

Joint Nordic Report

Online pharmacy markets in the Nordics





**DANISH COMPETITION AND
CONSUMER AUTHORITY**



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Contents

Summary.....	5
1 Introduction	7
2 Online pharmacy markets	9
2.1 Characteristics of pharmaceutical markets.....	9
2.2 What is an online pharmacy?	10
2.3 Competition and consumers in the online pharmacy markets.....	11
2.3.1 Online pharmacies and consumers	12
2.3.2 Competition issues in the online pharmacy markets	14
2.3.3 Online pharmacies and the benefits of competition	15
2.4 Online pharmacies and the breakout of Covid-19	15
3 Denmark.....	17
3.1 Introduction	17
3.2 Overall pharmacy market regulation.....	17
3.2.1 Ownership of pharmacies	18
3.2.2 Geographical location of pharmacies	18
3.2.3 Prices of pharmaceuticals sold at pharmacies	18
3.2.4 Financial framework of the Danish pharmacy sector	19
3.3 Putting the online pharmacy market into context.....	20
3.4 Challenges and future development.....	22
3.4.1 Challenges with the pharmacy sector.....	23
3.4.2 Developing a strong market for online pharmacies.....	24
4 Finland.....	26
4.1 The regulation of pharmacies and online pharmacies	26
4.2 Market outlook	27
4.2.1 Pharmaceutical markets overall	27
4.2.2 Online pharmacy markets	28
4.3 Challenges and future development.....	30
5 Iceland.....	31
5.1 Regulation of pharmacies	31
5.1.1 Traditional pharmacies	31
5.1.2 Online pharmacies.....	32
5.2 Current market outlook.....	32
5.3 Challenges and the future development.....	34

6	Norway	35
6.1	Introduction	35
6.2	Regulation of online pharmacies.....	35
6.3	Market outlook in Norway	36
6.3.1	Pharmaceutical markets in Norway.....	36
6.3.2	Online pharmacy markets in Norway	39
6.4	Challenges and future development.....	40
7	Sweden	42
7.1	Regulation of online pharmacies.....	42
7.1.1	Regulation of prices on prescribed pharmaceuticals.	42
7.2	Putting the online market into context.....	43
7.3	Market outlook	43
7.3.1	Deregulation in 2009 and market evolution.....	43
7.3.2	Current market situation	44
7.3.3	The development of e-commerce with pharmaceuticals.....	45
7.4	Challenges and future development.....	48
8	Comparison of online pharmacy markets in the Nordic countries	49
8.1	Summary of online pharmacy markets	49
8.2	Recap of main policy findings	54
9	Conclusions	56

Summary

The Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) are among the most digitalised countries in the world. For example, in the latest DESI-index (*The Digital Economy and Society Index*), Finland, Sweden and Denmark hold the top three ranks among the EU countries.¹ Iceland² and Norway³ have also scored highly in the recent DESI-rankings comparing the digitalisation of countries worldwide.

Although all Nordic countries have achieved a high level of digitalisation in their societies, there are also differences between the countries. One difference, the topic of this report, is observed in the e-commerce of pharmaceutical products. Pharmaceutical products are essential for the well-being of consumers. Traditionally, the distribution of medicines to consumers has been organised through heavily regulated networks of physical pharmacies. The strict regulation of market structure has been in place to ensure the safety, accessibility and affordability of medicines, but it has also limited competition in the pharmacy sector. As the regulation of pharmacies differs between the Nordic countries, this has also created different market conditions for online pharmacies to operate in these countries.

While consumers in all Nordic countries are active online shoppers,⁴ differences in sector-specific regulation have led to very different online pharmacy markets in these countries. The size of the online pharmacy market varies among the Nordic countries, partly due to the different level of liberalisation. The liberalisation of pharmacy markets in some countries has led to fast growth of online pharmacy markets, albeit from fairly small levels. The growth of online sales of medicines has emerged during recent years as consumers have become more accustomed to e-commerce.

Furthermore, the report is written during the time of the Covid-19 pandemic. The pandemic has dramatically shaped the e-commerce landscape, including in the pharmacy sector. Online pharmacies have proven to be a good alternative to physical pharmacies. Consumers that use online pharmacies can easily maintain social distance and have their medicines delivered to their home. Due to the pandemic, the demand for online services of pharmacies has increased significantly in many countries. It is also likely that this has changed preferences for some consumers permanently and demand should therefore remain at a higher level in the future.

Given that online pharmacy markets are experiencing a phase of rapid growth, the Nordic competition authorities believe that these markets should be examined more closely. This report describes the current state of the online pharmacy markets in the Nordic countries, the main challenges observed in these markets and potential ways to improve conditions in the market to serve consumers better. In addition, this report discusses how sector-specific regulation in the different Nordic countries might prevent or hinder competition within the online pharmacy market.

