

Community pharmacy services in the late COVID-19 period: What has driven change?

Abstract

Background: Community pharmacy appears to have undergone considerable change over the years.

Objectives: The objective of this research is to study the range of community pharmacy services provided in late stages of the COVID-19 pandemic and during the last decades and to identify potential drivers for change.

Methods: Four European countries (Austria, England, Estonia, and Portugal), which represent a balance in terms of income, organization of the health system and pharmacy services, were selected as case studies. For each country, a factsheet on pharmacy services provided in 2023 and recent developments was populated based on a literature review and validated by country experts in community pharmacies. A semi-structured interview was conducted with a community pharmacist in all study countries to gather additional information, in particular on potential drivers for change.

Results:

In all case study countries, community pharmacies offer a range of medicines-related and non-medicines-related services, ranging from core activities such as dispensing and counselling to information on general health topics, point-of-care testing, disposal of returned medicines and needle-exchange programs. Certain services are only permitted in some countries (e.g., vaccinations, generic substitution). Developments (e.g., additional tasks) were observed in the last decades, but some changes were only introduced recently in response to the pandemic (e.g., testing for COVID-19, COVID-19 vaccinations). Several, mostly facilitating, factors, such as high accessibility and acceptance of community pharmacies, the growing relevance of the primary health care concept and an appetite of

community pharmacists to take over additional tasks, have contributed to changes in the range of services in community pharmacy in recent years and over the decades.

Conclusions:

The study confirms changes in community pharmacy, with overall extension of the services offered. The COVID-19 pandemic was reported to have played an important role but was not considered the sole driver for change.

Keywords:

Community pharmacy; pharmacy service; primary health care; cross-country; drivers; COVID-19

Introduction

The role of community pharmacy has substantially changed over the decades. As pharmacists have progressed on their path towards “patient-centered pharmaceutical care as their philosophy of practice”¹, as stipulated in the seminal work of Hepler and Strand in 1990, an understanding of community pharmacy as part of primary health care has evolved.²

This is also reflected by the range of pharmacy services offered, since new and additional pharmacy services have been provided by community pharmacies in some countries in recent years. A professional pharmacy service is defined as “an action or set of actions undertaken in or organised by a pharmacy, delivered by a pharmacist or other health practitioner, who applies their specialised health knowledge personally or via an intermediary, with a patient/client, population or other health professional, to optimise the process of care, with the aim to improve health outcomes and the value of healthcare”³. However, multiple terms and definitions exist in the literature to denote these services.⁴

While filling prescriptions, supplying non-prescription medicines for self-medication and counselling patients are considered core pharmacy services offered in all community

pharmacies in European countries, the range of further services varies substantially across countries.⁵⁻⁸ In several countries, community pharmacies lack the legal framework that would permit them to offer medication (use) reviews, repeat dispensing and vaccinations, whereas these are commonly provided community pharmacy services in other countries.⁹⁻¹¹ Some community pharmacy services may be developed in collaboration with other health professionals, such as pharmacist-physician co-visit models,¹² or across settings (collaboration of hospital and community pharmacies, e.g., to support patients discharged from the hospital).¹³ In terms of the legal mandate and funding, some community pharmacy services have been implemented as pharmacy-led initiatives¹⁴ and are provided for free,¹⁵ whereas others required changes in their national legal framework (e.g., vaccination by pharmacists) or may be supported by public funding.^{7, 16, 17}

Mapping studies, mainly focusing on Europe, documented the range of community pharmacy services provided during the pandemic across countries.¹⁸⁻²³ These findings suggest that the COVID-19 pandemic accelerated the provision of new pharmacy services.²⁴ In an article published in 2021, it was argued that the COVID-19 pandemic would likely have longer term implications on how patient care is provided, in particular with regard to telehealth services, and on the transition of patients between settings.²⁵ Nonetheless, it is unclear whether additional community pharmacy services launched during the COVID-19 era will be sustained beyond the pandemic and become part of regular pharmacy services, and whether these services can be developed even further. More granular knowledge at country level could offer valuable learnings for pharmacists, researchers and policymakers on different approaches regarding the implementation of pharmacy services in national contexts and help understand factors which can impact change in the services offered in community pharmacies.

