmacist is required. (*No specific requirement reported, but pharmacy ownership is restricted to pharmacists)

## Appendix 9. Countries and territories with mandatory quality assurance systems for community pharmacies (n=41)

Country or territory	Brief description	Website/reference
Belgium	Pharmacy inspectors from the Federal Agency for Medicines and Health Products verify that pharmacists operate according to legislation. Following good pharmacy practice standards is part of the legal obligations, verified by pharmacy inspectors	<a href="http://goo.gl/XpwVKi">http://goo.gl/XpwVKi</a>
Bosnia and Herzegovina	Agency for Quality and Accreditation of Healthcare in the Federation of Bosnia and Herzegovina (AKAZ). Safety Standards for Pharmacies (May 2013)	<a href="http://goo.gl/ANnp9x">http://goo.gl/ANnp9x</a>
Brazil	Quality assurance is done by the National Health Surveillance Agency (ANVISA), based on its resolution RDC 44 (2009), on good pharmacy practice. This resolution defines quality standards for dispensing and selling medicines and health care products, and providing pharmaceutical services in community pharmacies and drug shops.	<a href="http://goo.gl/wOSiyl">http://goo.gl/wOSiyl</a>
China	Good Supply Practice for Pharmaceutical Products. Ministry of Health, Order N° 90 (2013)	<a href="http://goo.gl/8aAEq6">http://goo.gl/8aAEq6</a>
Colombia	The National Institute for Food and Drug Surveillance (INVIMA) is charged with quality assurance, based on Decree 2200 (2005) and Decree 2330 (2006), regulated by the court ruling 1403 (2006).	<a href="https://goo.gl/hj65Oo">https://goo.gl/hj65Oo</a> and <a href="https://goo.gl/4jPqSv">https://goo.gl/4jPqSv</a>
Costa Rica	The Ministry of Health is in charge of quality assurance, based on Decree 31969-S (2008)	<a href="http://goo.gl/oDhWkc">http://goo.gl/oDhWkc</a>
Cuba	Manual of Standards and Procedures for Community Pharmacies (Ministry of Public Health, 2005)	<a href="http://goo.gl/p6ksdF">http://goo.gl/p6ksdF</a>
Denmark	The Danish Healthcare Quality Programme provides accreditation standards for good quality — along with methods to measure and control this quality. Assessment is based on the “Accreditation standards for community pharmacies, 2nd version” (June 2012)	<a href="http://goo.gl/5PgX6l">http://goo.gl/5PgX6l</a>
Ethiopia	The Food, Medicine and Health Care Administration and Control Authority (FMHACA) was established to ensure the safety and quality of products and health services. The FMHACA's mandates include the registration, licensing and inspection of health professionals, pharmaceuticals, food establishments, and health institutions.	<a href="http://www.fmhaca.org.et">www.fmhaca.org.et</a>
Finland	The Finnish Medicines Agency performs infrequent standard evaluations based on their annual plans.	<a href="http://www.fimea.fi">www.fimea.fi</a>
Germany	Section 2a of the Ordinance on the Operation of Pharmacies (see B.1.7)	<a href="https://goo.gl/CmrWUE">https://goo.gl/CmrWUE</a>
Ghana	Pharmacy Council of Ghana. Enforcement of the laws governing pharmacy practice through inspections and monitoring of pharmaceutical service providers; conducting special investigative inspections; implementing enforcement actions of the disciplinary and general purpose committees.	<a href="http://goo.gl/zzQoCv">http://goo.gl/zzQoCv</a>
Hong Kong, China	Regular inspection by Department of Health	<a href="http://www.drugoffice.gov.hk">www.drugoffice.gov.hk</a>

Country or territory	Brief description	Website/reference
Hungary	No description available	<a href="http://www.mgyk.hu">www.mgyk.hu</a>
Iceland	Medicines Agency audits pharmacies regularly.	<a href="http://www.ima.is">www.ima.is</a>
Iraq	A list of requirements and procedures is used to assess quality before the licence is granted.	<a href="http://www.iraqipharm.com">www.iraqipharm.com</a>
Ireland	Inspections by the Pharmaceutical Society of Ireland	<a href="http://www.thepsi.ie">www.thepsi.ie</a>
Israel	No description available	<a href="http://www.health.gov.il">www.health.gov.il</a>
Japan	On-site inspection by local health authorities at the time of permission renewal.	No website available
Lithuania	No description available	<a href="https://goo.gl/Dc9Dok">https://goo.gl/Dc9Dok</a>
Mongolia	The Ministry of Health inspects pharmacies in accordance with checklist.	<a href="http://www.inspection.gov.mn">www.inspection.gov.mn</a>
Montenegro	No description available	No website available
Netherlands	All pharmacies are under supervision of governmental inspectors. There is an annual survey of quality indicators, for which pharmacists are obliged to provide their data	<a href="http://goo.gl/e8SZYr">http://goo.gl/e8SZYr</a>
Nigeria	No description available	No website available
Norway	Pharmacies are by law obliged to have an internal control system.	<a href="https://goo.gl/2ll3x6">https://goo.gl/2ll3x6</a>
Pakistan	No description available	No website available
Panama	Quality audits. Good storage practices. Good pharmacy practice.	<a href="http://goo.gl/PTcAG6">http://goo.gl/PTcAG6</a>
Paraguay	Decree N° 498/14 approving the guidelines for assessing the implementation of good pharmacy practice standards	<a href="http://goo.gl/WawW3Z">http://goo.gl/WawW3Z</a>

Country or territory	Brief description	Website/reference
Philippines	All drugstores with approved licence to operate shall be subjected to routine inspection for their compliance to good distribution and storage practices and other relevant and applicable practices. Major variation applications may require post-licensing inspection prior to the approval of such variation.	<a href="http://goo.gl/aGm3W7">http://goo.gl/aGm3W7</a>
Poland	No description available	No website available
Portugal	Pharmacies can develop and implement their own quality programme or can implement one of the quality programmes available in the Portuguese market, including ISO 9001 certification	<a href="http://goo.gl/yBFQh2">http://goo.gl/yBFQh2</a>
Romania	Romanian Pharmacists College. The national pharmacists guild has set out quality standards for community pharmacy practice. These standards are verified annually by representatives of the guild.	<a href="http://goo.gl/UOqecX">http://goo.gl/UOqecX</a>
Sierra Leone	Prior to issuance of licenses, the regulatory body conducts a suitability inspection at the proposed outlet to ensure that it meets the minimum standards outlined by the Pharmacy Board. Failing this, the application is rejected and the applicant would be advised to make the necessary corrections.	No website available
South Africa	There is a good pharmacy practice (GPP) guideline	<a href="http://goo.gl/JmECBH">http://goo.gl/JmECBH</a>
Sri Lanka	Inspections by the Ministry of Health	<a href="http://www.cdda.gov.lk">www.cdda.gov.lk</a>
UAE	20 CPE hours annually for pharmacists and 15 for assistants	<a href="http://www.cpd-pharma.ae">www.cpd-pharma.ae</a> and <a href="http://www.moh.gov.ae">www.moh.gov.ae</a>
UK	General Pharmaceutical Council — pharmacy industry regulator. Pharmacies/pharmacists have to be approved by the regulator	<a href="http://goo.gl/ZY7IAq">http://goo.gl/ZY7IAq</a>
Uruguay	Monitoring inspections. Control of environmental conditions and documents to testify the fulfilment of applicable regulations (i.e. control of medicines and psychotropics) and technical-administrative procedures referred to the different service phases.	No website available
USA	Some states have continuous quality improvement programmes (e.g. Florida)	No website available
Vietnam	WHO GPP Guideline	<a href="http://www.dav.gov.vn">www.dav.gov.vn</a>
Zimbabwe	Regulatory authority control	<a href="http://www.mcaz.co.zw">www.mcaz.co.zw</a>