¹ <https://ec.europa.eu/digital-single-market/en/digital-economy-and-society-index-desi> (accessed 26.11.2020)

² <https://eufordigital.eu/wp-content/uploads/2019/10/Digital-Economy-and-Society-Index-DESI-2018.pdf> (accessed 26.11.2020)

³ https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=66927 (accessed 26.11.2020)

⁴ See e.g. <https://www.postnord.com/siteassets/documents/media/publications/e-commerce-in-europe-2020.pdf> (accessed 26.11.2020)

Based on the experience in more liberalised markets, online pharmacies can increase competition in the sector and enhance accessibility of pharmacy services. In some markets, regulations that tie online pharmacies to the operations of physical pharmacies hinder the development of the online pharmacy market, as these regulations prevent the entry of pharmacies that operate only online (online-only pharmacies).

A good example of slow market development is Finland and Iceland, where pharmacies that only operate online are not allowed, thus limiting the size of the online market. According to one estimate, the overall e-commerce market in Finland is at least EUR 2.8 billion and EUR 92 million in Iceland.⁵ The online pharmacy market however is about EUR 10-20 million in Finland and less than one million euros in Iceland, accounting for less than one percent of the whole e-commerce market in both.⁶ In comparison, the Swedish e-commerce market overall has been approximated to at least EUR 9 billion.⁷ The e-commerce of pharmaceutical products is in the order of magnitude of EUR 500-600 million⁸, thus contributing around 5-6 percent of the overall e-commerce market. Even accounting for the fact that Sweden has about twice the population of Finland, it is clear that the countries are at very different levels of development when it comes to the online sale of pharmaceuticals.

In addition, reforms to the overall regulation of pharmacy markets are needed to realise the benefits of online pharmacies. Possible important factors are reforms in terms of entry, ownership and price regulation, for example. Online pharmacies offer great potential in organizing pharmacy services more efficiently and regulation should facilitate this. As all Nordic countries already have high e-commerce penetration rates, the countries should also be well-equipped to develop online pharmacy markets further.

It is also evident that countries should learn from each other about best practices for developing the regulation of pharmacy markets. For example, the experiences of Sweden, a country which can be seen as having progressed furthest in its market liberalisation, can be valuable for other countries that are considering reforming their pharmacy markets. However, competition authorities alone cannot achieve reforms in pharmacy markets, as pharmacies are regulated by sector-specific regulators. Thus, this work and dialogue must reach beyond competition authorities.

⁵ <https://www.postnord.fi/siteassets/raportit/verkkokauppa-pohjoismaissa/verkkokauppa-pohjoismaissa-2019.pdf> (Finland, last accessed, 29.3.2021); <http://px.rsv.is/PXWeb/pxweb/is/Greidslumidlun/-/Greidslumidlun.px/?rxid=a6840e68-872b-44aa-92d3-6d6f9b4ae808> (Iceland)

⁶ This is the pre-corona estimate that we use in this report. See details in section 4 of this report.

⁷ <https://www.postnord.fi/siteassets/raportit/verkkokauppa-pohjoismaissa/verkkokauppa-pohjoismaissa-2019.pdf> (Last accessed, 29.3.2021)

⁸ See details in section 7 of this report.

1 Introduction

The tremendous growth of global online retail corporations such as Amazon, eBay, and Alibaba vividly illustrate how the retail landscape has been transformed. Overall, the online retail market has been one of the fastest growing sectors during the last two decades. However, while many segments of consumer products and services now see a significant share of their sales through online channels, pharmaceutical products have not yet followed suit to a similar extent.

Online sales of pharmaceuticals are, however, increasing in importance. Online pharmacies act as disruptors of the traditional brick-and-mortar distribution model of medicines.⁹ Online pharmacies can primarily benefit consumers and society via two channels.¹⁰ First, if pharmacies can compete on the price of pharmaceutical products, competitive pressure imposed by online pharmacies can bring prices down and reduce overall healthcare spending. Second, online pharmacies enlarge the service network as consumers become less dependent on physical pharmacies, thus improving the accessibility of services.¹¹ In addition, at the time of writing this report, the Covid-19 pandemic has put a massive strain on the healthcare systems in many countries. As the pandemic has reduced the opportunities for visiting physical pharmacies, e-commerce of medicines has recently seen a significant surge. This can potentially change the structure of pharmaceutical distribution in favour of online channels on a more permanent basis.

The development of the online pharmacy sector is also interlinked with the overall pharmacy market regulation. The strict regulation traditionally imposed on pharmacies has also limited the scope for growth for online pharmacies. On the other hand, several countries have liberalised their pharmaceutical markets during the last two decades. However, countries are at very different stages in reforming their pharmacy markets. This also holds true for the Nordic countries, among which some have moved to more liberalised markets while others have not progressed with such reforms.

In this report we examine the online pharmacy markets from the Nordic perspective. In terms of overall worldwide pharmaceutical markets, the Nordic countries represent only a very small share. Consequently, the Nordic countries may need to cooperate to progress the development of online pharmacy markets. For this purpose, it is necessary to have a clear understanding of the state of the markets in the Nordic countries.

The discussion in this report is on a general level and the aim is to form a coherent picture of the state of the online pharmacy markets in the Nordic countries. The report may serve as background material for decision makers when designing future reforms. The report outlines some possible future developments and challenges of the markets which might need to be accounted for in the Nordic countries. The development of well-functioning pharmacy markets could be enhanced if organisations exploited the potential in sharing insights and benefitting from best practices.

⁹ By brick and mortar model we refer to physical pharmacies which have traditionally taken care of the distribution of medicines.