As we transition from the COVID-19 pandemic to the endemic phase, this study aims to collect information on the range of services provided by community pharmacies in selected European countries and to analyze how these have changed during the pandemic and

against the backdrop of the evolving role of the community pharmacy during the last decades. Building on this stock-taking exercise, as an additional research question, the study aimed to identify potential drivers for these developments.

Methods

The study aims were addressed through case studies of community pharmacy systems in European countries.

Country selection

Aiming for a mix of European countries with different demographic, geographic, economic characteristics and differences in their health and pharmacy systems, four case study countries were selected. The range of community pharmacy services provided in potential study countries according to the literature was also considered. Data availability in the literature and contacts to experts were used as secondary selection criteria when deciding on the case studies.

In line with these criteria, Austria, England, Estonia and Portugal were selected as case study countries. England and Portugal were chosen because of the well-documented evolution of services in the community pharmacy sector.²⁶⁻³⁴ Though less well represented in the international literature, Estonia was selected after a screening of relevant information on the community pharmacy sector in European countries which suggested the establishment of some new services in Estonia, such as in the area of e-health.³⁵⁻⁴⁰ Austria was included because this study was part of a larger research project that aimed to analyze community pharmacy services in Austria. For a comparative overview of the selected case study countries regarding their selection criteria see Table 1.

Table 1: Characteristics of the case study countries

Country	Geography	Size in km ^{2a}	Inh. ^b	GPD per inh. (in USD) ^c	Health system ^d	HE per inh. (in USD) ^e	PE in % HE ^f	Community pharmacy ^g
Austria	Central	82,520	9.18 million	46,697.9	SHI	7,275	11.4	traditional
England	Western	241,930	67.83 million	47,923.5	NHS	5,493	9.5	advanced
Estonia	Northern	42,750	1.36 million	21,143.3	SHI	3,103	14.7	evolving
Portugal	Southern	91,605	10.47 million	22,125.9	NHS	4,162	14.6	advanced

GDP: gross domestic product, HE: health expenditure, inh.: inhabitant(s), NHS: national health service, PE: pharmaceutical expenditure, SHI: social health insurance, USD: United States dollars

^a 2021⁴¹

^b 2023 (England: 2020)⁴²

^c 2022 (data for England relate to the United Kingdom)⁴³

^d WHO study on pharmaceutical reimbursement⁴⁴

^e 2022 (data for England relate to the United Kingdom)⁴⁵

^f 2021 (data for England relate to the United Kingdom)⁴⁶

^g Austria⁴⁷; England^{29, 30, 32-34}; Estonia³⁵⁻⁴⁰; Portugal^{28, 31, 48}

Framework of pharmacy services

For identifying and categorising the pharmacy services in the case study countries, a catalogue of medicines-related and non-medicines-related community pharmacy services was developed, which offered a clustering per service category. This conceptional framework (see Supplementary Materials 1) was based on a review of the international literature, including national or cross-country mappings of pharmacy services provided before and during the COVID-19 pandemic.^{6-8, 17, 18, 20-22, 26, 29-32, 49-52} Definitions were provided for the pharmacy services listed in the framework.

Collection of country information

Information on the case study countries was obtained through a triangulation of methods, which included a literature review, a validation of retrieved country information by experts in community pharmacy in the study countries, and an interview with a community pharmacist in each country (Figure 1).

The country experts for validation and/or interviews were identified through the support of national pharmacy associations or chosen based on their profile in scientific publications. In England, Estonia and Portugal, the same person (an expert with research and/or policy expertise in pharmacy services, and hands-on experience from practice in a community pharmacy) validated the draft information on the community pharmacy in the respective case study country summarized in a country fact sheet (both in writing and through verbal

comments in the interview to provide the context) and offered insights into potential drivers and barriers during the interview. In Austria, a team of technical experts from the Austrian Chamber of Pharmacists reviewed the compilation of information on the community pharmacy, and a community pharmacist served as interviewee to discuss drivers for change.

