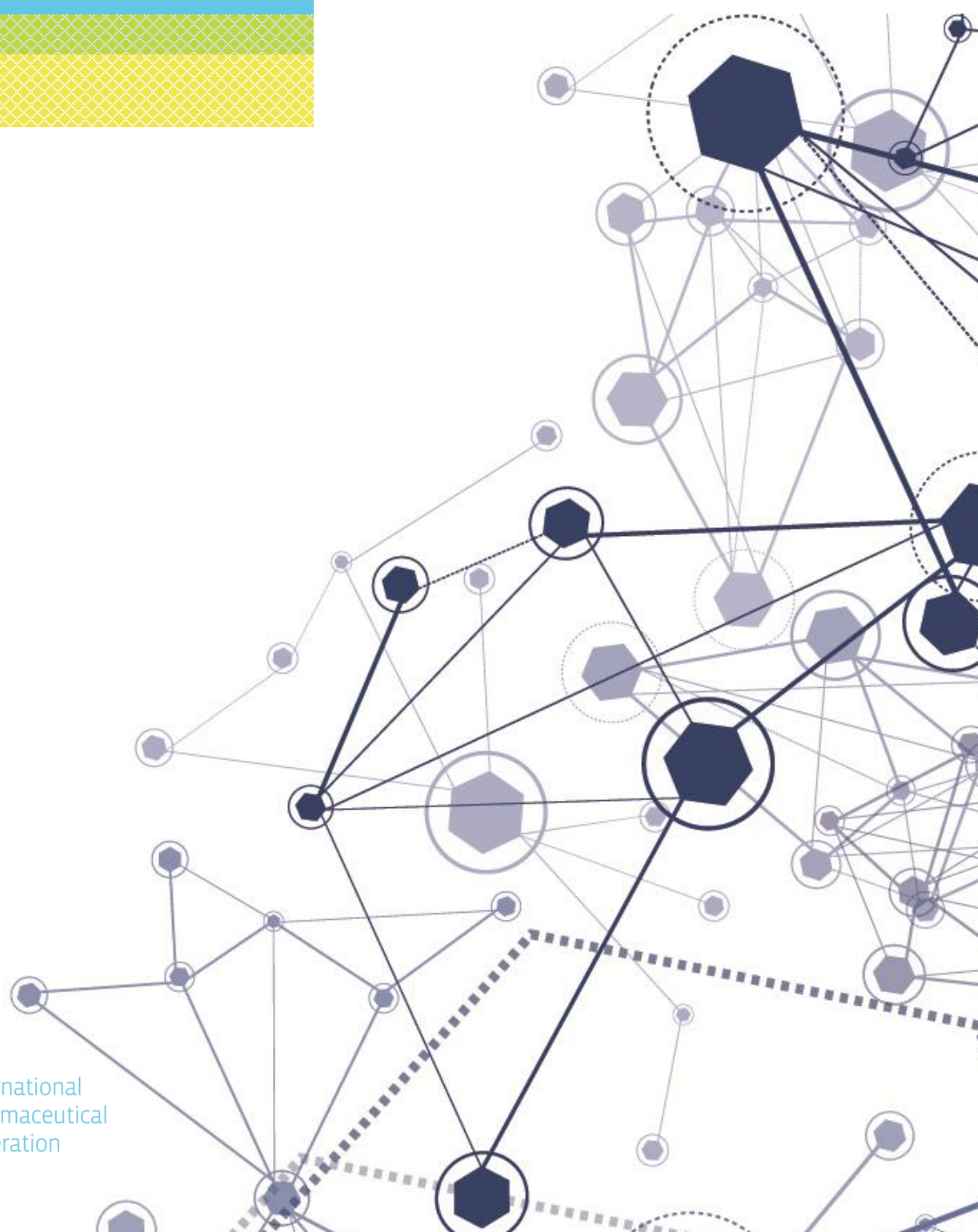


Pharmacy at a glance

2015–2017



International
Pharmaceutical
Federation



Colophon

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Pharmacy at a glance

2015-2017

“Advancing pharmacy worldwide” is not only FIP’s motto but also a mission statement that is shared by FIP’s 139 member organisations in over 100 countries and territories. Advancing pharmacy is based on a good understanding of the current state of pharmacy and the different available regulatory and practice models. For this reason, every two years FIP conducts a global survey of its member organisations to investigate how the profession is practised, regulated and remunerated, what the global pharmacy workforce is, and how medicines are distributed to patients. Our survey provides a biennial update of how the profession is changing worldwide and what are the emerging challenges and opportunities. The outcome of the 2017 survey is the report “Pharmacy: A Global Overview – Workforce, medicines distribution, practice, regulation and remuneration. 2015-2017”. This 300-page report is meant as a comprehensive tool for FIP member organisations. “Pharmacy at a glance 2015-2017” is an executive summary of that report, containing the key findings of the study.

For the 2017 survey, the maximum sample size was 103 — the number of countries and territories with at least one FIP member organisation or candidate member organisations at the time of the survey (March-May 2017). The average response rate was 72.6% (between 72 and 79 responses, depending on the survey part). Respondents accounted for 78% of the world’s population, which signifies that the regulation of pharmacy and access to medicines included in this study affect nearly four-fifths of the world’s population.

Global pharmacy workforce

In 74 responding countries and territories, representing 5,614 million people (76% of the world’s population), there are a total of 4,067,718 licensed or registered pharmacists, of whom 2,824,984 are actively practising.

The density of actively practising pharmacists per 10,000 people of a country’s population provides a standardised measure of the availability of pharmacists for health care systems. This measure is frequently used by the World Health Organization (WHO) and other organisations. The median density of pharmacists per 10,000 population in the study sample stands at 5.09. However, the figure for high-income countries and territories (7.61) is 12.7 times higher than that for low-income countries (0.60). Likewise, the differences in pharmacist density across WHO regions are to be noted: the density of pharmacists in the European region (8.28) is 13.6 times higher than that in the African region (0.61).

Based on the responses of 45 countries and territories (57%), women represent, on average, 59% of actively practising pharmacists. However, gender balance varies across WHO regions, with male pharmacists outnumbering women in the African and Eastern Mediterranean regions.

In terms of the distribution of pharmacists per area of practice, 58 respondents (representing 86% of the total population covered by the study) provided figures for the breakdown into community, hospital and other professional areas (including the pharmaceutical industry, pharmaceutical wholesaling, clinical biology laboratories, academia, and regulatory and other activities). The study found that 75% of actively practising pharmacists work in community pharmacy, 13% in hospital pharmacy and 12% in other areas.