¹⁰ Note that throughout this report we use the term *consumers* consistently instead of *patients* or *customers* although in many instances the latter terms could be more appropriate.

¹¹ If online pharmacies result in diminishing number of physical pharmacies, service coverage might decrease for those who are not able to use online services.

We begin the report by defining the general characteristics of the online pharmacy markets. Here we also discuss some competition and consumer issues related to the online pharmaceutical markets. Next, we examine the markets and pharmacy-specific regulation in each of the respective Nordic countries. Finally, the report focuses on comparing markets in the different countries. Here we also outline how online pharmacy markets look in the context of overall e-commerce markets in each country. As our focus in this report is to cover the national aspects of online pharmacy markets in each Nordic country, we do not cover the relevant European regulation of online pharmacies in a detailed manner.¹²

¹² See: <https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/falsified-medicines/buying-medicines-online> (Last accessed: 24.3.2021)

2 Online pharmacy markets

In this section we first outline some basic characteristics of pharmacy markets to set the general context in which online pharmacy markets should be viewed. Second, we provide an informal definition of online pharmacies, in the sense that it does not require any market definition to be made. The third subsection focuses on certain specific consumer and competition-related issues that are potentially important for the online pharmacy markets. Furthermore, we discuss some benefits from competition that online pharmacies could introduce. Lastly, we briefly cover the impact of the Covid-19 pandemic on the online pharmacy markets.

2.1 Characteristics of pharmaceutical markets

As with many other healthcare services, pharmaceutical product markets and the distribution of pharmaceuticals are markets for which many of the concepts of typical well-functioning product markets do not easily fit.¹³ At least the following characteristics are seen in pharmaceutical markets.

- **There is information asymmetry:** Consumers are not in the best position to judge the suitability and quality of their medication. Consequently, the demand of (prescription) medicines is not driven by the preferences of the consumers but rather by the influence of prescribing doctors.
- **Consumers are not fully paying the costs:** Pharmaceutical costs are often heavily subsidised by society since medication should be affordable.
- **Demand is inelastic:** The demand of pharmaceutical products is very inelastic since medication is a necessity for most and consumers cannot adjust their medication use in response to changes in prices. This gives actors in the pharmaceutical sector a possibility to exercise market power over consumers.
- **Externalities:** There are obvious positive externalities from the correct use of medication. Overuse of medication should be however avoided.

Healthcare and pharmaceutical markets are generally heavily regulated by governments. The aim of regulation is to take several healthcare and social issues into account, such as quality, transparency, easy access to pharmacies and ensuring that public expenditure on medical reimbursements and medicines is kept under control. The crucial question in this context is if some

¹³ See e.g.

Dranove, D. (2012). Health Care Markets, Regulators, and Certifiers. Handbook of Health Economics, Volume 2, Elsevier B.V., ISSN: 1574-0064, DOI: 10.1016/B978-0-444-53592-4.00010-4.

Mankiw, G. N. (2017). The Economics of Healthcare. Available:

https://scholar.harvard.edu/files/mankiw/files/economics_of_healthcare.pdf (Last accessed: 24.3.2021)

of the regulations unnecessarily hinder the development of new market segments such as online pharmacy markets.

One obvious example of regulation is the pharmacy licensing system which limits free entry to the markets. Pharmacy licencing systems generally limit who can operate or own a pharmacy. However, it is important to note that ownership and operational management can be regulated in various ways, as is the case among the Nordic countries. In some countries only pharmacists can both own and run a pharmacy, whereas other countries allow pharmacies to be owned by non-pharmacists. Another example is that some countries allow over-the-counter (*OTC*, medication sold without a prescription) medication to be sold in, for example, supermarkets, while other countries have restricted the sale of *OTC* medicines to pharmacies.¹⁴

2.2 What is an online pharmacy?

Before any detailed discussion of online pharmacy markets, it is necessary to briefly define what is meant by an online pharmacy. This is because there are multiple actors online that consumers could confuse as a pharmacy while not being one.

In general, we could categorise different actors in the online segment of health and wellness products as set out below. We stress that the categorisation provided should not be taken as a basis for any detailed market definition, since no comprehensive market investigation to define the relevant product markets has been done within this study.

1. Actors only selling cosmetics, beauty and wellness products

These types of market actors are not online pharmacies as no medical products are sold by them. However, from the perspective of consumers, it is possible to confuse these actors with pharmacies as they might, for example, sell similar vitamins and creams to those also sold in pharmacies. These actors are, however, potential entrants to the pharmacy markets in some countries.

2. Actors that in addition to selling cosmetics, beauty and wellness products, sell a selection of *OTC* medicines

Here the distinction between a pharmacy and some other retailers becomes especially unclear for consumers as some pharmaceutical products are sold by an actor that is not a pharmacy. Many countries, for example Denmark, Sweden and Norway, have liberalised the retail sales of *OTC* medicines beyond pharmacies, and grocery and cosmetics retailers have, for example, entered the pharmaceutical markets (both online and physical) with some selection of *OTC* medicines.¹⁵ Obviously, similar medical safety regulations to those that regulate pharmacies are generally also imposed on these

¹⁴ The rest of the report refers to over-the-counter medicines as *OTC* medicines.