## Appendix 10. Countries and territories with voluntary quality assurance systems for community pharmacies (n=30)

Country or territory	Brief description	Website/reference
Australia	The Pharmacy Guild of Australia's Quality Care Pharmacy Programme (QCPP) is a quality assurance programme for community pharmacy, and provides support and guidance on professional health services and pharmacy business operations. By increasing the number of accredited pharmacies in Australia, the QCPP aims to ensure that community pharmacies provide quality professional services and customer care. The QCPP was developed by the Pharmacy Guild of Australia in 1997 in consultation with the Pharmaceutical Society of Australia and other industry stakeholders. In 1998, the first accreditation was awarded to a pharmacy. As of 2011, the QCPP was recognised as Australian Standard 85000:2011 - quality management system for pharmacies in Australia. The guild is accredited by Standards Australia as a Standards Development Organisation, and the QCPP is accredited by Joint Accreditation System of Australia and New Zealand as a conformity assessment body. As of 1 September 2014, approximately 93 per cent of Australian community pharmacies are QCPP accredited	<a href="http://www.qcpp.com/">http://www.qcpp.com/</a>
Austria	No description available	No website available
Bosnia and Herzegovina	No description available	<a href="http://www.akaz.ba/">http://www.akaz.ba/</a>
Canada	SafetyNET-Rx is a continuous quality improvement programme designed to improve quality related event (QRE) (i.e. medication errors and near misses) reporting and learning in community pharmacies. SafetyNET-Rx combines the key elements of continuous quality improvement with the latest in integrative information systems to provide pharmacy staff with the support (e.g. processes, training, and technology) needed to identify, report, and learn from QREs.	<a href="http://www.safetynetrx.ca/">http://www.safetynetrx.ca/</a>
China Taiwan	No description available	<a href="http://goo.gl/Robqkp">http://goo.gl/Robqkp</a>
Cuba	Manual of Standards and Procedures for Community Pharmacies ( <i>Manual de Normas y Procedimientos para Farmacia Comunitaria</i> ).	No website available
Denmark	Standards for counselling. Certification of health care services. Quality assured manuals for health care services.	No website available
Finland	ISO 9000 standard certification in place in some of the pharmacies.	No website available
France	The French Chamber developed a programme which offers to French community pharmacists the following 4 tools: <i>At the counter</i> : 1. A website which allows the community pharmacist and his team to extend their knowledge of how to build a constructive dialogue with the patient and on the skills to develop at the counter to optimise quality and security of OTC dispensing ( <a href="http://www.acqo.fr">www.acqo.fr</a> ). 2. Mystery shopper inspections to assess the quality and safety of OTC dispensing are conducted annually in several thousands of pharmacies in France. Each pharmacy visited receives a	<a href="http://goo.gl/nqjQjc">http://goo.gl/nqjQjc</a> <a href="http://www.acqo.fr">www.acqo.fr</a> <a href="http://www.eqo.fr">www.eqo.fr</a>

Country or territory	Brief description	Website/reference
	personalised feedback on the observed professional behaviour. <i>Behind the counter</i> : 3. A website ( <a href="http://www.eqo.fr">www.eqo.fr</a> ), which provides pharmacists and their teams with the necessary tools to conduct self-assessment on various aspects of professional practice. Rapid or more extensive tests are proposed to help identifying priority areas to improve quality. 4. Educational audits, conducted by a trained and qualified auditor, are proposed to pharmacists who volunteer. The scope covers areas related to people, premises, equipment, processes and all systems involved in professional practice.	
Germany	The Federal Pharmacists' Chamber has developed a voluntary seal of quality.	<a href="http://goo.gl/nocg8i">http://goo.gl/nocg8i</a>
Hungary	No description available	<a href="http://www.gyogygond.hu">www.gyogygond.hu</a>
Jordan	No description available	<a href="http://www.jpa.org">www.jpa.org</a>
Netherlands	1. The Dutch Pharmaceutical Association (KNMP) provides national standards and guidelines for the profession. 2. Over 1,700 of all community pharmacies have a so-called HKZ certificate (ISO 9000 compatible), for which they are audited by accredited certification bodies.	<a href="http://goo.gl/fXtkRG">http://goo.gl/fXtkRG</a> <a href="http://goo.gl/CZ3gf2">http://goo.gl/CZ3gf2</a>
Nigeria	No description available	No website available
Norway	Pharmacies follow GPP guidelines	No website available
Panama	No description available	No website available
Philippines	The Philippine Practice Standards for Pharmacists Manual is a document that contains no definitive statements or directives for pharmacists but general statements to guide, advise and provide reference on how they can best fulfil their duties and responsibilities as they work in collaboration with other health professionals to ensure only optimum positive health outcomes in patients who are on medication therapy.	<a href="http://goo.gl/LyXyAj">http://goo.gl/LyXyAj</a>
Portugal	good pharmacy practice guidelines of the Portuguese Pharmaceutical Society, which are based on the FIP GPP.	<a href="http://www.ordemfarmaceuticos.pt">www.ordemfarmaceuticos.pt</a>
Romania	Romanian Pharmacists College — the national pharmacists guild has set out quality standards for community pharmacy practice. These standards are verified annually by representatives of the guild.	<a href="http://goo.gl/mHBXqU">http://goo.gl/mHBXqU</a>
Russian Federation	Certification usually is based on the ISO 9000 series standards.	No website available
Serbia	Agency for accreditation of health care institution in Serbia	<a href="http://www.azus.gov.rs/en">http://www.azus.gov.rs/en</a>
Sierra Leone	No description available	No website available



Country or territory	Brief description	Website/reference
Spain	Spanish GPP standards and Quality Norm of the General Pharmaceutical Council.	<a href="http://goo.gl/sukTnX">http://goo.gl/sukTnX</a>
Sweden	No description available	No website available
Switzerland	ISO 9001 QMS Pharma programme. In some cantons, QMS is mandatory.	<a href="http://goo.gl/xUfiSY">http://goo.gl/xUfiSY</a>
Thailand	No description available	No website available
Turkey	A guide for good pharmacy practice is being developed.	No website available
UAE	MoH and local health authority have ong PQR system	<a href="http://www.moh.gov.ae">www.moh.gov.ae</a>
Uruguay	Certification by an official national company (Latu)	<a href="http://catalogo.latu.org.uy/">http://catalogo.latu.org.uy/</a>
USA	Center for Pharmacy Practice Accreditation (CPPA)	<a href="http://goo.gl/pjWEWd">http://goo.gl/pjWEWd</a>

## Appendix 11. Non-prescription medicines (NPMs): where they can be obtained and respective market shares (as %, in monetary value)

Data highlighted in **yellow**: countries and territories where NPM can only be sold in community pharmacies

? = Incomplete or mismatched data

ND = No data

NA = Not applicable

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy- only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Afghanistan	✓	✓	✓	✓	✓		✓			
	ND	ND	ND	ND	ND		ND			
Argentina (Prov. Buenos Aires)	✓								NA	
	100									
Australia	✓	✓		✓	✓	✓		✓	✓	In Australia there are two NPM classification categories that are restricted to sale in pharmacy: (A) Pharmacy Medicine (Schedule 2)—Medicines, the safe use of which may require advice from a pharmacist and which should be available from a pharmacy, or where a pharmacy service is not available, from a licence holder; (B) Pharmacist Only Medicine (Schedule 3) — Medicines, the safe use of which requires professional advice but which should be available to the public from a pharmacist without a prescription.
	ND	ND		ND	ND	ND		ND		
Austria	✓				✓	✓			NA	There are approximately 870 dispensing doctors in Austria (2014), but, except for this situation, all medicines can only be obtained in pharmacies. Internet pharmacies are an online service of physical pharmacies and will be allowed in Austria as of 25 July 2015.
	ND				ND	ND				

<sup>18</sup> An establishment that sells non-prescription medicines and other health care products without the supervision of a pharmacist, but that may be staffed by pharmacy technicians or a person with an intermediate pharmacy degree

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Belgium	✓	✓				✓			NA	All NPMs are limited to pharmacies (community and hospital). Online sales of NPM can only happen in licensed pharmacies.
	ND	ND				ND				
Bolivia	✓		✓				✓			
	50		ND				ND			
Bosnia and Herzegovina	✓								NA	
	100									
Brazil	✓					✓			NA	Internet sales of NPMs are an online service of physical pharmacies.
	ND					ND				
Cameroon	✓	✓			✓	*	✓			* Online pharmacies are not legal in Cameroon.
	70	ND			5	5	20			
Canada	✓	✓		✓	✓	✓			✓	Schedule 2 and Schedule 3 medicines <a href="http://napra.ca/pages/Schedules/default.aspx">http://napra.ca/pages/Schedules/default.aspx</a>
	65	?		33	?	2				
Chad	✓	✓					✓	✓		
	20	?					30	50		
China	✓	✓	✓			✓			✓	There are two categories of NPMs: - Category A OTC (red logo), can be sold in pharmacies or hospitals, under pharmacist supervision - Category B OTC (green logo), can be sold in retail stores, pharmacies or hospitals. Only NPMs can be sold online.
	66	32	?			2				
China Taiwan	✓								NA	
	100									
Colombia	✓		✓	✓		✓	✓	✓		NPMs are sold at any type of shop without legal restrictions
	ND		ND	ND		ND	ND	ND		
Costa Rica	✓	✓		✓			✓			
	ND	ND		ND			ND			