Out of 79 responses, registration is mandatory to practise in 73 countries and territories (92%), indicating a high degree of national oversight of the practice standards for the pharmacy workforce.

With regards to the capacity for the supply (education) of new pharmacists, three indicators were selected for a standardised international comparison: the number of pharmacy schools per one million population (which provides a measure of the density of institutions for the education of pharmacists), the number of pharmacy graduates in 2016 (or most recent data) per one million population (which allows for a standardised international comparison of the supply of pharmacists in relation to a country’s population), and the number of graduates per pharmacy school (which provides an approximation to the supply capacity of pharmacy schools in the country). Global medians for these indicators stand at 0.46, 28.3 and 63.3, respectively.

Dispensing and sales of medicines

The section of the report on dispensing and sales of medicines deals with the regulation of the distribution channels (for sales and dispensing) of different types of medicines to patients. Different regulatory models not only affect access to medicines and the professional services of pharmacists, but they may also have an impact on health outcomes related to the use of medicines, on the budgets of health care systems, and on the economic sustainability of community pharmacies. Other aims of this section include an assessment of the accessibility of medicines by patients through different channels, and an analysis of the extent to which the distribution of medicines has been deregulated (or to which regulation is not enforced) and is open to agents external to the pharmacy profession, such as druggists, general sales establishments, dispensing doctors and the informal sector. The regulation of the online medicines market was also investigated, as well as the dispensing of specialty and other medicines to outpatients by hospital pharmacies.

At community pharmacies, all non-prescription medicines (NPMs) are behind the counter in 23 jurisdictions. The most common situation is that NPMs are divided into “behind the counter” and “self-selection” categories, which is the case in 30 jurisdictions. In the remaining 19 countries and territories, patients may choose their preferred medicine autonomously, but they may still consult a pharmacist or technician for assistance.

The high number of jurisdictions (33; 45%) where NPMs are sold at general establishments that are not related to health care or do not provide access to the advice of a health care professional to facilitate the choice of the most suitable treatment and promote the responsible use of medicines is worrying. The sales of NPMs at informal selling points (existing in 19% of the study jurisdictions) is of even greater concern, as not only is there no access to a health care professional like a pharmacist, but there is also no guarantee of quality, authenticity or adequate storage of medicines, which may represent a serious threat to health.

As for prescription-only medicines (POMs), aside from community pharmacies, certain POMs may be dispensed by hospital pharmacy outpatient services in a majority of jurisdictions (53; 73%). In fact, in some countries and territories (especially in Asia), POMs are mainly dispensed by hospital pharmacies, as is the case in China (94.6% of POMs in value), Indonesia (84.5% of POMs in volume) or China Taiwan (76% of POMs in value). POMs are distributed by channels other than community and hospital pharmacies in only a few countries. The only relevant exception is dispensing doctors, who may dispense POMs in 22 jurisdictions (30%). But again, there is a difference between the majority of countries and territories where dispensing doctors are limited to a few individuals (as in France, where there are fewer than 100, usually in remote areas) and the few countries and territories where dispensing doctors are more widely established (as in Switzerland, where they have a market share of 24% in value of the total dispensing of POMs).

With regards to the dispensing of specialty medicines that do not require in-hospital administration for treating HIV, cancer and hepatitis C patients through “bricks and mortar” (physical) establishments (i.e., not including online channels), the study concluded that, in the majority of jurisdictions (61% on average), these medicines are dispensed both by community and hospital pharmacies. They are dispensed exclusively by hospital pharmacy outpatient services in an average of 27% of jurisdictions, and exclusively by community pharmacies in an average of 12% of jurisdictions.

In relation to the online distribution of medicines, NPMs are available online only through the websites of physical community pharmacies in 14 countries and territories (19%), and the same applies to POMs in 16 countries and territories (22%). As for the availability of medicines online and not restricted to the websites of physical community pharmacies, this is the case in 29 countries and territories (40%) in the case of NPMs, and in 11 countries and territories (15%) for POMs. Online sales of medicines are not allowed or not available in 30 jurisdictions (41%) in the case of NPMs, and in 46 jurisdictions (63%) for POMs.

Prescribing by international non-proprietary name (INN) is mandatory in 27 out of 72 countries and territories (37.5%), and in an additional five (7%) it depends on the third-party payer. INN prescribing leads *de facto* to the selection of a generic product by the pharmacist. Out of the 45 jurisdictions where physicians may prescribe by brand name, pharmacists are obliged to dispense a generic alternative in 12 countries and territories (26.7%). Conversely, they are not authorised to alter the prescribed medicine in four countries or territories (8.9%). Otherwise, in the remaining jurisdictions generic substitution is either voluntary (35.5%) or it depends on the policy of the third-party payer (26.7%). In summary, pharmacists may have the opportunity to select and dispense a generic medicine — and thus contribute to curbing pharmaceutical expenditure for third-party payers and patients — in 94% of the study’s countries and territories.

Community pharmacy

Sixty-nine countries and territories reported a total number of 1,580,575 community pharmacies (including branches supervised by a pharmacist, but excluding mail-order only pharmacies), serving a population of 5,549 million people (75% of the world's population).

The average population served by a pharmacy could be used as an indication of a country's community pharmacy infrastructure and capacity, as well as the accessibility of pharmacy services and, to some extent, access to medicines. At global level, the median stands at 4,182 inhabitants per pharmacy (ranging from a minimum of 1,765 in Armenia to a maximum of 130,385 in Ethiopia). The ratio of inhabitants per community pharmacy in low-income countries (37,344) multiplies the global median of 4,182 by 8.9. Most countries and territories with higher income levels seem to have ratios of inhabitants per pharmacy within the range between 2,000 and 8,000. Although there is a great variety of regulatory systems and planning policies for community pharmacies within this group, this broadly translates as a balance between ease of access and a reasonable size for pharmacies that guarantees their sustainability.

The global median number of pharmacists per community pharmacy stands at 1.67, and a vast majority of countries and territories (65; 88%) have regulations that require the presence of a pharmacist at community pharmacies whenever they are open to the public.

A high density of community pharmacies per 10,000 population does not necessarily imply a balanced distribution of pharmacies across the territory or ensure sufficient access to pharmacies. In fact, out of 74 respondents, 42 (57%) reported that the establishment and distribution of community pharmacies is regulated by the state by applying geographic criteria (29 countries and territories; 39%) or demographic criteria (22 countries and territories; 30%) or other systems or criteria (9; 12%).