¹⁵ Somewhat similarly to pharmacy licenses, these actors usually always need a license to sell certain *OTC* medicines outside of pharmacies. For example, in Denmark, these actors will have to receive a license to sell the so called non-pharmacy restricted *OTC* medicines outside of pharmacies.

retailers. Furthermore, these retailers are generally not permitted to sell prescription medicines.

3. Actors that besides selling cosmetics, beauty and wellness products and OTC medicines, also sell prescribed medicines

These actors are always pharmacies as the right to sell prescribed medicines is typically limited to qualified pharmacists. In this case there is no confusion for consumers regarding whether the actor is a pharmacy or not.

Although within this report we mostly use the term *online pharmacy* in the sense of the last definition, we must keep in mind the adjacent role of each product market described above. The wellness product, OTC medicine and prescribed medicine markets are highly related and can be considered as complementary markets. Furthermore, in this report we use the term *online-only pharmacy* to refer to a pharmacy that operates only online to separate it from a physical pharmacy that also sells medicine online through an online pharmacy.

Besides the above definitions, within this study we primarily view online pharmacies as traditional online stores rather than marketplaces or platforms, such as Amazon. We must keep in mind that online pharmacies do operate under stricter regulation than typical online stores, not least because online pharmacies have similar obligations to guide consumers in their medication use to those of traditional pharmacies. In general, the strict sector-specific regulation of (online) pharmacies probably alleviates some of the typical concerns related to e-commerce and platforms, such as issues related to product pricing, ranking and information.

Online pharmacies generally operate under national pharmaceutical sector-specific regulation. Nevertheless, the EU Directive concerning consumer protection and rights on online platforms/marketplaces, which will for instance require platforms to inform consumers about the main criteria determining the ranking of the offers provided in response to a search query, might also have implications for the online pharmacy markets.¹⁶ However, at the moment the effect on online pharmacies of this directive is uncertain, as it is not yet clear to what extent these rules would regard online pharmacies as platforms that they aim to regulate. Thus, we do not discuss this Directive further within this report.

2.3 Competition and consumers in the online pharmacy markets

In the following subsections we examine what sort of competition issues might be related to online pharmacies and how consumer data and privacy are important features in the online pharmacy market. In addition, we briefly discuss some issues related to pharmaceutical safety and online markets.

Online pharmacies lie at the centre of a rather complex intersection of regulation. The primary legislation that regulates online pharmacies is generally sector-specific pharmacy regulation. In many countries, however, this legislation is still drafted to govern the distribution of medicines

¹⁶ See directive 2019/2161/EU ("*Directive on better enforcement and modernization of EU consumer protection*"), <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019L2161&from=FI>

through traditional physical pharmacies. Online pharmacies are therefore often only seen as an extension of the physical operations of a pharmacy. Thus, the legislation might neglect the fact that the online sector is developing fast and that legislation is not necessarily up to date. This especially applies to countries where the liberalisation of the pharmacy sector has not yet occurred.

Besides sector-specific pharmacy regulation, two branches of regulation are relevant when we consider the regulation of online pharmacies. The first is legislation related to consumer data and privacy, and the other is competition law. There are also consumer protection laws that govern e-commerce in general, but we omit these in our discussion and concentrate on competition and data-related issues.

2.3.1 Online pharmacies and consumers

In this section we briefly cover two themes that are relevant from a consumer perspective when examining the online pharmacy markets. First are issues related to consumer data and privacy. Second, we discuss the safety of pharmaceuticals in online markets.

The regulation related to consumer data and privacy is highly relevant in the (online) pharmacy sector since it deals with highly sensitive health-related data and medical information. Thus, it is evident that this sector needs regulation for the protection of consumer privacy and data. On the other hand, imposing too strict regulation, for example on technical requirements, may be at odds with the rapid competition and innovation environment of online markets. Given that the online pharmacy market is still in its developmental phase in many countries, imposing too rigid restrictions could potentially harm innovation and growth. Consequently, a balanced approach is needed where consumer protection and privacy issues are properly ensured, without harming the prospects for innovation and effective competition in the market. For example, national e-prescription initiatives can support both aims by offering secure storage of data and shared resources for pharmacies to utilise. For instance, in Sweden e-prescriptions are sent electronically by doctors, nurses or vets to the national prescription register that the Swedish eHealth Agency is responsible for. All pharmacies (including online pharmacies) in Sweden use this database to get the information they need to dispense a prescription.

Besides the stringency of regulation, another issue in terms of privacy/data is the differences in regulation between the countries. The lack of harmonisation of regulations concerning data can be one obstacle to developing cross-border online markets.¹⁷ While online pharmacy markets are mainly national in the Nordic countries, it is possible in future that some cross-border actors would like to enter the markets. For this, it should be guaranteed that the security of consumer (customer) information is at the same level in each of the countries. Countries with significantly different IT-security standards might find difficulties in coordinating regulation. Generally, the level of IT-infrastructure is quite good among the Nordic countries. Thus, the Nordic countries are in a good position to cooperate in developing IT and its regulation.