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Croatia	✓		✓			✓			✓	There is a list of NPMs that can only be sold by community pharmacies. For example: Druggist/parapharmacies can sell only paracetamol tablets (500mg and 1000mg) and liquid forms for children (2, % and 5%), ibuprofen tablets (200mg) and topical forms (max 10%)
	90		10			?				
Cuba	✓	✓							NA	All medicines (NPMs and POMs) are sold exclusively in pharmacies.
	ND	ND								
Denmark	✓			✓		✓			✓	Some NPMs are pharmacy-only and some are on a general sales list.
	73			27		?				
Ethiopia	✓	✓	✓	✓						
	ND	ND	ND	ND						
Finland	✓					✓			NA	Online sales are part of a pharmacy's services.
	100					?				
France	✓				✓	✓			NA	Distance selling of NPMs has been allowed in France since January 2013. Online pharmacies must be linked to a brick and mortar pharmacy and be authorised. Dispensing doctors are rare and exist only in remote areas without a pharmacy.
	ND				ND	ND				
Germany	✓					✓			NA	Most medicines are classified as "pharmacy-only". According to the Drug Law, the Ministry of Health shall define those medicines (considered as having low risk profiles) that can be sold outside pharmacies. These lists can be found at <a href="http://www.gesetze-im-internet.de/amverkrv/index.html">http://www.gesetze-im-internet.de/amverkrv/index.html</a> . The list generally includes herbal preparations
	86.2					13.8				
Ghana	✓	✓	✓	✓	✓					
	45		40	5	10					

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Hong Kong, China	✓	✓	✓	✓	✓	✓			✓	There are three categories of NPMs: - Non-poison, can be sold in retail stores. - Category II Poison, can be sold in pharmacies. - Category I Poison, can be sold in pharmacies under pharmacist supervision. Only non-poison NPMs can be sold online.
	ND	ND	ND	ND	ND	ND				
Hungary	✓	✓	✓	✓	✓	✓			✓	There is list of medicines that can be sold outside pharmacies
	ND	ND	ND	ND	ND	ND				
Iceland	✓	✓		✓						Nicotine products and products containing fluoride can be sold in shops. Nicotine products can also be sold at restaurants.
	ND	ND		ND						
India	✓	✓		✓	✓					
	ND	ND		ND	ND					
Indonesia	✓	✓	✓	✓	✓	✓	✓			
	40	?	5	25	10	?	20			
Iraq	✓	✓							NA	
	100	?								
Ireland	✓	✓		✓	✓	✓			✓	There is a list of NPMs that may be sold outside pharmacies. All other NPMs are restricted to pharmacy sale.
	60	?		40	?	?				
Israel	✓	✓		✓		✓			✓	There is a General Sales List
	40	?		58		2				
Italy	✓		✓	✓		✓				* Internet sales of NPMs have been possible since July 2015, from the websites of pharmacies and parapharmacies.
	92		?	8		*				
Japan	✓		✓			✓			✓	Online sales of NPMs can only be done by licensed community pharmacies. Medicines must be stored and displayed at these pharmacies.
	ND		ND			ND				

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Jordan	✓	✓							NA	
	100	?								
Korea, (Rep. of)	✓	✓								
	ND	ND								
Lebanon	✓								NA	Only pharmacists are allowed to dispense non-prescription medicines; patients cannot get them themselves.
	100									
Lithuania	✓				✓				NA	Physicians can sell medicines in rural areas where there is no pharmacy
	100				?					
Macedonia	✓			✓		✓			✓	There is a list of NPMs that may be sold outside pharmacies. All other NPMs are restricted to pharmacy sale.
	ND			ND		ND				
Mali	✓	✓			✓		✓		✓	Branded medicines not including hospital packs
	ND	ND			ND		ND			
Mongolia	✓*	✓				✓				* In Mongolia, only certain community pharmacies are authorised to sell non-prescription medicines.
	ND	ND				ND				
Montenegro	✓	✓								
	ND	ND								
Morocco	✓	✓						*	NA	* Hospital pharmacies' & illegal sales. Other than these, all medicines are sold only in community pharmacies.
	80	?						20		
Nepal			✓		✓				✓ *	* Group ( <i>Samuha</i> ) "Ga", i.e., other common drugs
			ND		ND					
Netherlands	✓	✓	✓	✓	✓	✓				In practice, internet pharmacy in the Netherlands is dominated by regular community pharmacies offering internet services to their patients.
	14	?	75	11	?	?				
Nigeria	✓	✓	✓	✓	✓		✓	✓		
	ND	ND	ND	ND	ND		ND	ND		

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Norway	✓	✓		✓		✓				
	80	5		15		?				
Pakistan	✓	✓	✓	✓						
	60	ND	20	20						
Panama	✓	✓	✓	✓	✓				✓	Pharmaceutical compounding, homeopathic medicines, vitamins, nutritional supplements.
	90	?	4	5	1					
Paraguay	✓								NA	Since 2013, all medicines must be sold by community pharmacies. Internet sales of medicines are not allowed. In some rural areas, there are dispensaries that only sell essential medicines.
	100									
Philippines	✓	✓	✓	✓		✓	✓			
	90	?	1	5		?	4			
Poland	✓	✓	✓	✓	✓	✓			✓*	* Pseudoephedrine, codeine, dextromethorphan
	70	?	?	20	?	10				
Portugal	✓		✓	✓		✓			✓	A new law of 2013 establishes the creation of a pharmacy-only list of NPM and the possibility that Infarmed (the national regulatory agency) authorises the reclassification of POMs to Pharmacy-only NPM based on the safety profile and therapeutic indications, in compliance with dispensing guidelines. Ten INNs were included in this category.
	80		?	20		?				
Romania	✓		✓			✓				
	ND		ND			ND				
Russian Federation	✓	✓						✓		If there is no pharmacy, rural health posts can dispense prescription and non-prescription medicines (nevertheless the pharmacy license is mandatory for this activity).
	ND	ND						ND		
Senegal	✓	✓					✓	✓		
	ND	ND					ND	ND		

Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
Serbia	✓								NA	
	100									
Sierra Leone	✓	✓	✓	✓						
	ND	ND	ND	ND						
South Africa	✓	✓		✓	✓	✓	✓			
	ND	ND		ND	ND	ND	ND			
Spain	✓					✓			NA	Online sales of NPMs started in Spain on 1 June 2015 and are carried out exclusively by authorised community pharmacies. All medicines (NPMs and POMs) are sold exclusively by pharmacies.
	100					?				
Sri Lanka	✓	✓		✓	✓				✓*	*Schedule II A Medicines — can be sold by a pharmacist without prescription
	ND	ND		ND	10					
Sweden	✓			✓		✓			✓	
	ND			ND		ND				
Switzerland	✓	✓	✓		✓					
	75	4	10		11					
Tanzania	✓	✓	✓	✓	✓					
	ND	ND	ND	ND	ND					
Thailand	✓	✓	✓		✓				✓*	* Dangerous drugs classification
	ND	ND	ND		ND					
Turkey	✓								NA	
	100									
UAE	✓	✓	✓	✓		*		**	✓	* Online pharmacies are not legal in the UAE. ** Travellers
	60	?	?	35		1		4		



Country or territory	Non-prescription medicines available at: (%)								Is there a pharmacy-only category of NPM?	Observations
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Druggists <sup>18</sup>	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)	Other		
UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	NPMs have two classifications in the UK: 'P' medicines and 'GSL' (general sales list) medicines. GSL medicines can be sold by any retailer, P medicines must be sold under pharmacist supervision.
	ND	ND	ND	ND	ND	ND	ND	ND		
Uruguay	✓								NA	All medicines (NPMs and POMs) are sold exclusively by pharmacies.
	100									
USA	✓	✓	✓	✓	✓	✓	✓		✓*	* Some states have a category of drugs that can only be sold in a pharmacy with patient identity check.
	ND	ND	ND	ND	ND	ND	ND			
Vietnam	✓	✓			✓					
	ND	ND			ND					
Zimbabwe	✓	✓		✓	✓		✓		✓*	* Pharmacy drugs under schedule P.
	78	?		10	10		2			
Totals	70	45	28	34	28	32	15	9	23	NPMs exclusively in pharmacies = 20 (28.2%)
n = 71	98.6%	63.4%	39.4%	47.9%	39.4%	45.1%	21.1%	12.7%	*	* 23/71 = 32.4%; 23/51 = 45.1%

## Appendix 12. Prescription-only medicines (POMs): where they can be obtained and respective market shares (as %, in monetary value)