Insert Figure 1 around here

A country fact sheet was produced, which compiled data on key characteristics and developments in the community pharmacy sector, including the regulatory environment. A major section of the country fact sheet concerned the pharmacy services as defined in the framework of pharmacy services for this study: information was collected whether or not the listed pharmacy services were offered by community pharmacies in the study countries, and under which conditions, e.g., on a mandatory or voluntary level, funded by public payers or patients (see Supplementary Materials 2 for the template of the country fact sheet). The country fact sheet was pre-filled in English language by the authors based on a pragmatic review of peer-reviewed and grey literature (in English and national languages) conducted in PubMed and Google Scholar, and a targeted search of relevant websites (of community pharmacy associations and public authorities); for Austria an extended draft was produced in German language. The country experts were asked to review the information in the country fact sheet as of 2023 and regarding key developments, and to add missing data, either in written form or to elaborate during the interview. All experts provided additional input and corrections in writing and commented on the fact sheets during the interviews (England, Estonia and Portugal), and a separate meeting (Austria), respectively.

A hypothesis for this study was that the COVID-19 pandemic acted as a key driver for introducing new community pharmacy services. Given the overall lack of data in the literature on other potential triggers for developments in community pharmacy, complementary interviews were held to understand the role and relevance of community pharmacy services, including developments, in the country context and to identify possible drivers for and barriers to the introduction of new services. The interviews were semi-structured and based

on an interview guide (see Supplementary Materials 3 for the interview guide; for Austria, an interview guide in German language was used).

The interviews were conducted face-to-face in German language (Austria) and online in English (England, Estonia and Portugal) by a team of two interviewers between 29 November 2022 and 30 January 2023. Based on the notes, which they had taken manually, the interviewers drafted minutes and shared them with the interviewees for validation. All interviewees reviewed the minutes.

Analysis

The regulatory environment for the provision of community pharmacy services was analyzed comparatively across the four case study countries, guided by the main dimensions (such as legal requirements regarding establishment of a new pharmacy, ownership and staff in a community pharmacy) as identified and listed in the country fact sheets. Similarly, information on community pharmacy services compiled in the country fact sheets was analyzed to identify commonly provided services and those services that were specific to individual countries. Any information on changes in the community pharmacy sector (either relating to the regulatory framework or more specific on the services provided) was compiled in timelines per country, serving as contextual information.

Information on potential drivers for change were identified in a thematic analysis built on the expert interviews with a community pharmacist in each of the countries. An inductive / deductive hybrid thematic analysis, as recommended by Proudfoot (2023)⁵³, was conducted.

The minutes of the four interviews were analyzed inductively with a view to identify overarching themes based on the statements made by the interviewees. In a subsequent step, the potential themes (factors for change) were reviewed again, and it was checked deductively whether information from the interviews, which might have been missed in the first sequence of the analysis, could be mapped. The hypothesis of a potentially accelerating role of the COVID-19 pandemic as facilitator for new pharmacy services, as suggested in the

literature,²⁴ was explored by establishing the theme of “crises” (financial and public health crises). In attributing information from the interviews to the themes, it was also analyzed if in the study countries the respective feature served as a facilitator or as a barrier to the introduction of new pharmacy services.

Ethical approval

No ethical approval was needed for this study since it did not involve research on human beings or animals.

Informed consent was obtained from the interviewees. For the informed consent form see Supplementary Materials 4.

Results

The four case study countries have seen some developments in the community pharmacy sector in the last years. Major similarities and differences are comparatively analyzed below; brief country profiles and country-specific references are presented in the Supplementary Materials (Supplementary Materials 5).

Regulatory environment

The regulatory framework varies across the four case study countries (data as of 2023). Austria, England (to some extent) and Portugal have imposed regulation for the establishment of new pharmacies, and pharmacy ownership is regulated in Austria and England. Some countries have seen re-regulation in which previous liberalisation processes were rolled back. Differences also exist regarding who may dispense prescription-only medicines and supply non-prescription medicines to patients, as well as regarding regulation for opening hours and supply chain obligations (Supplementary Materials 6).

Community pharmacy services

In all four case study countries, community pharmacies (all, some or a few pharmacies, depending on the service) offer a range of medicines-related services and non-medicines-related services (the latter to a lesser extent, see Table 2). Core services such as dispensing prescription-only medicines and supplying non-prescription medicines, counselling and provision of health information as well as medication use review type 1 (i.e., systematic assessment of a patient's medication history) are provided by all pharmacies in the four countries. Further common services, which are offered in most countries (however, not necessarily by all pharmacies), include different forms of medication use review type 2 (i.e., systematic assessment of a patient's medication history supplemented by a patient interview or clinical data), compounding, delivery services to patient homes and/or other institutions (e.g., nursing homes), disposal of medicines returned to pharmacies and testing for certain diseases. Depending on the legal framework, some countries allow generic substitution and defined vaccinations administered by pharmacists (England, Portugal). Overall, the range of services provided (and allowed) is higher in England and Portugal compared to Austria and Estonia.