¹⁷ See for example OECD (2018): Implications of E-commerce for Competition Policy - Background Note, DAF/COMP(2018)3, available at: [https://one.oecd.org/document/DAF/COMP\(2018\)3/en/pdf](https://one.oecd.org/document/DAF/COMP(2018)3/en/pdf)

Although not directly related to data or privacy issues, one prominent example of challenges related to harmonisation arises from the harmonisation of product information. Usually, each separate market requires that the instruction leaflets for pharmaceutical products are provided in the spoken languages of the corresponding market. However, this is likely to pose challenges for online pharmacies that aim for cross-market operations. A solution to this would be to harmonise the technical requirements of how the leaflets are to be presented. Some development is being made in this issue as the European Medicines Agency and European Commission are currently drafting outlines of how to establish common technical requirements for electronic product information of medicines.¹⁸

Besides data-related issues, one major challenge concerning online pharmacies is the secure distribution of pharmaceuticals to consumers. In a physical pharmacy it is, for example, very rare that prescriptions for different people are mixed up as they must personally pick up the medicines and identify themselves with some form of ID card. With online pharmacies, the strong identification of the buyer is generally also required when purchasing prescription medicines. But as people never physically visit the pharmacy when purchasing medicines online, there is a risk on delivery that people receive the wrong products. For example, in Sweden, there have been some cases where the wrong medicines have been delivered to consumers.¹⁹

In Sweden, which we use as an example here, the safety of online trade is regulated in the legislation for distance trade with pharmaceuticals, according to which the online pharmacies must fulfil the following obligations:²⁰

- Control of subcontractors (for example delivery/courier services)
- Requirements of instructions for safe packaging, distribution and other handling of medicines and technical spirits
- Requirements of traceability instructions
- Instructions that ensure that the online pharmacy meets the special requirements for providing information and advice that distance selling entails.

Another threat to medication safety in the online market for pharmaceuticals is the possibility of obtaining fake medicines online. The approval processes of pharmaceutical products, however, generally guarantee that false medication is not available from any officially approved online pharmacy. Of course, it is a possibility that consumers purchase medication outside the approved online pharmacies, thus taking a risk in obtaining falsified medicines or other possibly harmful products. However, within the official pharmacy system, the safety is guaranteed in many ways.²¹ For example, certain regulations on packaging ensure that pharmacy staff have the means to check whether the packaging has been tampered with before delivery to the consumer. The EU verification system on medicines furthermore makes it difficult to introduce counterfeit medicines into the distribution system in the first place. In addition, the validity of online pharmacies can be verified using the standard EU-wide logo that all online pharmacies must use on their sites.

¹⁸ European Medicines Agency (2020); https://www.ema.europa.eu/en/documents/regulatory-procedural-guideline/electronic-product-information-human-medicines-european-union-key-principles_en.pdf (accessed 2.12.2020)

¹⁹ <https://www.aftonbladet.se/nyheter/a/50vMBW/lakemedelsverket-sa-har-far-det-inte-ga-till>

²⁰ <https://www.lakemedelsverket.se/sv/handel-med-lakemedel/apotek/distans--och-e-handel-pa-apotek#hmainbody3>

²¹ See e.g. https://ec.europa.eu/health/human-use/falsified_medicines_en & <https://www.lif.se/nyheter/fight-the-fakes-week/>

2.3.2 Competition issues in the online pharmacy markets

Pharmaceutical distribution has a vertical distribution chain from manufacturers and wholesalers to the retail-level pharmacies. As online pharmacies can potentially affect this distribution chain radically, it can be argued that the most relevant competition concerns of online pharmacies are related to this vertical organisation of the market.²² It is, however, important to keep in mind that the pharmacy sector is characterised by strict regulation on accessibility and pricing of medicines. Thus, many common vertical competition concerns of exclusive/selective distribution, refusals to supply and resale price maintenance, for example, might be less of a concern in the pharmacy sector. On the other hand, there are certain features in the distribution chain that might raise concerns over entry barriers. For example, in Denmark, wholesalers and pharmacies are in a very close collaboration which creates a high loyalty between the parties. This means that the entry barriers for a new wholesaler are quite high.

Besides these more traditional competition issues, there are some competition concerns that could be considered more specific to online pharmacies. The first relates to the technological solutions of e-commerce platforms. Nowadays an online store is relatively easy to set up. However, some specific technological solutions might become more accepted as an industry standard. For example, in the Finnish online pharmacy markets, the online pharmacy systems are not yet fully integrated with the relevant health and prescription records of consumers. Thus, in the future, a decisive factor in choosing a technical solution for an online store system or platform might be whether such integration is possible. Competition concerns arise if one actor in the market succeeds in acquiring or developing such a platform that is essential to run a successful online pharmacy (*essential facility*). Such an actor may gain a significant first-mover advantage. Regulation can at least partly answer these concerns by requiring equal access to the necessary technical solutions and essential data. This is the case for instance in Sweden, where the Swedish eHealth Agency keeps the national prescription register of all inhabitants, and all the physical and online pharmacies are integrated with the prescription register.²³

A second competition issue more specific to online pharmacies might arise in the context of product listings. Online platforms might make it easier to favour certain products over competing products in how the products are presented to the consumer.²⁴ By listing such products that the pharmacy has some incentive to sell more of first, or limiting the access of competing products to the platform, online pharmacies with some market power could potentially distort competition between different pharmaceutical products. However, it is quite likely that the product variety and the presentation of products in online pharmacies is tightly regulated in medicines, limiting the importance of such concerns.²⁵ Clearly, in cases where consumer choice is directed towards a more costly option or a product that is not medically suitable, product sorting and listing would

²² OECD (2018): Implications of E-commerce for Competition Policy - Background Note, DAF/COMP(2018)3, available at: [https://one.oecd.org/document/DAF/COMP\(2018\)3/en/pdf](https://one.oecd.org/document/DAF/COMP(2018)3/en/pdf)

²³ <https://www.ehalsomyndigheten.se/other-languages/english/>

²⁴ This of course mostly concerns OTC medicine and non-medical products as prescription medicine is not subject to a consumer choice to the same extent.