With reference to chains of community pharmacies, out of 73 respondents, 50 countries or territories (68.5%) reported the existence of this type of pharmacy ownership. The average percentage of pharmacies belonging to chains is 38% (with a minimum of 3% in Belgium and a maximum of 99% in Colombia).

Additional requirements apply to the functioning of community pharmacies in several jurisdictions. Twenty-four countries and territories (32.4%) reported having legal requirements for additional pharmacists in the staff of community pharmacies in certain circumstances. In terms of functional areas, rooms for a private conversation between the patient and a pharmacist are a legal requirement in 19 countries and territories (26%), as are compounding areas (for simple compounding) in 35 jurisdictions (47%). Also, out of 72 respondents, 36 (50%) reported the existence of mandatory duty shifts for community pharmacies beyond the normal opening hours (e.g., at night or during the week-end).

In terms of the existence and access to a shared patient health record, only 12 countries and territories (17%) reported that community pharmacists have some level of access, with only one (Singapore; 1.4%) reporting access to the complete record, two (Great Britain and Kenya; 2.9%) having access to a summary of the health record, and nine (12.9%) having access to certain parts of the record.

One of the key objectives of this study was to investigate and monitor the scope of activities of pharmacists in each country or territory and around the world.

The most common community pharmacy services are dispensing and counselling (63 respondents, 85%), pharmacovigilance (60 respondents, 81%) and compounding (59 respondents, 80%), all of which are part of the traditional role of pharmacists centred on medicines. We noticed that a number of advanced services are common and offered in more than 50% of the countries and territories, such as medicines use review (50 respondents, 68%), disease management programmes (diabetes, hypertension, asthma) in at least 35 countries and territories (47%), as well as the measuring of clinical parameters (blood pressure, blood sugar, body mass index) in over 46 countries and territories (62%).

This finding should, however, be put in perspective, as only 12% of community pharmacy services are currently covered by health insurances (public or private), which means that their cost is largely supported by the community pharmacy or the patient. Some countries, such as Canada and the USA, are expanding the scope of practice of community pharmacies, with 40 services available in their pharmacies. Likewise, the USA and

Switzerland have been the most successful in having a higher proportion of their available pharmacy services covered by health insurances (80% and 51%, respectively).

Hospital pharmacy

Out of the 72 respondents to the hospital pharmacy part of the survey questionnaire, 53 countries and territories (74%) reported a total number of 113,349 hospital pharmacies, serving a population of 3,614.5 million people (49% of the world's population).

The median density of hospital pharmacies per 100,000 population in the study sample stands at 1.05. The Southeast Asian region has the highest density of hospital pharmacies per 100,000 population (2.74), nearly seven times higher than that in Africa (0.40). As for the density of hospital pharmacists per 100,000 population, and based on data provided by 59 respondents (82%), the global sample's median stands at 4.52, and the highest value is found in the Western Pacific region (10.45). High-income countries have the highest density of hospital pharmacists (10.08/100,000 population), far above the second highest group (lower-middle-income countries), with 3.24/100,000 population. Data further suggest that low-income countries (with a density of 0.69/100,000 population, i.e., 15.2% of the global median) are critically underserved in terms of hospital pharmacists. Furthermore, the global sample's median number of pharmacists per hospital pharmacy stands at 2.83 (values range from 0.26 in Colombia to 45.17 in Singapore). It should be noted that the disparities in the various indicators related to the number or density of hospital pharmacists and pharmacies not only reflect the structure of health care systems and the respective weight of hospital versus ambulatory care, but also the functions and activities of hospital pharmacists (including dispensing to outpatients) and the accessibility of hospitals by the population.

Out of 70 respondents, 20 countries and territories (28.6%) reported that specific training requirements apply to hospital pharmacists practising either at publicly or privately owned hospitals. In four countries (5.7%), such requirements exist but are only mandatory for publicly owned hospitals.

The study investigated the scope of practice of hospital pharmacists around the world by surveying the extent of implementation of a set of 39 activities and services clustered into four groups: influence on procurement and prescribing, preparation and delivery of medicines, monitoring of medicines use, and other activities and services. The implementation of these services was not only considered in terms of whether they are available to some extent, but also if they are present in a majority (over 50%) of hospital pharmacies, and hence can be considered as part of mainstream hospital pharmacy practice.

Data suggest that the most widely implemented activities are the provision of medicines and support to emergency departments (69 countries and territories; 96%), reporting adverse reactions to medicines (68; 94.4%) and participating in pharmacy and therapeutics committees (68; 94.4%). A number of services aimed at improving the responsible use of medicines are available in a significant number of countries and territories, as is the case with the application of quality assurance strategies to minimise errors in the administration of medicines (66; 91.7%), and the implementation of antibiotic stewardship initiatives and infection control and prevention strategies (66; 91.7%). Hospital pharmacists also play a key role in informing and providing advice about medicines to other health care professionals (63; 87.5%).

With a slightly lower implementation rate, there are two activities that provide the basis for a close monitoring of medicines use and treatment outcomes, and pharmaceutical care: these are access to the patient's shared health record, and recording and evaluating relevant medication history details — both available in 59 countries and territories (81.9%). This suggests that in nearly one in five countries and territories, hospital pharmacists do not yet have access to the patient's clinical information or medication record, which is a barrier to an expanded role for hospital pharmacists in improving medicines use.

The least widely available services are chiefly activities related to recently introduced technical innovations (such as clinical pharmacogenomic testing, available in 22 countries and territories, 30.6%), activities that may be shared with or performed by other health care professionals (such as responsibility for sterilisation services or departments [25; 34.7%] or for clinical biology laboratories [25%]) and activities that represent areas of innovation within the profession that may require additional qualifications or adjustments to the regulation of the scope of practice of hospital pharmacists (such as collaborative or independent prescribing by pharmacists [15 and 29 countries and territories; 20.8% and 40.3%, respectively], and patient vaccination [19; 26.4%]).

In closing . . .

This summary represents a mere snapshot of the current situation of pharmacy at global level. From the findings of our study, we have also selected some key data that provide the answers to some fundamental questions, which we present to you in the following pages through 8 infographics. FIP commends this report to you and hopes it will provide you with information and intelligence to understand pharmacy's multiple contributions to global health.