Insert Table 2 around here

In England, defined community pharmacy services are requested and commissioned by the public authorities (usually at national level, but in the case of locally enhanced services by local authorities) and are remunerated by the National Health Service on a fee-for-service basis. So-called Essential Services must be provided by all community pharmacies in England, whereas Advanced Services may be offered by a pharmacy if required quality criteria are met. Moreover, Enhanced Services are provided upon commissioning of the public authorities based on a needs assessment (for details see Supplementary Materials 5). In the other countries, additional services beyond the traditional activities of dispensing, counselling and compounding, are frequently not separately remunerated but are either

covered as part of the pharmacy remuneration scheme based on mark-ups or paid by the patients.

Developments

Table 3 summarizes major developments in the community pharmacy sector in terms of the regulatory system and pharmacy services provided.

Insert Table 3 around here

The English community pharmacy system was reformed in 2005, with the implementation of the Community Pharmacy Contractual Framework, which introduced the above-described concept of Essential, Advanced and Enhanced Services. Community pharmacies played a role in the national roll-out of the COVID-19 vaccinations, but pharmacies had also previously been used as vaccination sites. In Portugal, a law in 2007 defined the scope of the community pharmacy services, and, as a result, Portuguese pharmacies were allowed to offer influenza vaccination from 2007. During the global financial crisis, which hit Portugal hard from 2008, the expansion of pharmacy services that had been initiated before 2008, slowed down, with the temporary suspension of the needle-exchange program. After the crisis (from 2014), new services were introduced and public funding secured in some cases, and the COVID-19 crisis acted as a catalyst for the further development of services. In Estonia, provision of additional services is limited by the Estonian Medicines Law of 2005, which describes some rather traditional community pharmacy services and defines pharmacists as “health workers”, who are permitted to perform fewer tasks compared to “health care workers”. While the legal basis has not changed for community pharmacists in the last two decades, pharmacists in Estonia have been advocating for a stronger involvement in primary health care and have been engaged in pilot projects for new pharmacy services (e.g., together with the national health insurance fund). In the last two decades, Austria has not seen major changes in the legal framework related to community pharmacy services, and very few additional or extended services were provided, largely on a

pilot basis. During the COVID-19 pandemic, community pharmacies in Austria gained visibility, with new services (e.g., testing for COVID-19 infections) being offered, and in Q4/2023, a revision of the pharmacy law, defining some additional pharmacy services, was tabled for discussion in the Parliament. In Q1/2024, the pharmacy law was reformed and extended the scope of pharmacy services to now include health tests and medication use review type 2.

Potential drivers

In a thematic analysis as described in the methods section, factors were identified as facilitators of, or barriers to, changes relating to community pharmacy services in the study countries (Table 4).

In the case study countries, most identified factors facilitated the introduction of new services or extension of existing ones. However, in some cases the further development of pharmacy services was supported by specific factors in some countries and was hindered in other countries. For instance, a too restrictive definition of the scope of pharmacy services continues to prevent the provision of some services by pharmacists despite their interest in Estonia, whereas Portuguese pharmacists benefitted from a future-proof legal act, which was passed approximately 15 years ago, to continuously work on shaping the provision of pharmacy services.

The interviewees considered the COVID-19 pandemic as a trigger for change, since changes in the community pharmacy sector were accelerated during the pandemic. In particular, visibility of community pharmacies was reinforced: For instance, community pharmacies continued to be open in pandemic times, in contrast to other institutions (e.g., doctors' practices being closed and hospitals with reduced services for non-COVID-19 patients). The good reputation of community pharmacists with patients and the public appears to have improved during the COVID-19 pandemic, since perceived benefits of community pharmacy services have been gained importance in crisis times.