²⁵ In non-medical products these concerns might be more relevant though.

not be acceptable. On the other hand, we must also see the potential in some sorting algorithms as they could perform tasks such as generic substitution flawlessly.²⁶

2.3.3 Online pharmacies and the benefits of competition

While online pharmacy markets still face some challenges, they also bring some obvious benefits to society and consumers, mostly in terms of increased competition in the pharmacy markets.

If permitted by price regulation, online pharmacies have the potential to foster price competition among pharmacies and benefit consumers and society by lowering the costs of pharmaceuticals. E-commerce also facilitates an easier way of comparing prices. Furthermore, online pharmacies can increase the accessibility of pharmacy services for people in rural areas and for those who otherwise cannot visit physical pharmacies or prefer online channel for other reasons. Consequently, online pharmacies allow people in rural areas to enjoy the benefits of increased competition. In traditional markets based on physical pharmacies, these people would most likely have to rely on only single or very few monopolistic service providers. At the same time, we need to make sure that the enlargement of the online segment in the pharmacy markets does not entail diminished services for those who do not have the necessary technical means or capabilities to use online services.

Online pharmacies might also have the potential to promote communication among pharmacists, physicians and consumers. For example, the opportunity to send questions at any time of day about the adverse effects of medications may encourage consumers to send questions and engage with their pharmacists. In addition, the cloak of anonymity that the internet offers may encourage consumers to ask questions about some medications that they would be too embarrassed to ask in a busy pharmacy.

2.4 Online pharmacies and the breakout of Covid-19

2020 witnessed the outbreak of the Covid-19 pandemic. The Nordic countries have in some respects chosen different strategies to handle the crisis. One common factor among the Nordic countries, however, is the demand for social distancing. Many people work from home and attempt to avoid using public transportation. In some countries shops and restaurants have been at least partially closed and the gathering of large crowds of people has been restricted. Since many people have been infected by the virus, the demand for medicines and products related to the treatment and prevention of Covid-19 rapidly increased. In Sweden, for example, people started to hoard some OTC medicines, putting a significant strain on the medicine stock of pharmacies. Many pharmacies sold out stocks of paracetamol drugs, protective equipment and even vitamins, for example. This surge of demand also affected the prices of these products. For example, the price of face masks increased by several hundred percent. A similar phenomenon

²⁶ Pharmacists' incentives may not be always aligned with the objectives of generic substitution. See e.g. Izhak, O. (2018). Essays on pharmaceutical policies and markets. *Publications of the Helsinki Center of Economic Research*, No. 2018:2, ISBN 978-952-10-8745-5. Available: <http://urn.fi/URN:ISBN:978-952-10-8745-5>

was also observed in Denmark, Finland, Iceland, and Norway. In Finland, there was a temporary lack of supply of hand sanitizer products in both pharmacies and other retail stores.

The increase in demand combined with the necessity of social distancing shifted part of the demand for pharmaceutical products from physical stores to online pharmacies. For example, in Sweden the total market share (in packages sold) of online pharmacies was 12 percent in 2019.²⁷ However, due to the Covid-19 crisis, many consumers realised that online pharmacies could act as a substitute for physical pharmacies.²⁸ When the functions of online pharmacies are not tied to the limited stock of a physical pharmacy, they can generally hold far larger stocks of medicines than physical pharmacies.

The emergence of Covid-19 has aptly illustrated the huge potential with online pharmacies. Online pharmacies improve the supply system of medicines by circumventing some of the limitations of the system based on physical pharmacies. If the crisis brings a permanent behavioural change among consumers, we can predict that the importance of online pharmacies will grow in the future. This is not to say that online pharmacies would completely substitute physical pharmacies, even in the long run. But online pharmacies widen consumer choice and may consequently improve welfare for those consumers who wish or need to obtain their medicines by other means than visiting a physical store. Obviously, the pharmaceutical distribution system must also be able to serve those consumers who are not able to use online services. Thus, although Covid-19 has clearly increased the importance of the online pharmacy markets, the development of these markets should not come at the cost of reduced service quality for those consumers not using online services. Nevertheless, the Covid-19 crisis has shown the importance of having multiple different types of distribution channels for medicines. Thus, besides fostering competition, online pharmacies can enhance the supply security of medicines.

²⁷ <https://www.market.se/nyhet/har-ar-branschen-som-vaxer-snabbast-online-och-krisen-gor-att-fler-borjar-e-handla>

²⁸ For example, the largest online pharmacy in Sweden, Apotea, recorded its' all-time record sales in March 2020 due to the Covid-19.