? = Incomplete or incompatible data

ND = No data NA = Not applicable

Country or territory	Prescription-only medicines can be obtained at: (%)					
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)
Afghanistan	✓	✓				
	65	30				
Argentina (Province of Buenos Aires)	✓	✓				
	90	10				
Australia	✓	✓			✓	
	90	10			?	
Austria	✓			✓		
	ND			ND		
Belgium	✓	✓				
	66	23				
Bolivia	✓	✓				
	ND	ND				
Bosnia and Herzegovina	✓					
	100					
Brazil	✓				✓	
	ND				ND	
Cameroon	✓	✓	✓	✓	✓	✓
	50	20	8	2	20	?
Canada	✓	✓	✓	✓	✓	
	65	2	30	1	2	
Chad	✓	✓				✓
	30	50				20
China	✓	✓				
	10	90				
China Taiwan	✓	✓				
	ND	ND				
Colombia	✓	✓			✓	
	ND	ND			ND	
Costa Rica	✓	✓				
	ND	ND				
Croatia	✓	✓				
	95	5				
Cuba	✓	✓				
	ND	ND				
Denmark	✓				✓	
	100				?	
Ethiopia	✓	✓	✓			
	ND	ND	ND			

Country or territory	Prescription-only medicines can be obtained at: (%)					
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)
Finland	✓ 100				✓ ?	
France	✓ ND			✓ ND		
Germany	✓ 83.5				✓ 0.6	
Ghana	✓ 30	✓ 60		✓ 10		
Hong Kong, China	✓ ND	✓ ND		✓ ND		
Hungary	✓ ND	✓ ND		✓		
Iceland	✓ ND	✓ ND				
India	✓ ND	✓ ND		✓ ND		
Indonesia	✓ 25	✓ 50		✓ 15		
Iraq	✓ 70	✓ 30				
Ireland	✓ 90	✓ 6		✓ 4		
Israel	✓ 93.5	✓ ND	✓ 0.5			
Italy	✓ 60	✓ 40				
Japan	✓ ND	✓ ND		✓ ND		
Jordan	✓ 80	✓ 20				
Korea, Rep. of	✓ ND	✓ ND				
Lebanon	✓ 98	✓ 2				
Lithuania	✓ 100					
Macedonia	✓ 100					
Mali	✓ ND	✓ ND		✓ ND		
Mongolia	✓ ND	✓ ND				

Country or territory	Prescription-only medicines can be obtained at: (%)					
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)
Montenegro	✓	✓				
	ND	ND				
Morocco	✓	✓				
	80	15				
Nepal				✓		
				ND		
Netherlands	✓	✓		✓	✓	
	89	6		4.5	0.5	
Nigeria	✓	✓		✓		✓
	30	40		20		10
Norway	✓	✓				
	85	15				
Pakistan	✓	✓	✓	✓		
	50	20	20	5		
Panama	✓	✓	✓	✓		
	80	10	2	3		
Paraguay	✓	✓				
	ND	ND				
Philippines	✓	✓		✓	✓	✓
	60	25		10	1	4
Poland	✓	✓				
	ND	ND				
Portugal	✓	✓				
	54	46				
Romania	✓	✓				
	ND	ND				
Russian Federation	✓	✓				
	ND	ND				
Senegal	✓	✓				✓
	ND	ND				ND
Serbia	✓	✓				
	77	23				
Sierra Leone	✓	✓				
	ND	ND				
South Africa	✓	✓		✓	✓	
	ND	ND		ND	ND	
Spain	✓	✓				
	85.5	14.5				
Sri Lanka	✓	✓		✓		
	65	25		5		
Sweden	✓				✓	
	95				5	

Country or territory	Prescription-only medicines can be obtained at: (%)					
	Community pharmacies	Hospital pharmacies' outpatient dispensing	Other establishments (supermarkets, etc.)	Dispensing doctors	Internet or mail order pharmacies	Informal settings (street vendors, etc.)
Switzerland	✓	✓		✓	✓	
	45	25		ND	ND	
Tanzania	✓	✓		✓		
	ND	ND		ND		
Thailand	✓	✓				
	15	85				
Turkey	✓	✓				
	90	10				
UAE	✓	✓				
	25	39				
UK	✓	✓		✓	✓	
	86	14		ND	ND	
Uruguay	✓	✓				
	ND	ND				
USA	✓	✓		✓	✓	
	52	13		1	20	
Vietnam	✓	✓				
	60	40				
Zimbabwe	✓	✓	✓	✓		
	25	60	10	5		
Totals	70	60	8	25	16	5
n = 71	98.6%	84.5%	11.3%	35.2%	22.5%	7.0%

### Appendix 13. Generic substitution in countries or territories where prescription by INN is not mandatory (n=45)

Country or territory	Is generic substitution by pharmacists allowed?			Description of circumstances
	No	Yes, always	Yes, in some circumstances	
Australia			✓	Doctors may mark on the prescription that generic substitution is not permitted. Under normal circumstances, a pharmacist will ask a patient whether they would like a generic substitution.
Austria	✓			
Belgium			✓	Rule 1: If prescription is done by INN, the pharmacist has to dispense the cheapest (generic or original). Rule 2: all antibiotics and antimycotics prescriptions are to be treated as if they were INN prescriptions (even if a brand is mentioned on the prescription); in these cases, rule 1 is applied.
Bolivia			✓	If the patient allows it.
Bosnia and Herzegovina			✓	In the Federation of Bosnia and Herzegovina, generic substitution by pharmacies is not allowed, but in Republic of Srpska it is.
Brazil		✓		
Cameroon			✓	Allowed if the sentence "I say well " is not written on the prescription.
Canada		✓		
Chad			✓	Upon the recommendation of the prescriber
Costa Rica			✓	The law states "the pharmacist is obliged to offer the consumer a generic drug that is therapeutically equivalence to that prescribed by the doctor, when available, unless the doctor indicates the contrary on the prescription".
Croatia			✓	In case of medicine shortage.
Denmark			✓	The National Board of Health decides which medicines the pharmacy is allowed to substitute.
Ethiopia		✓		
Finland			✓	Substitution is done according to the list of interchangeable medicines published by the Finnish Medicines Agency on a quarterly basis.
Germany			✓	The Social Law contains certain provisions on substitution (e.g. when health funds have concluded rebate contracts with manufacturers). Outside the area of Social Law, pharmacies may substitute in night or emergency situations.
Hong Kong, China	✓			
Hungary			✓	If the prescribing doctor allows it.
Iceland		✓		
India	✓			By law, substitution is not allowed. The law is old and is being reviewed by the Government.
Indonesia			✓	Upon patient's request or NA
Iraq		✓		
Ireland			✓	The medicines regulator (HPRA) produces lists of medicines that can be substituted.

Country or territory	Is generic substitution by pharmacists allowed?			Description of circumstances
	No	Yes, always	Yes, in some circumstances	
Israel			✓	Substitution is done when the Sick Funds (MCOs) demands it.
Italy		✓		
Japan			✓	Substitution is possible if the "No change" box on the prescription is not marked, with endorsing signature.
Jordan			✓	Allowed if the branded product is out of stock and the patient agrees to replace it with a generic.
Korea (Rep. of)			✓	If the prescribing doctor allows it.
Lebanon			✓	The new unified prescription allows the pharmacist to make the substitution.
Macedonia				Only for medicines reimbursed by Health Insurance Fund.
Mali			✓	Allowed with the consent of the prescriber and if the medicine is within the refund list.
Montenegro		✓		
Morocco	✓			
Nepal			✓	
Netherlands		✓		
Pakistan		✓		
Poland			✓	Allowed if it has the same chemical substance, same package size, same dosage form and the same routes of administration, and the price of the generic is the same or lower than the limit price of the prescribed drug.
Senegal			✓	Medicines should be specified on an equivalence guide, which has not been developed yet by the regulatory agency.
Serbia			✓	If a pharmacy does not have the prescribed medicine, substitution is allowed with the mandatory consent of the patient.
South Africa			✓	If the prescriber writes "no substitution" or if the patient does not wish to receive the generic product, the pharmacist is not allowed to dispense a generic.
Sweden		✓		
Switzerland			✓	The doctor can, for medical reasons, specify the exact medicine to be dispensed.
Turkey			✓	The patient has to pay if there is a price difference between the original and the generic. The reimbursement institution pays only a part of the price for many drugs.
UAE			✓	Allowed only with the agreement of the patient and the insurance plan.
UK	✓			
USA			✓	Allowed if medicine is on approved list, physician writes appropriately, etc. This varies by state.
Zimbabwe			✓	Allowed unless the prescriber explicitly states no substitution.
<b>Total</b>	<b>5</b>	<b>10</b>	<b>31</b>	

## Appendix 14. Measures to promote the use of generic medicines (n=50)

	Only generics are reimbursable when available	Generic substitution is mandatory when available	Pharmacies receive financial incentives to dispense generics	Other	Details
Afghanistan		✓			Generics are mandatory in public health sector but not in private health sector
Australia			✓		
Belgium				✓	1. Awareness campaigns by government, third party payers 2. Feedback on prescribing patterns sent to prescribers 3.Price level: in order to be reimbursable, generics have to lower their prices
Brazil			✓		
Cameroon			✓		
Canada	✓	✓			
China			✓		
Colombia	✓				
Denmark	✓			✓	Generic substitution is mandatory except if the doctor writes "no substitution" on the prescription or the patients don't accept substitution
Finland		✓		✓	In general, substitution is mandatory. The physician or the patient can deny substitution. Physician, only based on medical reason. The patient ,whenever (s)he wants to.
France			✓		
Germany	✓				
Ghana	✓				
Hungary			✓		
Iceland				✓	Reimbursement is calculated for the cheapest product in each category
India				✓	There are few shops which stock only generic or cheaper versions. The government has also opened some such shops. Doctors are encouraged to prescribe by INN by Medical Council, FDA, etc. but it is not yet mandatory.