1. How many pharmacists are there?

In 74 countries and territories (representing 5,614 million people, 76% of the world's population), there are

4,067,718

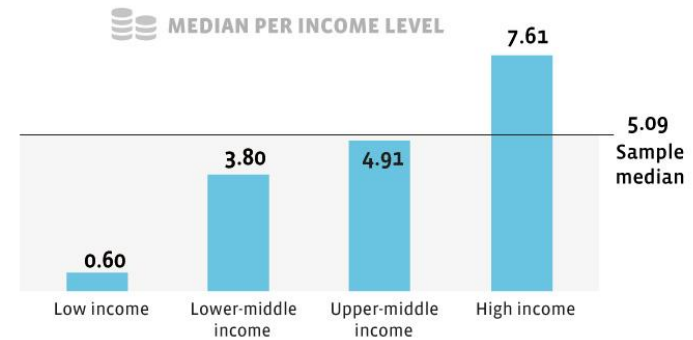
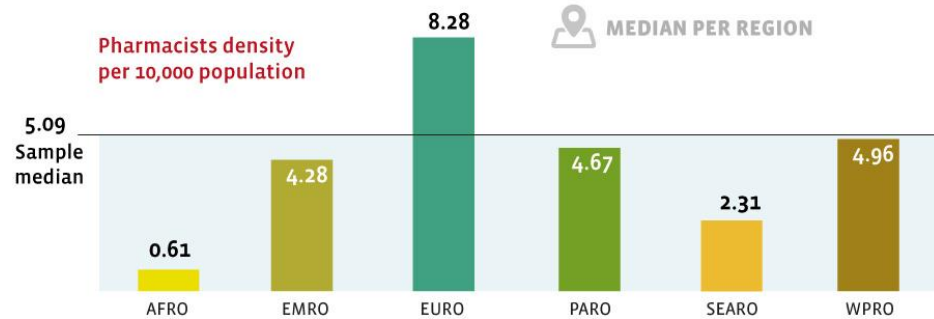
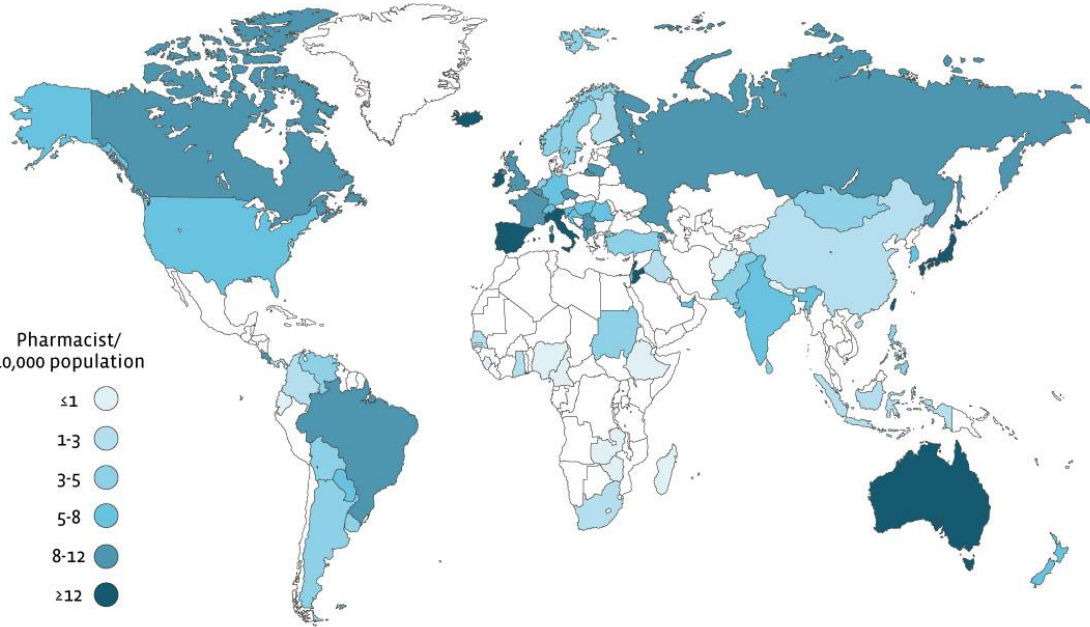
licenced or registered pharmacists