3 Denmark

3.1 Introduction

The Danish pharmacy market is highly regulated. Besides EU regulation, trade with pharmaceuticals is regulated through the Danish Pharmacy Act²⁹ and related government orders. One of the aims of the regulations is to ensure easy access to pharmaceuticals, including in the rural areas of Denmark. This could – among other things – be achieved by the increased use of online pharmacies.

3.2 Overall pharmacy market regulation

In Denmark, the sale of pharmaceuticals is divided into two categories; the first category is prescription-only medicines (prescribed medicines) and a selection of OTC medicines, which pharmacies have the exclusive right to sell (pharmacy restricted OTC medicines). The other category is non-pharmacy restricted OTC medicines, which are suitable for sale outside the pharmacy sector as well. In order to be allowed to sell non-pharmacy restricted OTC medicines outside of pharmacies, one needs to be granted a license by the Danish Medicines Agency (*Lægemiddelstyrelsen*).

A selection of non-pharmaceutical products can also be sold at a pharmacy, including e.g. nutritional supplements and different kinds of hygiene products such as shampoo and sunscreen.³⁰

Online pharmacies are basically subject to the same regulation as physical pharmacies. Both online-only pharmacies and physical pharmacies selling pharmaceuticals online must comply with the requirements in *The Act Regarding Pharmacies and Retailers' Online Sale and Shipping of Pharmaceuticals*.³¹

Running either a physical or an online pharmacy in Denmark entails the obligation to advise consumers about the medicines, for instance how to take and store them. All online pharmacies must offer an oral or written consultation to consumers regarding their medicines. Online-only pharmacies must have a pharmacist available for consultations at least 47 hours per week.³²

²⁹ The Danish Pharmacy Act (Lov om apoteksvirksomhed, LBK nr. 801 af 12/06/2018).

³⁰ The Danish Medicine Agency (Lægemiddelstyrelsen) has made a positive and negative list of non-pharmaceutical products suitable for being sold at a pharmacy. See their website: https://laegemiddelstyrelsen.dk/da/apoteker/apoteker/positivnegativlisten/~/_/media/6034DE40DA9A48F8A8A421C499E1E38D.ashx

³¹ The Act Regarding Pharmacies and Retailers' Online Sale and Shipping of Pharmaceuticals (Bekendtgørelse om apotekers og detailforhandleres onlineforhandling og forsendelse af lægemidler). This act applies to both online-only pharmacies and physical pharmacies selling pharmaceuticals online, article 1.

³² The Danish Medicine Agency's website, <https://laegemiddelstyrelsen.dk/da/nyheder/2015/ledig-bevilling-til-onlineapotek/>

3.2.1 Ownership of pharmacies

The Danish Pharmacy Act regulates the authorisation and requirements to run a pharmacy in Denmark. Licenses to run a pharmacy are granted by the Danish Medicines Agency. A significant legislative requirement is that only a person holding a Danish pharmaceutical master's degree, or a foreign equivalent and approved degree, can be granted a license to run a pharmacy in Denmark.³³ This applies to online pharmacies as well.

3.2.2 Geographical location of pharmacies

The Danish Medicines Agency also regulates the total number of pharmacies and where the pharmacies can be geographically located. The regulation of the Danish pharmacy market was changed in 2015. The aim of the reform was to increase accessibility to pharmacies and to strengthen competition in the pharmacy market.

Since the reform, a pharmacist can now own a maximum of four pharmacies at a time and a maximum of eight prescription-handling units in total, which includes both pharmacies and branch pharmacies.³⁴ In Denmark, pharmacies are able to establish branch pharmacies, pharmacy outlets, OTC outlets and medicine delivery facilities. There is no limit on the number of pharmacy outlets, OTC outlets and medicines delivery facilities a pharmacist can run.³⁵

Both branch pharmacies and pharmacy outlets must be located within a radius of 75 km from the main pharmacy,³⁶ which means that there is a geographical restriction on where a pharmacist can locate new branches and outlets.

Physical pharmacies can sell pharmaceuticals online after notifying the Danish Health Authority.³⁷ Following the changes in regulation in 2015, it is now also possible to run online-only pharmacies. At present, there are only two online-only pharmacies in Denmark.³⁸

3.2.3 Prices of pharmaceuticals sold at pharmacies

Every two weeks, pharmaceutical companies register prices at the Danish Medicines Agency at which they are willing to sell their pharmaceuticals to Danish pharmacies for the upcoming 14-day period. This means that the purchase price of the pharmaceuticals is identical for all pharmacies.

³³ The Danish Pharmacy Act, article 15 (5) number 3.

³⁴ The Danish Pharmacy Act, article 5 (2) and 15 (2).

³⁵ At a pharmacy and a branch pharmacy you can buy prescription medicines, whereas at a pharmacy outlet, OTC outlet and medicine delivery facility you can only pick up prescription medicines pre-ordered from a pharmacy or a branch pharmacy.

³⁶ The Danish Pharmacy Act, article 5 (1) and 6 (1).

³⁷ The Danish Pharmacy Act, article 43 a (1).