	Only generics are reimbursable when available	Generic substitution is mandatory when available	Pharmacies receive financial incentives to dispense generics	Other	Details
Indonesia	✓	✓			
Ireland	✓	✓		✓	The patient must pay a supplement if they want the branded medicine.
Israel				✓	When the Sick Funds (MCOs) stipulates it. Also, for NPMs, pharmacists must inform the patient if there is a cheaper generic.
Italy			✓		Pharmacy margin for generics is higher than for branded medicines. Pharmacy margin is not lowered by the rebate to the NHS in case of generic dispensing.
Japan			✓		
Jordan			✓		
Korea (Rep. of)			✓		
Lebanon				✓	The MoH and the CNSS (Social Security) only accept generics.
Lithuania				✓	Screens in pharmacies with information about generics and brand drug choices by price.
Mali			✓		
Mongolia	✓	✓			
Montenegro			✓		
Netherlands	✓		✓		
Nigeria		✓	✓		
Norway			✓		The pharmacy is allowed to negotiate discounts, thereby increasing pharmacy margin within a reference price system. If the customer refuses to accept the cheaper alternative proposed by the pharmacy, their co-payment increases, motivating the customer to accept generic substitution.
Panama		✓		✓	The generic drug is available. The client can decide.

	Only generics are reimbursable when available	Generic substitution is mandatory when available	Pharmacies receive financial incentives to dispense generics	Other	Details
Philippines				✓	Reimbursement via the national health insurance is via case payment scheme, which pushes health care providers to select the lowest priced medicines available (generics). In the outpatient setting, generic lists are available so patients can select from the available alternatives.
Poland		✓	✓		
Portugal		✓		✓	Financial incentives for generic dispensing have been recently approved, but are not yet in place.
Romania				✓	The Government only reimburses a percentage of the cheapest product. The patient has to pay the difference. By the contract that community pharmacies sign with the National Health Insurance, they are obliged to dispense the cheapest product. Other medicines are only dispensed if the doctor prescribes by brand name (and justifies the decision), or if the patient prefers a particular product and agrees to pay more.
South Africa				✓	According to legislation, pharmacists must offer the patient a generic if available. Third-party payers usually only reimburse the cost of the cheapest generic available and the patient has to pay the difference in price.
Spain				✓	In general, doctors have to prescribe the medicine with the lowest price in the equivalent group, and given the same price the generic drug has the preference.
Sri Lanka				✓	
Sweden		✓	✓		Pharmacies receive a fee of SEK 10 (about EUR 1) for every generic substitution.
Switzerland			✓	✓	If the price difference between generic and original is too high, the patient has to pay 20% instead of the usual 10% co-payment. Moreover, the pharmacist receives 40% of the price difference as an incentive the first time a generic substitution is made.

	Only generics are reimbursable when available	Generic substitution is mandatory when available	Pharmacies receive financial incentives to dispense generics	Other	Details
Tanzania	✓	✓	✓		
Thailand	✓				
Turkey			✓		
UAE	✓	✓	✓		
UK				✓	Pharmacists who can prescribe are incentivised to prescribe generics through the better margins they can make on the medicines.
Uruguay				✓	Prescription by INN is mandatory when a generic is available.
USA	✓	✓	✓		Differential payment to pharmacies and co-payment by patients.
Vietnam	✓	✓		✓	Regulations require doctors to prescribe by INN in parallel with brand name. Reimbursement is based only on price of generics, if there is one available.
Zimbabwe			✓		
Totals	14	15	23	20	

## Appendix 15. Recent developments in legislation regulating the sales of medicines, medicines pricing or the use of generic medicines. Country details (n=33)

Country	What changed
Australia	In August 2013, changes were made to the Pharmaceutical Benefits Scheme that reduced the period between price reductions for off-patent medicines subsidised by the government, in other words the rate of medicine price reduction accelerated. In the recently signed Community Pharmacy Agreement, the pharmacy mark-up fee, which was previously percentage based (determined by the price of the medicine), has been replaced with a fixed price pharmacy fee. This fixed fee is not affected by any price reduction changes to the PBS. There is also a proposal to allow pharmacists to discount the maximum concessional patient co-payment by up to AUD 1. This is still being considered by the Federal Government.
Belgium	For patients in homes for the elderly, reimbursement of oral solid dosage forms is now per week of treatment instead of per dispensed pack
Canada	There were cuts to generic pricing and negotiations for lower prices for formulary-listed branded medicines. <a href="http://www.canadapremiers.ca/en/initiatives/128-health-care-innovation-working-group">http://www.canadapremiers.ca/en/initiatives/128-health-care-innovation-working-group</a>
China	As of June 2015, medicine prices are no longer decided by the government. Through the drug price reform, it was decided to discontinue most of governmental pricing of medicines, in addition to narcotic and psychotropic substances.
Costa Rica	There are two projects under discussion aiming to regulate medicines' prices, proposed by political organisations.  There is a project proposed by a political organisation and the pharmaceutical society to introduce a pharmacist-only list of medicines. In parallel, we are also advocating for limiting the sales of NPM to pharmacies.
Croatia	There is an initiative under discussion so that NPMs in drugstores/parapharmacies can only be sold under the supervision of a pharmacist.  Internet pharmacies for NPMs are not yet regulated but it has been introduced in the Medicines Act.
Finland	Pharmacies are mandated to give information about the most inexpensive generic option.
France	Distance selling of NPMs has been allowed in France since January 2013. Online pharmacies must be linked to a brick and mortar pharmacy and be authorised.  Other changes have occurred with regards to biosimilar medicines (substitution will be allowed under strict and limited conditions).  Moreover, pregnancy and ovulation tests, and lens care products can now be sold outside pharmacies.
Iceland	A new co-payment system was implemented on 4 May 2013. Now the co-payment is a proportion of the annual usage and not based on the category of the pharmaceutical used, (ATC-code), as previously. This means that there will be a step-wise increase in co-payment by the Icelandic Health Insurance up to a full reimbursement. Maximum annual payment is EUR 440 and for the elderly, children and disabled the annual cap is EUR 305.
India	A new policy was implemented in 2013 to control medicine prices.

Country	What changed
Indonesia	The Ministry of Health is drafting new regulations. No details provided.
Ireland	Reference pricing and generic substitution were introduced.
Japan	In April 2014, there was a revision of Drug Price List (biennial revision). Moreover, internet sales of NPMs were introduced, but online pharmacies must be linked to a physical pharmacy.
Lebanon	Branded medicines' prices were subject to huge decrease.
Macedonia	Certain non-prescription medicines listed and published by the Ministry of Health were allowed to be sold outside community pharmacies. The others are pharmacy-only medicines.
Mongolia	The Association of Pharmacy Professionals of Mongolia indicated that there was an unfruitful attempt to establish various level of supply chain margins. No further details were provided.
Morocco	Medicine prices were lowered.
Nepal	Regulations on sales and distribution of drugs were introduced. Prices of certain essential medicines are regulated (determined) by the government.
Norway	Price cuts on generics, and a small adjustment in the pharmacy remuneration System
Pakistan	The Pharmacy Graduates Association of Pakistan indicated that the Ministry of Health is drafting new regulations for medicines distribution and pricing.
Panama	A basic medicines basket was established in 2013 with controlled and monitored prices in some market sectors in the capital city of Panamá and in Panamá Oeste. It is in a probationary period. The impact and results will be evaluated shortly.
Poland	The list of reimbursable medicines is now revised every second month. Internet sales were introduced.
Portugal	A new margin system for pharmacies and wholesalers was introduced. The countries used for the external reference pricing system have changed. A category of pharmacy-only NPMs was introduced.
Romania	The government sets medicine prices through a comparison with 12 other countries (by choosing the cheapest price in those countries). The government is now trying to introduce two fixed prices for POMs: one for community pharmacies that signed a contract with the National Health Insurance, and another one, higher, for pharmacies without such a contract.
Russian Federation	(1) New rules of EDL (essential drug list) development and drugs reimbursement were established. According to the established rules, the data on (drugs) efficiency, safety, pharmacoeconomics etc. are evaluated. A commission to consider proposals for inclusion of medicines in the EDL and DRL (drug reimbursement list) was established. This commission publishes the proceedings of its decisions online, which increases transparency. These rules are the first step to health technology assessment implementation in Russia. An EDL including 608 INNs was approved. (2) The Federal Law of the Russian Federation regulating medicines circulation was amended (No.61-FZ On Circulation of Medicines). For the first time such definitions as orphan drug, biosimilar drug, interchangeable drug and reference drug were included in the law. (3) According to the new legislation prescription of medicines by non-proprietary name is mandatory.
Serbia	Initiatives to increase pharmacy margins.