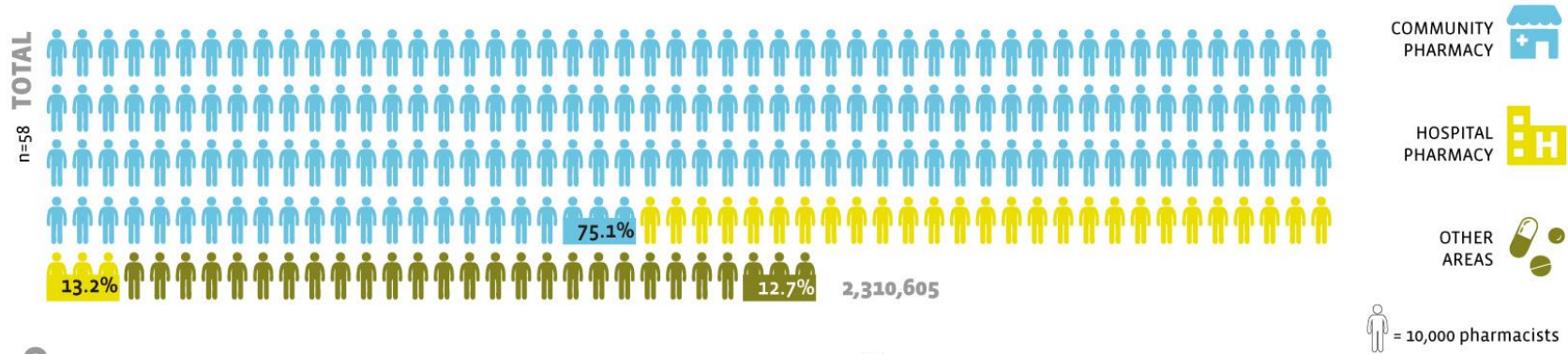
of which

2,824,984

pharmacists are actively practising



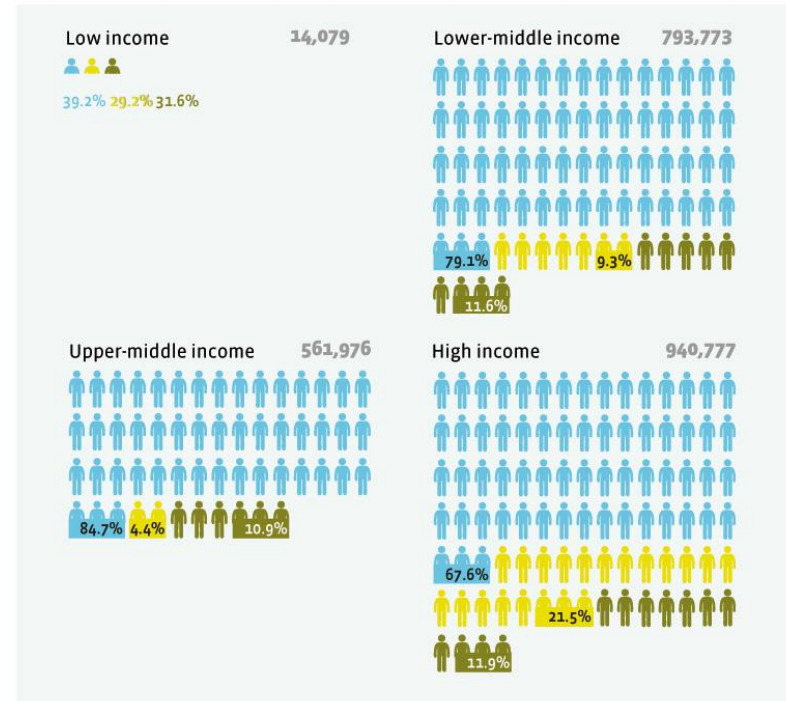
2. Where do pharmacists work?