282 Table 4: Potential factors driving change in the provision of community pharmacy services
 283 and their relevance in Austria, England, Estonia and Portugal

Factor	Analysis of factors (facilitating: +, hindering: -) based on examples in the case study countries
Political interest and support	+ Political decision to re-organize the community pharmacy framework in 2005 (England). + Local health authorities can commission pharmacy services when they see a need (England).
Primary health care	+ Initiatives are taken to strengthen primary health care globally, including in the case study countries (e.g., Austria, Estonia). Implementation of the primary health care concept implies changes of the role of the health care providers, such as community pharmacies and pharmacists. + Provision of additional pharmacy services may benefit from building on existing tasks in an integrative manner (e.g., patients who have their blood pressure medication filled to be offered regular blood pressure measurements in the pharmacy) (example from Estonia, likely relevant for all study countries).
Interest of community pharmacists	+ Numerous community pharmacists show an interest in strengthening their role as health professionals integrated in primary health care (all study countries). + Interest of pharmacists to potentially expand their range of services has also been supported and promoted by the pharmacy association (Austria, Estonia, Portugal).
Specifications in existing legal frameworks	+ A comprehensive legal framework which is sufficiently flexible to allow performing changes over a longer period (Portugal: a 2007 Decree which defined the scope of the pharmacy services appeared to have provided a sustainable basis). + Vaccinations administered by pharmacists in community pharmacies are allowed, and thus it was rather easy to organize for COVID-19 vaccinations in community pharmacies (England). - Details and/or definitions in legal provisions may pose a barrier to further developments (Estonia: community pharmacists are defined as "health workers" instead of "health care workers"; the latter are allowed to provide a broader range of services).
Accessibility of community pharmacies	+ Long opening hours (e.g., compared to other health care providers) (all study countries). + Easy to reach, particularly in urban areas (all study countries). + Usually no need for an appointment (e.g., for testing) (all study countries). + Community pharmacies may also be able to reach vulnerable groups (all study countries). + Limited accessibility of pharmacies in rural areas may act as a barrier; however, it may facilitate the development of further solutions, such as telemedicine (example from Estonia, likely relevant for all study countries).
High acceptance of community pharmacy	+ Surveys (e.g., by academia, market research institutes) confirm high trust of the public in pharmacists (all study countries). + Expansion may be based on acceptance of similar services (example from England: patients were familiar with influenza vaccinations, thus COVID-19 vaccinations in pharmacies were rather easily accepted).
Public funding of pharmacy services	+ Inclusion of pharmacy services into public funding may support uptake (e.g., England for Locally Enhanced Services). - Need to pay out-of-pocket for a service may pose a barrier for patients to request a service and could eventually lead to pharmacies not offering the service (Portugal: discontinuation of the needle-exchange program during the financial crisis).
Proof of added value	+ Studies which analyze pharmacy services, their quality and impact on the health system contribute to generate the evidence base which also allows finetuning and developing further the range of services (Estonia: a decade ago, the pharmacy association published a handbook of service quality guidelines, and pharmacists can self-assess compliance; the publication of aggregated findings allows benchmarking). + Findings of these studies with regard to the contributions and added value of pharmacy services to the health system can also be used to inform policymaking (e.g., Portugal: rich research and publication activities on this matter).
Collaboration between providers and institutions in the health system	- Opposition of some health professionals (e.g., doctors) to expand the scope of community pharmacy services is a barrier (e.g., Austria). + Current trend towards task-sharing, which would allow other health professionals (e.g., doctors) to focus on their core tasks. The task-sharing concept is mainly supported by a younger generation of health professionals (e.g., Estonia). + Some good practice examples of collaborative projects have helped to build trust among health professionals (e.g., Portugal: disease-management programs). + Collaboration with other institutions in the health system can contribute to strengthen the profile of community pharmacy (e.g. screening reminders in Estonian pharmacies together with the Estonian Health Insurance Fund; medication review pilot in Austria in collaboration with a university and the social health insurance). - For conducting some of the community pharmacy services, kick-off action by physicians to transfer patients to the pharmacies is needed, but this is not always done (e.g., New Medicine Service in England).