Country	What changed
Sierra Leone	The Pharmacy Board of Sierra Leone indicated that the ministry of health is revising the Pharmacy and Drugs Act. No further details were provided.
South Africa	Both the Single Exit Price (SEP) and the dispensing fee are reviewed annually and adjusted accordingly. The single exit price (SEP) mechanism in South Africa lists the maximum price that a medicine can be charged at.
Sri Lanka	No information.
Tanzania	Regulations introduced to limit medicines sales to health care facilities.
Turkey	Some chemotherapy medicines have been dispensed only by hospital pharmacies since July 2015 due to a new regulation.
UAE	Medicine prices were cut.
Vietnam	The price regulation has been transferred from the Ministry of Health to the Ministry of Industry and Trade. Some aspects are under discussion: defining maximum price margins; how to control prices; what medicines need to be controlled, etc. There are also more controls on the sales of cosmetics and dietary supplements. Only registered medicines, cosmetics and dietary supplements may be sold.

## Appendix 16. Scope of practice. Services offered by community pharmacies, PART 1

### Legend


Reg. — Is the service regulated?

✓ — Service is regulated

A — Implemented by 76—100% of pharmacies

D — Implemented by 11—25% of pharmacies

ND — Service is implemented, but no data about % of pharmacies

 — Service recently introduced (between January 2013 and June 2015)

Imp. — Implementation of service

× — Service is not regulated, but is implemented to some extent

B — Implemented by 51—75% of pharmacies

E — Implemented by 0—10% of pharmacies

NR — Service is regulated, but no response about implementation

Country or territory	Access to a pharmacist		Collaborate with other HC profess.		Compound.		Medicine use review		Personalised dosage systems		Adherence improvem.		Medication reconciliat.		Administr. vaccines		Complem. prescription		Independent prescription	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Afghanistan	✓	C			✓	E	✓	NR	✓	D			✓	NR	✓	C				
Argentina (Province of Buenos Aires)	✓	NR			✓	D									✓	B				
Australia	✓	NR	✓	NR	✓	NR	✓	NR	✓	NR	✓	NR	✓	NR	✓	C	✓	NR		
Austria	✓	A			✓	A			✓	E					✓	NR				
Belgium	✓	ND	✓	NR	✓	A			✓	D										
Bolivia	✓	NR			×	E	×	E	×	E	×	E	×	E	×	E			×	D
Bosnia and Herzegovina	✓	E	×	E	✓	E	✓	E	×	E	×	E	×	E	×	E	×	E	×	E
Brazil	✓	NR	✓	E	✓	E	✓	NR			✓	NR	✓	NR	✓	E				
Cameroon	×	B																		
Canada	✓	A	×	A	✓	A	✓	B	✓	A			×	B	✓	A			✓	E
Chad	✓	NR			✓	NR									✓					
China	✓	C	×	C	✓	C	×	D	×	D			×	D		E				
China Taiwan	✓	NR			✓	NR	×	ND					×	ND						
Colombia					✓	E									✓	D				
Costa Rica	✓	A	✓	NR	✓	E	✓	E			✓	C	✓	NR	✓	A				

[illegible]



Country or territory	Access to a pharmacist		Collaborate with other HC profess.		Compound.		Medicine use review		Personalised dosage systems		Adherence improvem.		Medication reconciliat.		Administr. vaccines		Complem. prescription		Independent prescription	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Morocco	✓	A	×	E			✓	C	✓	E					✓	NR				
Nepal																				
Netherlands	✓	A	×	A	✓	D	✓	A	✓	A	×	B	✓	A	×	E	×	E	×	E
Nigeria	×	C	✓	E	✓	E	✓	C	✓	E			✓	D	✓	E			×	B
Norway	✓	NR			✓	E														
Pakistan	✓	C	✓	E	✓	D	✓	D	✓	E			✓	D	✓	D				
Panama	✓	ND	×	B	×	E	×	D	×	E			×	B	×	B			×	E
Paraguay	✓	A			✓	A														
Philippines	✓	A	✓	E	✓	C	✓	D	✓	E	✓	E	✓	E						
Poland	✓	A			✓	B	✓	E	×	E									✓	ND
Portugal	✓	A	×	E	✓	ND	×	E	×	D					✓	B				
Romania	✓	C	×	D	✓	E	×	E	×	E			×	E	×	E				
Russian Federation	✓	A	✓	ND	✓	ND														
Senegal					✓	E														
Serbia	✓	NR	✓	NR	✓	NR	✓	NR												
Sierra Leone	✓	ND	✓	ND	✓	ND	✓	ND							✓	ND	✓	ND	✓	ND
South Africa	✓	A	✓	B	✓	B	×	E	×	E					✓	B			✓	E
Spain	✓	A	×	D	✓	A	×	C	×	C			×	E						
Sri Lanka	✓	NR			✓	NR														
Sweden	✓	A			✓	E			✓	E										
Switzerland	✓	A	×	D	✓	A			✓	A	✓	C			✓	E	✓	A	✓	D
Tanzania	✓	C	×	D	✓	D	✓	C			×	E	×	E	✓	C	✓	E	✓	E
Thailand	✓	D	×	E	×	E	×	E	×	E			×	E						
Turkey																				
UAE	✓	A	✓	ND	✓	E	✓	D	✓	D	✓	D	✓	D	×	E				
UK	✓	A	×	EB*	×	E	×	A	×	BA*	×	A	×	B	×	DE*	×	D	✓	E

Country or territory	Access to a pharmacist		Collaborate with other HC profess.		Compound.		Medicine use review		Personalised dosage systems		Adherence improvem.		Medication reconciliat.		Administr. vaccines		Complem. prescription		Independent prescription	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Uruguay	×	A			✓	NR	✓	E			✓	E								
USA	✓	A	✓	C	✓	B	✓	B	×	B	×	B	×	C	✓	A	✓	D	✓	E
Vietnam	✓	C	✓	D	✓	E	×	E			×	E					×	ND		
Zimbabwe	✓	B			✓	C														
	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.
n	58	51	21	37	56	54	22	36	20	35	12	20	12	22	23	28	6	8	9	15
% (n/71)	82%	72%	30%	52%	79%	76%	31%	51%	28%	49%	17%	28%	17%	31%	32%	39%	8%	11%	13%	21%

\* First letter for England, second for Scotland. For statistical purposes, only the implementation rate for England was considered, as it affects a higher percentage of the population of the UK.

## Appendix 17. Scope of practice. Services offered by community pharmacies, PART 2

### Legend


Reg. — Is the service regulated?