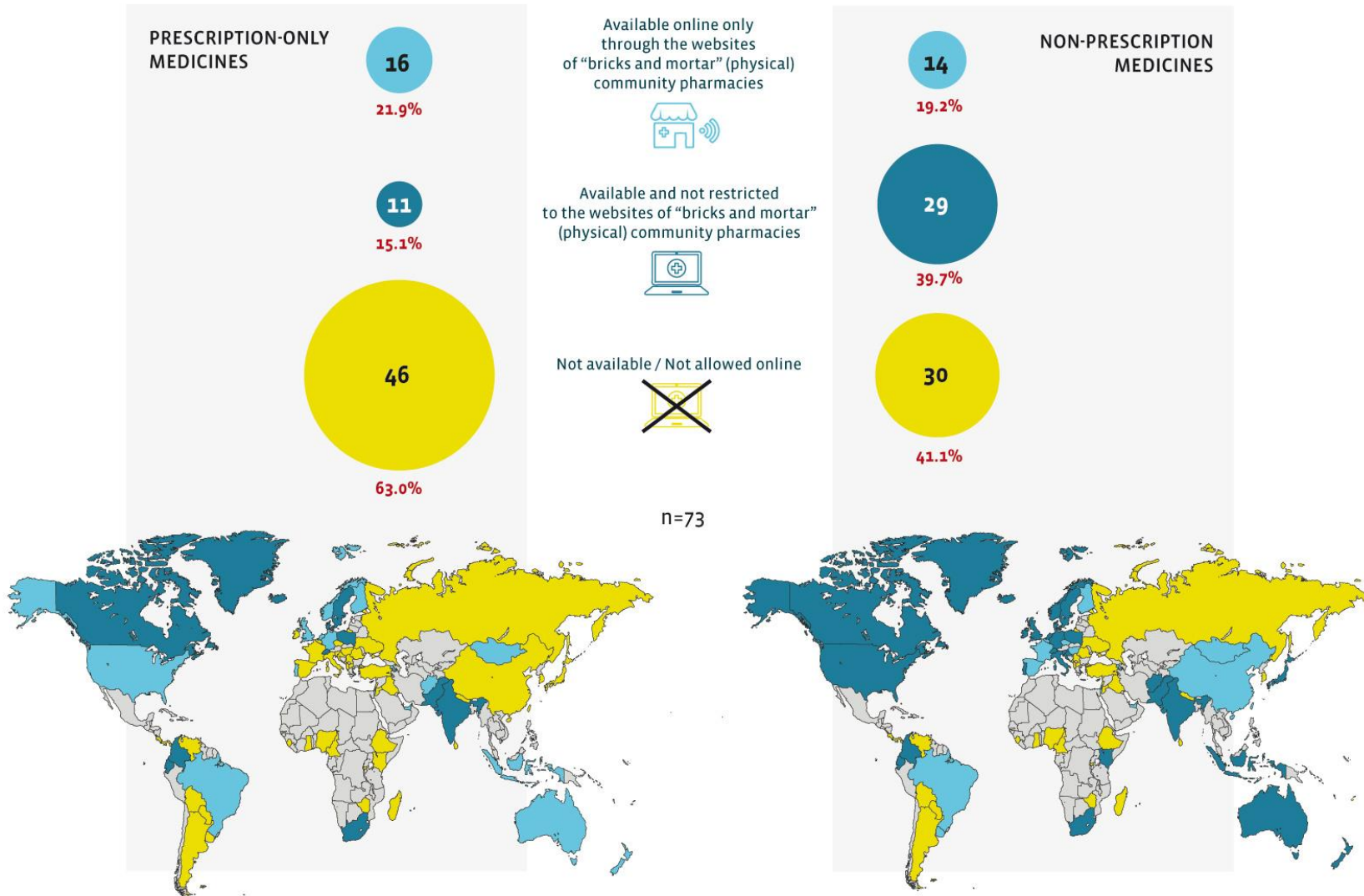
REGION



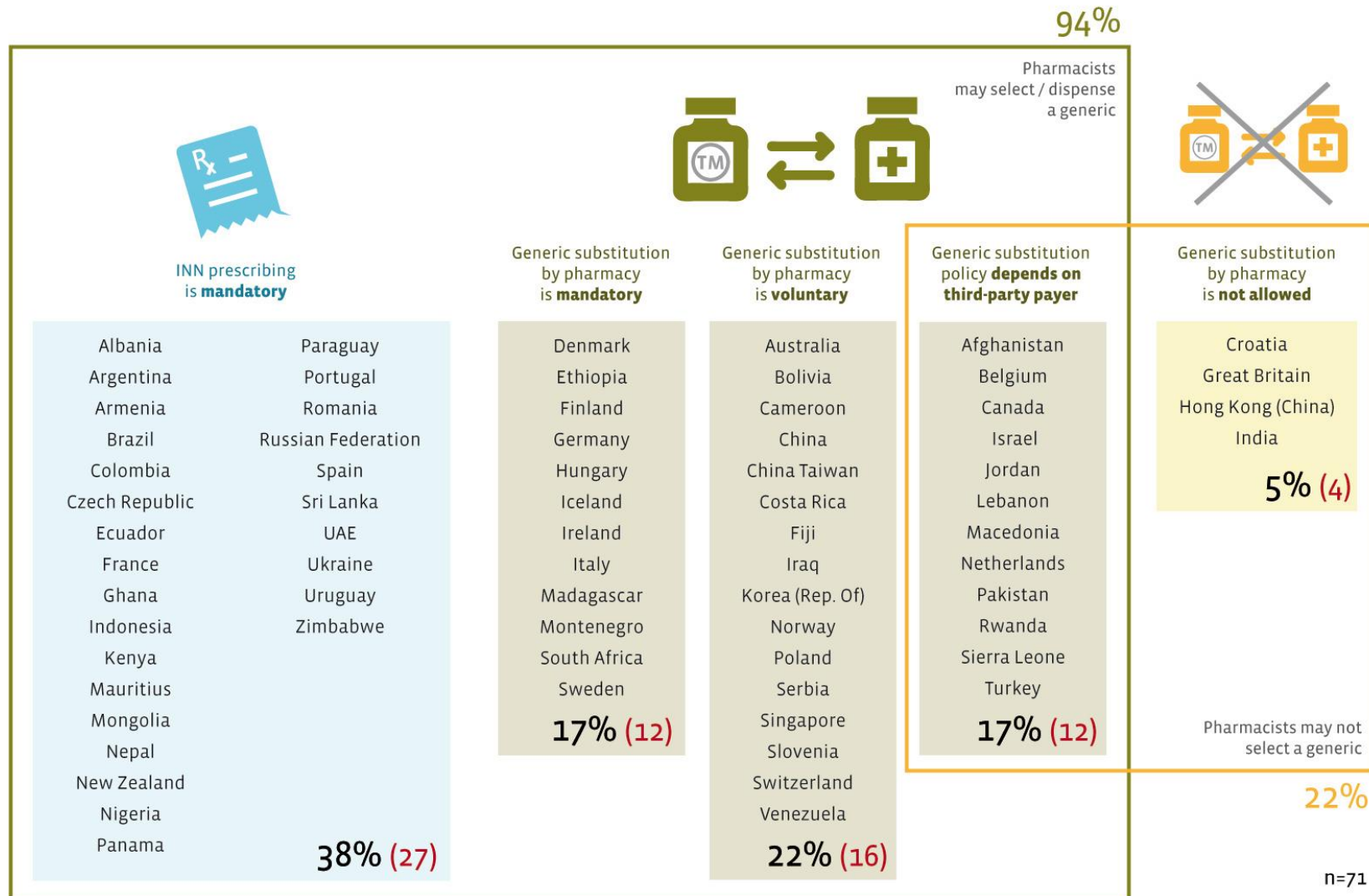
INCOME LEVEL



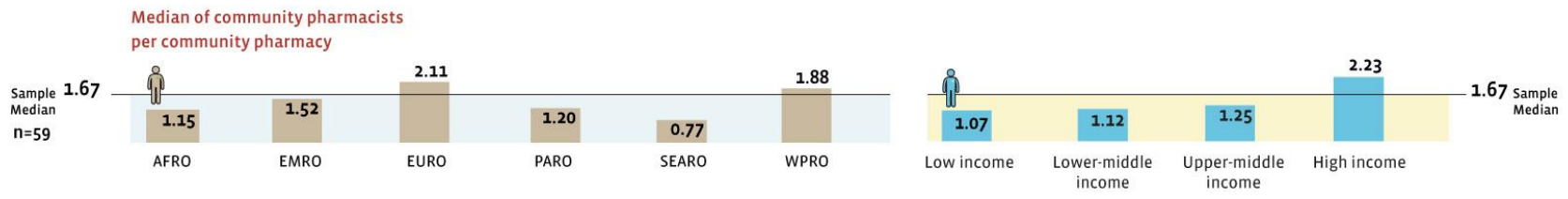
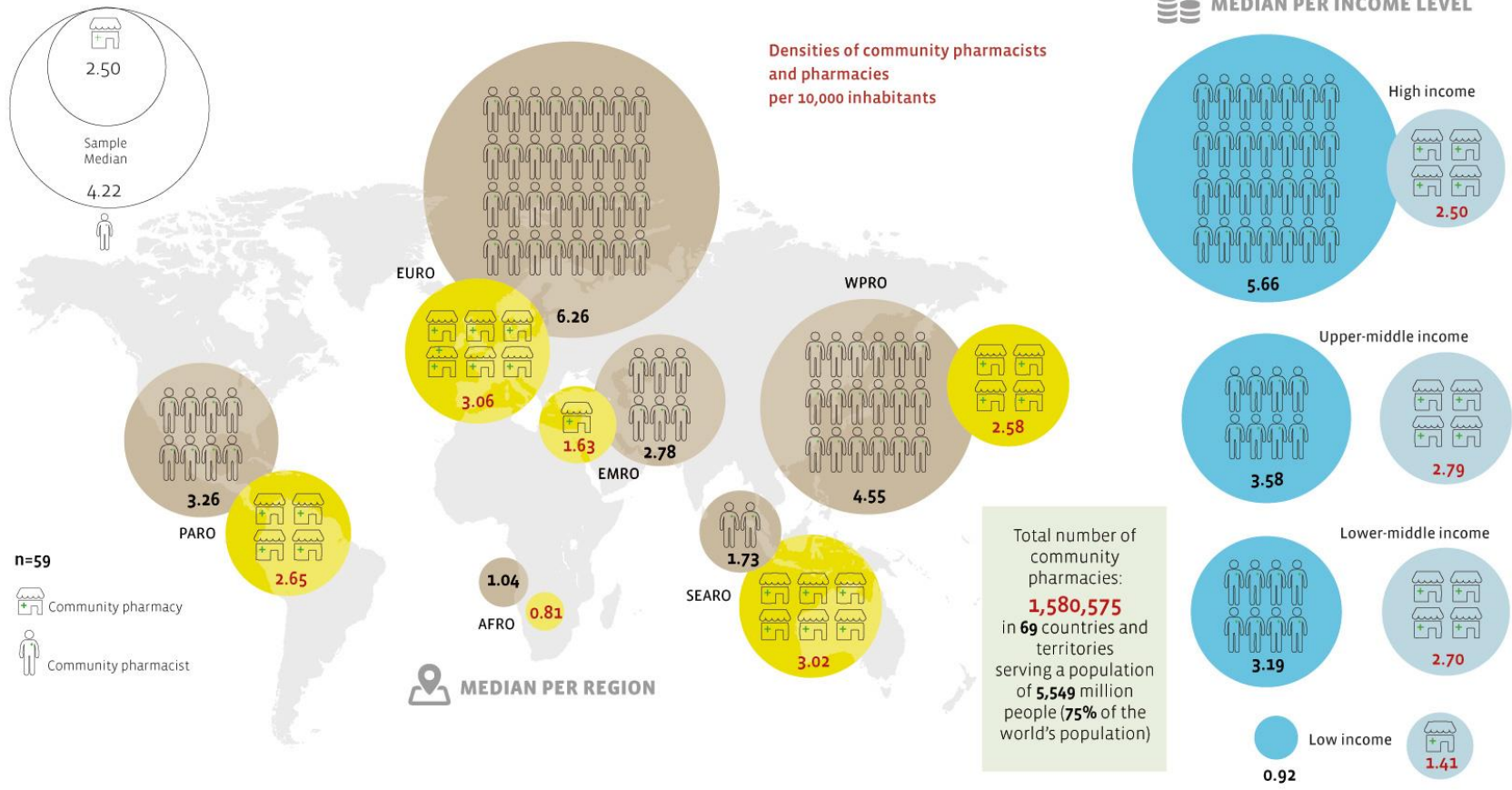
3. Are medicines available online and from where?