Factor	Analysis of factors (facilitating: +, hindering: -) based on examples in the case study countries
Digitalisation	+ New e-tools (e.g., online counselling) can enhance the expansion of community pharmacy services and new collaboration models (Estonia, England). - Lack of access to data (e.g., electronic patient records) of community pharmacists and denial to add data limits exchange of information between different health care providers and thus does not fully exploit the existing potential (e.g., Estonia).
Experience from other countries	+ Countries with a more traditional role in community pharmacy study the broader range of services in other countries, which may serve as inspiration and good-practice examples (e.g., Austria).
Financial and public health crises	+ The COVID-19 pandemic worked as a strong driver for changes in community pharmacy. It strengthened the visibility of community pharmacy (due to high accessibility, trust, and provision of important services) (all study countries, less in Estonia). + In crisis times, such as during the COVID-19 pandemic, new tasks were needed. Some could be quickly offered by community pharmacies given their perceived added value and/or building on existing range of services (e.g., testing for COVID-19 in all study countries). + The COVID-19 pandemic also stressed the importance of public health in general (all study countries). - The pandemic slowed down the development of planned services given the shift of priorities during the crisis (e.g., England). +/- The global financial crisis from 2008 onwards, which hit Portugal hard, reduced financial leeway for public funding of services and brought Portuguese pharmacies under pressure. At first glance, it acted as a barrier (e.g., discontinuation of the needle-exchange program). At the same time, it triggered a reflection process about the role of the community pharmacy and thus served as reorientation and focus after the crisis (Portugal).

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285 Discussion

286 The study has shown similarities and differences in the four case study countries with regard
287 to the regulatory environment for community pharmacies and, partially linked to the legal
288 framework, in the community pharmacy services that are offered. During the COVID-19
289 pandemic, the range of community pharmacy services was extended in all four studied
290 countries, when new services were established (e.g., testing, COVID-19 vaccinations in
291 some countries, shifting of dispensing medicines from the hospital setting to the community).
292 These developments were observed in countries with an advanced portfolio (England,
293 Portugal) as well as in countries with a more traditional role of community pharmacy services
294 (Austria, Estonia).

295 Compared to previous studies^{6, 7, 18-22} that provided a high-level mapping of community
296 pharmacy services across several countries, this study offers a comparative analysis at a
297 more granular level. In addition, this research informs about developments in the community
298 pharmacy sector, together with an identification of potential drivers for these changes; these
299 data are usually not covered in cross-country studies.

The four case study countries were selected to represent a balanced mix of different criteria, such as income and size, and the findings also confirm differences in terms of community pharmacy. The regulatory framework, e.g., establishment and ownership criteria, varied across the study countries, which reflects variation in these aspects across the countries of the European Region, as far as information is available.⁵²

This study adds to the literature documenting progress in the implementation of the patient-centered pharmaceutical care concept of pharmacists, as exemplified by services such as the medication use review and specific counselling services: this has been documented for the four case study countries as well as beyond.¹¹ Pharmaceutical care has not only been promoted in the scientific literature,⁹ but also through political decisions at supranational level, such as the Council of Europe Resolution on the Implementation of Pharmaceutical Care.^{54, 55} These advances are supported by global efforts of strengthening the primary health care (PHC) concept in many countries. The PHC approach aims to ensure that integrated primary care and public health are the interface between people and their health system and aims to engage communities and empower people to co-produce health.⁵⁶

For the case study countries, several supportive factors progressing towards the implementation of pharmaceutical care were identified: They include a strong appetite of pharmacists for redefining their role, through expansion of their services. This was observed even in countries with a less advanced range of services (e.g., in Austria).²⁴ In all case study countries (except for England, which already had a broad range of pharmacy services), interviewees reported about initiatives where community pharmacists have launched or piloted additional services as far as the legislation permitted. Scientific studies^{28, 31, 57, 58} that demonstrated the added value of services provided in the community pharmacy were reported to be supportive for the dialogue with policymakers. Another facilitator identified was the general positive perception of the community pharmacy with the public, which has been demonstrated in surveys in several countries over the years.⁵⁹⁻⁶¹ Public funding of community pharmacy services is perceived to be an important facilitating factor since it allows

pharmacies to offer services to patients free of charge or with low co-payments. This was in line with a study from Australia which found that government funding of community pharmacy services even positively impacted the provision of further non-funded pharmacy services.⁶² Available studies on facilitators and barriers of community pharmacy services usually focused on a specific service, mostly advanced types of medication use review (type 2 or type 3). Facilitators and barriers for medication use review identified in the literature were similar to our findings. Further facilitating aspects reported in the literature were the increase in polypharmacy and waste, and further barriers included the lack of competences for pharmacists to do so and lack of infrastructure in the pharmacies.^{24, 63}

A starting point for this study was a hypothesis that the COVID-19 pandemic played a key role in driving changes in community pharmacy. From the data sources analyzed, it appears that the pandemic acted as an accelerator and reinforcer of already existing supportive factors. The COVID-19 pandemic seemed to have contributed to further improve the reputation of community pharmacy because accessibility of pharmacies, which were perceived as being continuously open and available to patients throughout crisis times, reinforced trust and acceptance.