✓ — Service is regulated

A — Implemented by 76—100% of pharmacies

D — Implemented by 11—25% of pharmacies

ND — Service is implemented, but no data about % of pharmacies

 - Service recently introduced (between January 2013 and June 2015)

Imp. — Implementation of service

× — Service is not regulated, but is implemented to some extent

B — Implemented by 51—75% of pharmacies

E — Implemented by 0—10% of pharmacies

C — Implemented by 26—50% of pharmacies

NR — Service is regulated, but no response about implementation

Country or territory	Asthma management		Diabetes management		Hypertension management		Cardiovascular risk assessment		Emergency contraception		Collecting expired medicines		First aid		Pharmacovigilance		Home deliveries		Home care by pharmacists	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Afghanistan									✓	E	✓	D	✓	D	✓	NR				
Argentina (Province of Buenos Aires)									✓	A	✓	D	×	E	✓	E	✓	NR		
Australia	✓	NR	✓	NR					✓	NR	✓	NR	✓	ND	✓	NR	✓	NR		
Austria									✓	A	✓	B			✓	A	✓	NR		
Belgium	✓	C							✓	A	✓	A			✓	A	✓	C		
Bolivia									×	B					✓	E	×	D		
Bosnia and Herzegovina			✓	E			✓	E	×	E	×	E	×	E	✓	E	×	E	×	E
Brazil									✓	E	✓	E			✓	E	✓	E		
Cameroon																				
Canada							✓	D	✓	A	×	A	✓	E			×	A		
Chad																				
China							×	D			×	D			×	E	×	E	×	E
China Taiwan			×	E																
Colombia									✓	A	✓	E			✓	E				
Costa Rica											✓	C					✓	A	✓	ND
Croatia	×	E	×	E	×	E	×	E	✓	A	✓	A			✓	D				

Country or territory	Asthma management		Diabetes management		Hypertension management		Cardiovascular risk assessment		Emergency contraception		Collecting expired medicines		First aid		Pharmacovigilance		Home deliveries		Home care by pharmacists	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Cuba	✓	A	✓	A	✓	A									✓	C	✓	A		
Denmark									✓	A	✓	A								
Ethiopia									✓	A	✓	A								
Finland	x	C	x	C	x	C	xx	E	✓	A	x	A					x	E	x	D
France	✓	ND							✓	ND	✓	ND	✓	ND	✓	ND	✓	ND	✓	NR
Germany							xx	E	x	A	x	A	x	A	x	A	x	A	x	E
Ghana	x	A	x	A	x	A	xx	E	x	A	x	E	x	E	x	C	x	D	x	E
Hong Kong, China							✓	ND												
Hungary							✓	E			✓	A			✓	D	✓	E		
Iceland									✓	A	✓	A					✓	B		
India																				
Indonesia									x	ND										
Iraq																				
Ireland							xx	D	x	A	x	B	x	A	x	A	x	C		
Israel									✓	ND	✓	A	x	ND			✓	D		
Italy							xx	E	✓	A	✓	A	x	E	✓	A	✓	E		
Japan											x	ND			✓	ND	✓	NR	✓	A
Jordan											✓	E	✓	B	✓	E	x	E	x	E
Korea (Rep. of)											x	A			x	A				
Lebanon																				
Lithuania									x	A			✓	A	✓	A				
Macedonia																				
Mali											✓	ND			✓	ND				
Mongolia							✓	E	✓	C					✓	D	x	E		
Montenegro																				
Morocco									x	A			x	D			✓	NR	x	E

Country or territory	Asthma management		Diabetes management		Hypertension management		Cardiovascular risk assessment		Emergency contraception		Collecting expired medicines		First aid		Pharmacovigilance		Home deliveries		Home care by pharmacists	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Nepal															✓	E				
Netherlands			×	E	×	E	xx	E	×	A	×	A	×	E	✓	A	✓	A	×	E
Nigeria	×	D	×	D	×	D	✓	D	×	B	×	B	×	B	×	A				
Norway									✓	A	✓	A								
Pakistan											✓	E			✓	E				
Panama											✓	B	✓	C	×	B	×	E	×	D
Paraguay													✓	A	✓	D				
Philippines			✓	D	✓	D									✓	E	✓	E		
Poland									×	ND	✓	ND			✓	ND				
Portugal	✓	E	✓	E	✓	E	xx	B	✓	A	✓	A	✓	E	✓	ND	✓	ND	✓	ND
Romania											✓	E			✓	NR				
Russian Federation													✓	ND	✓	ND	×	E		
Senegal									✓	NR					✓	NR				
Serbia															✓	NR				
Sierra Leone											✓	ND	✓	ND	✓	ND				
South Africa									✓	A	✓	C					✓	A		
Spain									✓	A	✓	A	✓	A	✓	A			×	C
Sri Lanka																				
Sweden									✓	A	✓	A								
Switzerland							xx	D	✓	A	×	A	×	A	✓	A	×	A	×	D
Tanzania									✓	E	✓	B	✓	E	✓	E				
Thailand			×	ND	×	E						E							×	E
Turkey																				
UAE	✓	E	✓	E	✓	E					✓	D	✓	C	✓	C			×	E
UK							xx	C	×	BA*	×	BA*			×	ND	×	A	×	E
Uruguay											✓	E			✓	E	✓	A		

Country or territory	Asthma management		Diabetes management		Hypertension management		Cardiovascular risk assessment		Emergency contraception		Collecting expired medicines		First aid		Pharmacovigilance		Home deliveries		Home care by pharmacists	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
USA			x	B	x	B	xx	D	✓	E	✓	C	✓	E	✓	B	x	D	✓	E
Vietnam											✓	B	✓	B	✓	D				
Zimbabwe									✓	ND										

	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.
n	6	9	6	13	4	11	6	17	27	36	33	44	16	27	38	41	19	29	5	18
% (n/71)	8%	13%	8%	18%	6%	15%	8%	24%	38%	51%	46%	62%	23%	38%	54%	58%	27%	41%	7%	25%

\* First letter for England, second for Scotland. For statistical purposes, only the implementation rate for England was considered, as it affects a higher percentage of the population of the UK.

## Appendix 18. Scope of practice. Services offered by community pharmacies, PART 3

### Legend

Reg. — Is the service regulated?

✓ — Service is regulated

A — Implemented by 76—100% of pharmacies

D — Implemented by 11—25% of pharmacies

ND — Service is implemented, but no data about % of pharmacies

Imp. — Implementation of service

× — Service is not regulated, but is implemented to some extent

B — Implemented by 51—75% of pharmacies

E — Implemented by 0—10% of pharmacies

C — Implemented by 26—50% of pharmacies

NR — Service is regulated, but no response about implementation

Service recently introduced (between January 2013 and June 2015)

Country or territory	Blood glucose determination		Blood cholesterol determination		Blood pressure measurement		Weight, height, BMI determination		HIV testing		Colon cancer screening		TB DOTS programs		Health campaigns		Smoking cessation		Syringe exchange		Methadone therapy	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Afghanistan					✓	D																
Argentina (Province of Buenos Aires)															✓	NR						
Australia	✓	NR	✓	NR	✓	NR	✓	NR	✓	ND	✓	NR			✓	NR	✓	NR	✓	NR	✓	NR
Austria	✓	NR	✓	NR	✓	NR	✓	NR							✓	NR	✓	A	✓	NR	✓	NR
Belgium															✓	A						
Bolivia					×	E	×	E														
Bosnia and Herzegovina	✓	A	✓	A	✓	A	✓	A			×	E	×	E	×	E	✓	E	✓	A	✓	A
Brazil	✓	ND			✓	B	✓	D							✓	E	✓	E	✓	ND		
Cameroon																						
Canada	✓	D	✓	E	×	D	×	E							×	C	✓	D	✓	D	✓	E
Chad													✓	NR								
China	×	C	×	E	×	C	×	B			×	E					×	E	×	C	×	E
China Taiwan																						
Colombia	✓	E																	✓	E		

Country or territory	Blood glucose determination		Blood cholesterol determination		Blood pressure measurement		Weight, height, BMI determination		HIV testing		Colon cancer screening		TB DOTS programs		Health campaigns		Smoking cessation		Syringe exchange		Methadone therapy	
	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp
Costa Rica	✓	E			✓	A							✓	E	✓	C	×	E	✓	E		
Croatia	×	C	×	E	×	C	×	E							×	A	×	E	×	C	×	E
Cuba															✓	C						
Denmark	×	D			×	D	×	E							×	A	×	D	×	D		
Ethiopia							✓	A							✓	A						
Finland					×	D	×	D							×	C	×	E				
France															✓	ND	✓	B				
Germany	×	A	×	B	×	A	×	A			×	E			×	D			×	A	×	B
Ghana	×	C	×	E	×	B	×	C			×	E	×	E	×	A	×	E	×	C	×	E
Hong Kong, China					✓	NR	✓	NR							✓	NR	✓	NR				
Hungary	✓	E	✓	E	✓	E	✓	E							×	D			✓	E	✓	E
Iceland	✓	E	✓	E	✓	C	✓	E											✓	E	✓	E
India													×	E								
Indonesia	×	E	×	E	×	E							×	E					×	E	×	E
Iraq																						
Ireland	×	D	×	D	×	D	×	D							×	B	×	A	×	D	×	D
Israel	✓	NR	✓	NR	✓	B	×	C							×	D	×	C	✓	NR	✓	NR
Italy	×	C	×	C	×	C	×	C			✓	E			✓	B	×	D	×	C	×	C
Japan	×	ND	×	ND									×	ND	×	ND	×	ND	×	ND	×	ND
Jordan	✓	D													✓	D			✓	D		
Korea (Rep. of)																	×	E				
Lebanon	✓	A	✓	C	✓	A	✓	A							✓	C			✓	A	✓	C
Lithuania	×	A			✓	A													×	A		
Macedonia																						
Mali	✓	D			×	C	×	D							×	ND			✓	D		