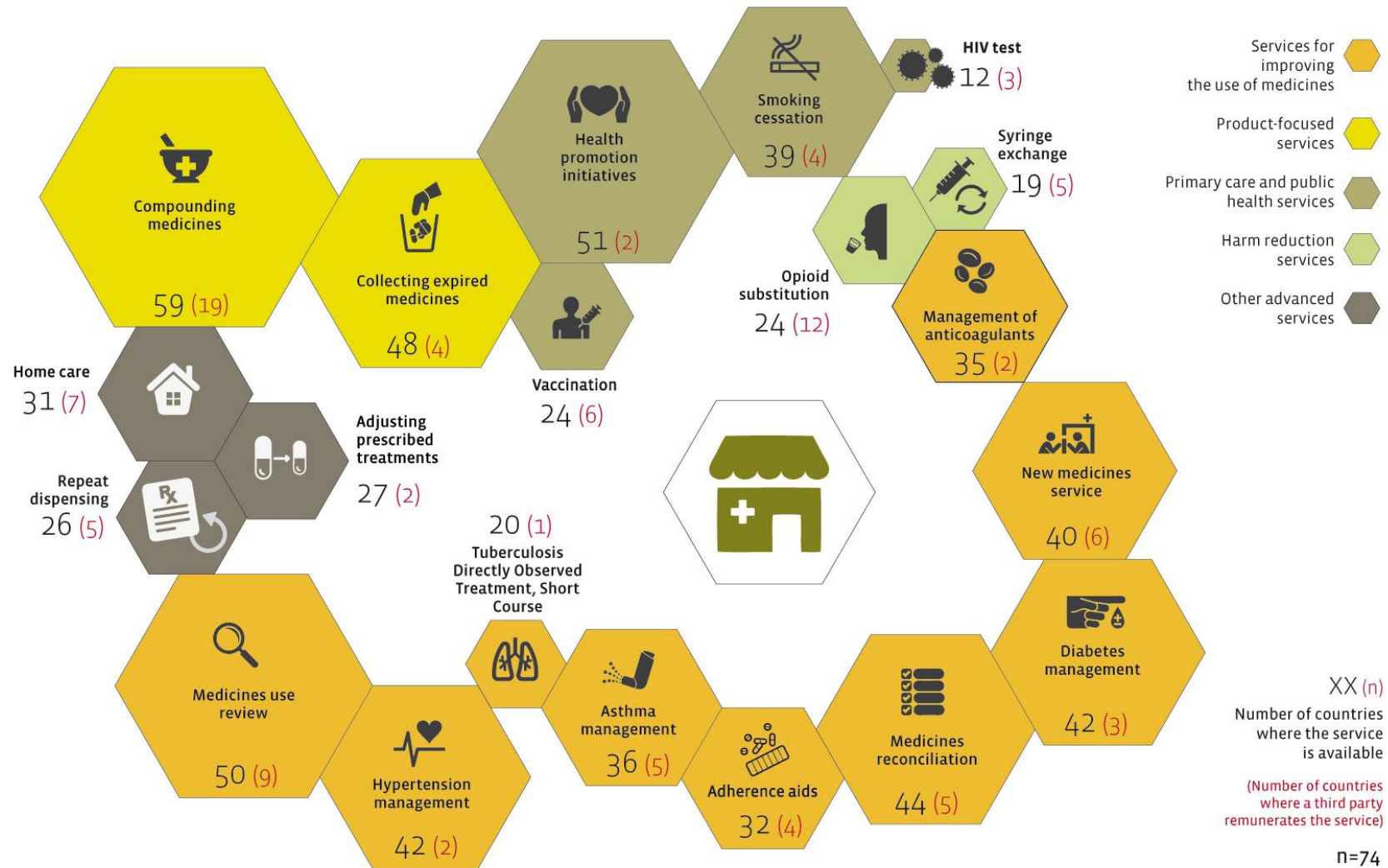
4. Where may pharmacists select and dispense a generic medicine?