However, the impact of crises on developing community pharmacy services was not limited to COVID-19. The global financial crisis, which brought austerity measures for the health sector such as in Portugal, also resulted in the discontinuation of an existing service (needle-exchange program) and stopped the expansion of the pharmacy services for some time. At the same time, the difficult financial conditions in that period urged pharmacists to reconsider their role, to prioritize services and to improve the communication of the value of services to policymakers. After the financial crisis, the community pharmacy sector was further developed by taking into account learnings from the crisis (e.g., redesigning some services in an innovative way).

Our research pointed to the COVID-19 pandemic as a “game-changer”. In times of a global public health crisis with very limited alternatives, community pharmacists appeared to have

seized the momentum to showcase to the public and policymakers that they were willing and able to take over new responsibilities (either totally new services such as COVID-19 related ones or task-shifting from other health professionals). Thus, a crisis can also serve as an opportunity.

The study has some limitations. It investigated the status-quo in an evolving area with very recent changes, which were not well documented. To account for the lack of published data, in particular in some countries less covered in the literature, the literature review was supplemented by a validation through country pharmacy experts in the study countries. One of the research questions explored, the complementary study objective of identifying drivers for change in the study countries, was solely based on one interview with a community pharmacist per country. The authors acknowledge that given the limited number of interviews information or different perspectives might have been missed. The interviewees were forward-looking experts, who were active in bringing change and promoting innovation, and they may not always be representative for the whole sector. The voice of pharmacists who might be more reluctant towards new pharmacy services may not be sufficiently reflected in the study. Caution should be yielded in interpreting the data on the provision of the community pharmacy services, since some services were only offered by a fraction of pharmacies, though their provision by pharmacists was permitted and even publicly funded.

Conclusions

The study showed a broad range of community pharmacy services in European countries, as illustrated for four countries investigated. While traditional tasks such as filling prescriptions, supplying non-prescription medicines and counselling constitute core activities, the scope of pharmacy services was found to be much broader in some but not all studied countries and may include vaccinations, involvement in disease-management programs and point-of-care testing. In addition to differences in the range of services between the countries, intra-country variation also exists since some (non-core) services are not always provided by all pharmacies in a country.

The introduction of some of the additional community pharmacy services, usually based on a legal mandate to do so, dates back one or two decades in those countries with a broader range of services and was driven by a combination of political will of policymakers to further develop the existing system and an interest of pharmacists to take over additional tasks and to be acknowledged as health professionals.

For expanding the range of community pharmacy services, countries benefited from existing legal frameworks and infrastructure (e.g., in countries where pharmacists, or other health professionals in community pharmacies, were allowed to vaccinate, their vaccination schedule could be rather easily extended to COVID-19 vaccinations). Even in countries with a more traditional role of the community pharmacy, new pharmacy services were introduced during the COVID-19 pandemic.

While the study pointed to the COVID-19 pandemic as an important trigger for the extension of community pharmacy services, it would be too narrow to consider the pandemic as sole driving factor. Globally, over the last decades, the role of community pharmacy has been subject to developments since pharmacists have increasingly been perceived as health professionals who form an integral part in the health system. Further supporting factors, such as high accessibility of community pharmacies, trust into and high acceptance of pharmacists, and an increasing importance of the primary health care concept, have contributed to changes in the range of services provided in community pharmacy in recent years and over the last decades.

Acknowledgments

We are very grateful to the experts in community pharmacy in the four studied countries for their availability for an interview and for validating draft country information collated by the authors. We thank our interviewees Karin Simonitsch (Austria), Sobha Sharma-Kandel (England), Ly Rootslane (Estonia) and Suzete Costa (Portugal).

Funding

This work was supported by the Austrian Chamber of Pharmacists, which commissioned a study on community pharmacy in Austria, including an international comparative analysis.

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