Country or territory	Blood glucose determination		Blood cholesterol determination		Blood pressure measurement		Weight, height, BMI determination		HIV testing		Colon cancer screening		TB DOTS programs		Health campaigns		Smoking cessation		Syringe exchange		Methadone therapy	
	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp
Mongolia	✓	B	✓	D	✓	D	✓	D	✓	B			✓	B	✓	B	✓	B	✓	B	✓	D
Montenegro																						
Morocco	x	D	x	E	x	C	x	B							x	E			x	D	x	E
Nepal													✓	ND								
Netherlands	x	E	x	E	x	E	x	E			x	E	x	E	x	E	x	E	x	E	x	E
Nigeria	✓	D	✓	D	✓	B	✓	B			x	E	✓	C	x	E			✓	D	✓	D
Norway																						
Pakistan	✓	E	✓	E	✓	E	✓	E											✓	E	✓	E
Panama	x	A	x	A	x	B	x	C					x	E	x	A	x	C	x	A	x	A
Paraguay																						
Philippines	x	D	x	D	x	D	x	D					x	E	✓	C			x	D	x	D
Poland					x	ND	x	ND							x	ND						
Portugal	x	A	x	A	x	A	x	A			x	E			✓	A	x	E	x	A	x	A
Romania	✓	E	x	E	✓	D	x	E							x	E			✓	E	x	E
Russian Federation															✓	ND						
Senegal																						
Serbia															✓	NR						
Sierra Leone															✓	ND						
South Africa	✓	A	✓	A	✓	A	✓	A					x	E	x	D	x	E	✓	A	✓	A
Spain	x	D	x	D	x	B	x	B	✓	C	✓	C			✓	A	x	C	x	D	x	D
Sri Lanka													✓	NR								
Sweden																						
Switzerland	x	C	x	C	x	A	x	A			x	ND			x	B	x	D	x	C	x	C
Tanzania	✓	E			x	E	x	E					✓	D	x	D			✓	E		
Thailand	x	E			x	E	x	E							x	E	x	E	x	E		

Country or territory	Blood glucose determination		Blood cholesterol determination		Blood pressure measurement		Weight, height, BMI determination		HIV testing		Colon cancer screening		TB DOTS programs		Health campaigns		Smoking cessation		Syringe exchange		Methadone therapy	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Turkey																						
UAE							✓	E							✓	D	✓	D				
UK	x	A	x	A	x	A	x	A							x	A	x	B	x	A	x	A
Uruguay	✓	D	✓	D	✓	D													✓	D	✓	D
USA	✓	C	✓	C	x	A	x	E			✓	E			x	B	✓	C	✓	C	✓	C
Vietnam	x	D			x	C	x	ND					✓	NR	x	D	✓	NR	x	D		
Zimbabwe					✓	D																

	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.
n	21	38	14	28	18	40	14	37	3	3	4	11	8	14	21	41	11	27	8	13	16	19
% (n/71)	30%	54%	20%	39%	25%	56%	20%	52%	4%	4%	6%	15%	11%	20%	30%	58%	15%	38%	11%	18%	23%	27%

## Appendix 19. Scope of practice. Services offered by hospital pharmacies

### Legend


Reg. — Is the service regulated?

✓ — Service is regulated

A — Implemented by 76—100% of pharmacies

D — Implemented by 11—25% of pharmacies

ND — Service is implemented, but no data about % of pharmacies

 - Service recently introduced (between January 2013 and June 2015)

Imp. — Implementation of service

× — Service is not regulated, but is implemented to some extent

B — Implemented by 51—75% of pharmacies

E — Implemented by 0—10% of pharmacies

C — Implemented by 26—50% of pharmacies

NR — Service is regulated, but no response about implementation

Country or territory	Medicines use review		Medicines selection and prescription		Personalised medication systems		Pharmaceutical care and patient follow-up		Medication reconciliation		Collaborate with other HC profess.		Influence on prescription		Procurement of medicines and medical devices		Access to patient information	
	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.	Reg.	Imp.
Afghanistan			✓	B	✓	C	✓	NR	✓	D	✓	E	✓	NR	✓	B	✓	E
Argentina (Province of Buenos Aires)			✓	NR	✓	C	✓	C							✓	NR	✓	NR
Australia	×	A	✓	A	×	A	×	B	×	A	×	A	×	A	✓	A	×	A
Austria	✓	NR	✓	NR	✓	NR	✓	NR			✓	NR			✓	NR	✓	NR
Belgium																		
Bolivia	×	E	✓	NR	×	E	×	E	×	E	×	E			✓	NR	×	E
Bosnia and Herzegovina	✓	E	×	E	×	E	×	E	×	E	×	E	×	E	✓	A	×	E
Brazil	✓	C	✓	B	✓	A	✓	C	✓	D	✓	B	✓	D	✓	A	✓	D
Cameroon																		
Canada	✓	A	✓	A			✓	A	✓	A	✓	A	✓	B	×	A	×	A
Chad	✓	NR													✓	NR		
China	×	C	×	C	×	D	×	C	×	E	×	C	×	C	✓	A	×	D
China Taiwan	✓	B	✓	A	✓	A	✓	A	✓	C	✓	A	✓	B	×	B	×	A
Colombia			✓	A			✓	B							✓	A		
Costa Rica	✓	D			×	C	✓	D	✓	E	✓	E	✓	D	✓	B	✓	A
Croatia	×	E					×	E			×	E			✓	NR		



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	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp
Morocco	x	E	x	E	x	E	x	E	x	E	x	E	x	A	x	D		
Nepal															✓	A		
Netherlands	✓	A	x	A	✓	A	x	A	✓	A	x	A	x	A	✓	A	x	A
Nigeria	✓	C	✓	C	✓	D	✓	D	x	D	x	E	x	C	✓	B	✓	E
Norway																		
Pakistan	✓	D	✓	D	✓	E	✓	E	✓	D	✓	D	✓	D	✓	C	✓	D
Panama	x	D	x	D	x	E	x	E	x	E	x	D	x	E	x	D	x	E
Paraguay			✓	D														
Philippines	✓	C	✓	A	✓	C	✓	C	✓	D	✓	E	✓	E	✓	A	✓	C
Poland																		
Portugal	✓	E			x	A	x	C	x	E	x	A	x	A	x	A	x	A
Romania																		
Russian Federation											✓	ND			✓	ND		
Senegal			✓	ND							✓	B			✓	D		
Serbia	✓	NR	✓	NR							✓	NR	✓	NR	✓	NR	✓	NR
Sierra Leone	✓	ND	✓	ND	✓	ND	✓	ND	✓	ND	✓	ND	✓	ND	✓	ND	✓	ND
South Africa	✓	E	✓	A			✓	E			✓	E	✓	E	✓	A	✓	E
Spain	x	A			x	B	x	B	x	B	x	B					x	C
Sri Lanka															✓	NR		
Sweden					✓	E												
Switzerland	x	A	x	A	x	A	x	C			x	B	x	ND	x	A	x	A
Tanzania	✓	D	✓	C			x	ND	✓	NR	✓	D	✓	C	✓	E	✓	C
Thailand	x	D	x	D			x	D	x	D	x	D	x	E	x	A	x	C
Turkey																		
UAE	✓	C	✓	C	✓	E	✓	C	✓	D	✓	D	✓	C	✓	A	✓	C

Country or territory	Medicines use review		Medicines selection and prescription		Personalised medication systems		Pharmaceutical care and patient follow-up		Medication reconciliation		Collaborate with other HC profess.		Influence on prescription		Procurement of medicines and medical devices		Access to patient information	
	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp	Reg.	Imp
UK																		
Uruguay	✓	D	✓	B	✓	C	✓	E			✓	E	✓	D	✓	A	✓	B
USA	×	A	×	A	×	A	×	A	×	A	×	B	×	A	×	A	×	A
Vietnam	✓	B	✓	B			×	ND			✓	D	×	ND	✓	A		
Zimbabwe			✓	NR											✓	NR		

Totals	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.	✓	Imp.
n	28	38	29	35	18	31	25	38	17	31	25	42	22	35	39	39	23	36
% (n/71)	39%	54%	41%	49%	25%	44%	35%	54%	24%	44%	35%	59%	31%	49%	55%	55%	32%	51%

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| Reference 09/2015