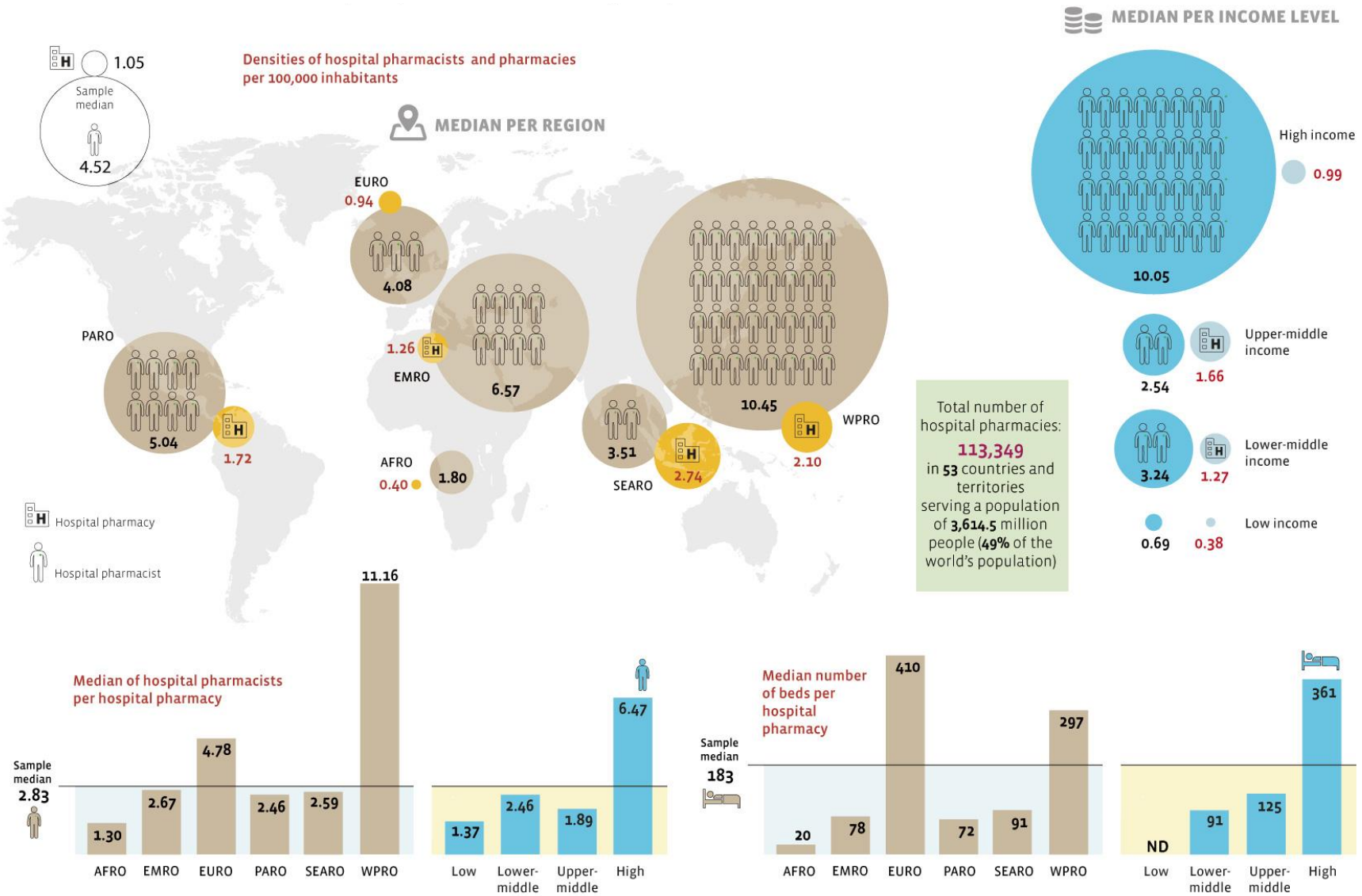
5. What does access to community pharmacies and community pharmacists look like?



6. What services are community pharmacies providing and remunerated for beyond dispensing?

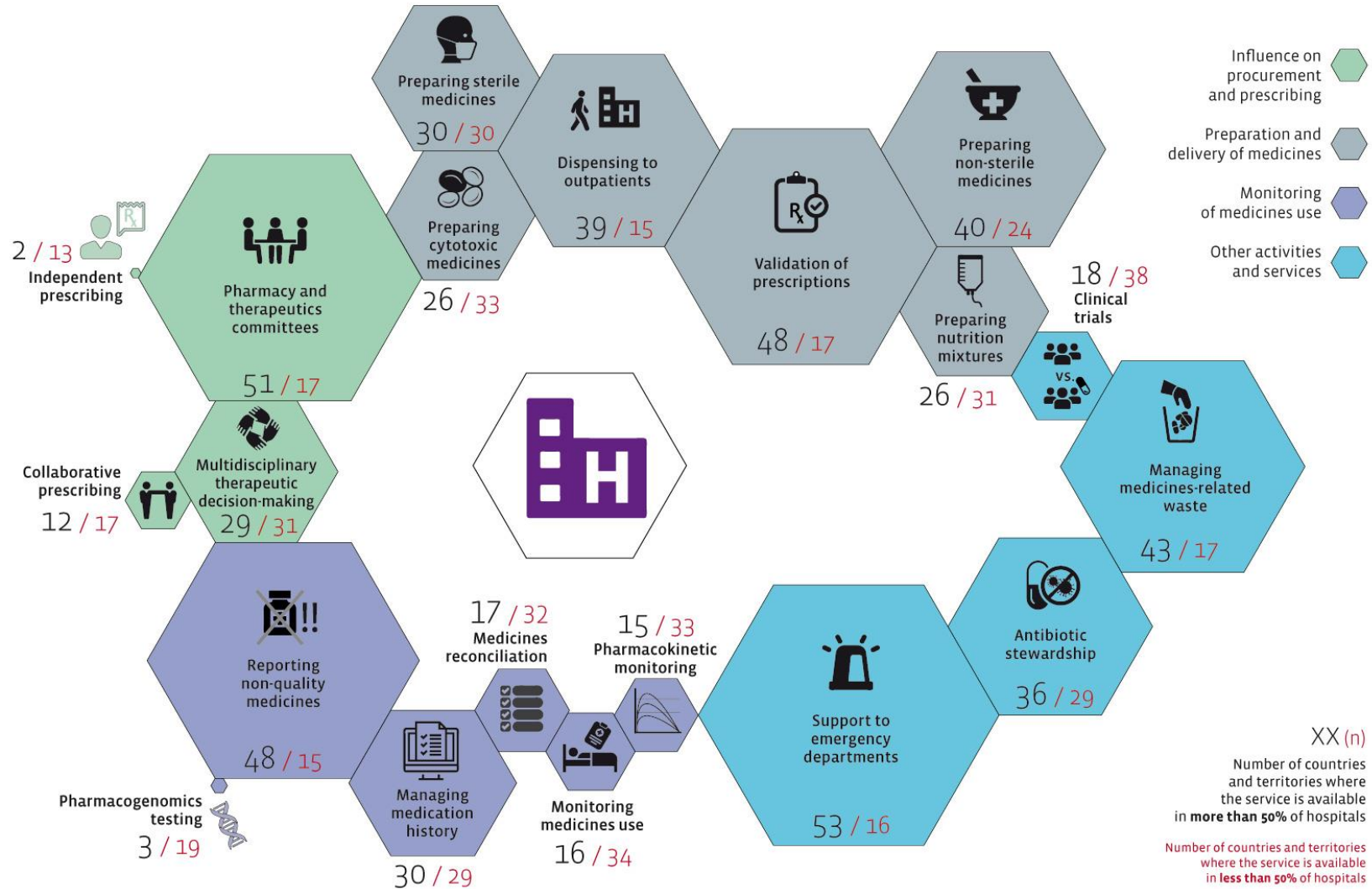


7. What does access to hospital pharmacies and hospital pharmacists look like?



8. What services are hospital pharmacies providing?

(n=72)



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