³⁸ A license to run an online-only pharmacy in Denmark entails that you are not allowed to establish a physical pharmacy, outlets etc., cf. the Danish Pharmacy Act, article 5 (4) and 6 (3).

Due to the financial framework in the Danish pharmacy sector, as elaborated below, the gross profit on prescribed medicines and pharmacy restricted OTC medicines is determined by the Ministry of Health and therefore fixed for all pharmacies in Denmark.

Given the identical purchase price and the fixed gross profit on prescribed medicines and pharmacy restricted OTC medicines, consumer prices on these types of medicines end up being fixed and identical across all physical and online pharmacies. This means that pharmacies (including online pharmacies) cannot compete on prices for prescribed medicines or pharmacy restricted OTC medicines. Pharmacies cannot compete on the range of products either, as they must be able to provide any prescribed medicines or pharmacy restricted OTC medicines upon receiving a request from a consumer.³⁹

3.2.4 Financial framework of the Danish pharmacy sector

The financial framework of the Danish pharmacy sector is highly regulated. This report will focus on:

- The Gross Profit Agreement, and
- The Economic Equalisation Scheme

In general, the Danish Pharmacy Association and the Danish Ministry of Health agree on a gross profit range every second year, which regulates how much Danish pharmacies can earn per year in total from selling prescribed medicines, pharmacy restricted and non-pharmacy restricted OTC medicines, non-pharmaceutical products and other services provided by the pharmacies.⁴⁰

The **Gross Profit Agreement** applies to the whole pharmacy sector in Denmark including both online and physical pharmacies. The aim of the Gross Profit Agreement is to ensure that the distribution of pharmaceuticals is achieved at a moderate socio-economic cost and that the pharmacies achieve a satisfactory operational economic result.⁴¹

According to the agreement, there is a maximum on the total gross profit that the pharmacies as a sector can earn per year. The gross profit on prescribed medicines and pharmacy restricted OTC medicines is determined by the Ministry of Health and is therefore fixed and identical for all pharmacies,⁴² whereas the pharmacies determine the gross profit on non-pharmacy restricted OTC medicines and non-pharmaceutical products themselves. The gross profit on these products is therefore flexible and can vary from pharmacy to pharmacy.

If the pharmacies exceed the total gross profit that they are allowed to earn according to the Gross Profit Agreement, then the Ministry of Health decreases the gross profit on sale of

³⁹ The Danish Pharmacy Act, article 41 (2).

⁴⁰ This is regulated in the Danish Pharmacy Act, article 45.

⁴¹ The Danish Ministry of Health, *Report regarding liberalisation of the pharmacy sector*, page 35.

⁴² The Danish Ministry of Health, *Report regarding liberalisation of the pharmacy sector*, page 35.

prescribed medicines and pharmacy restricted OTC medicines in order to balance out the total gross profit agreed upon.⁴³

In addition to the regulation concerning a maximum gross profit for the sector, the pharmacies are also subject to an equalisation scheme. According to the **Economic Equalisation Scheme**,⁴⁴ pharmacies with an annual turnover exceeding a certain threshold must pay a fee to the Danish Medicines Agency, whereas pharmacies with an annual turnover lower than the threshold will receive compensation from the Danish Medicines Agency.⁴⁵

Online-only pharmacies are obligated to pay fees to the Danish Medicines Agency if their annual turnover exceeds the threshold, however they will not receive compensation from the Danish Medicines Agency if their yearly turnover is lower than the threshold.⁴⁶

The aim of the Economic Equalisation Scheme is to ensure a broad geographic coverage of pharmacies in Denmark, including in the rural areas of Denmark. Pharmacies located close to one another, e.g. in big cities, cannot receive compensation from the Economic Equalisation Scheme.⁴⁷

3.3 Putting the online pharmacy market into context

In June 2020, Denmark had 228 physical pharmacies, 271 branches, 26 pharmacy outlets, approximately 450 OTC outlets and about 300 medicine delivery facilities – all of which are connected to one of the physical pharmacies.⁴⁸

There are two online-only pharmacies registered and 93 online pharmacies which are connected to one of the physical pharmacies.⁴⁹ Many of the physical pharmacies sell online through the Danish e-commerce platform *DinApoteker.dk*.⁵⁰

⁴³ In 2018-2019, the gross profit on prescription medicines was approximately 11.5 percent of the retail price. The Danish Pharmacy Association, *Pharmaceuticals in Denmark 2018-2019*, page 12.

⁴⁴ The Economic Equalisation Scheme between pharmacies in Denmark is regulated in the Danish Pharmacy Act article 49 and in *the Act Regarding Calculation of Fees and Contributions to Pharmacies* (Bekendtgørelse om beregning af afgift og ydelse af tilskud til apotekere m.v., BEK nr. 1635 af 27/12/2019).

⁴⁵ The Act Regarding Calculation of Fees and Contributions to Pharmacies (Bekendtgørelse om beregning af afgift og ydelse af tilskud til apotekere m.v., BEK nr. 1635 af 27/12/2019), article 3. The threshold and rates are on an annual basis.

⁴⁶ The Danish Medicine Agency's website, <https://laegemiddelstyrelsen.dk/da/nyheder/2015/ledig-bevilling-til-onlineapotek/>

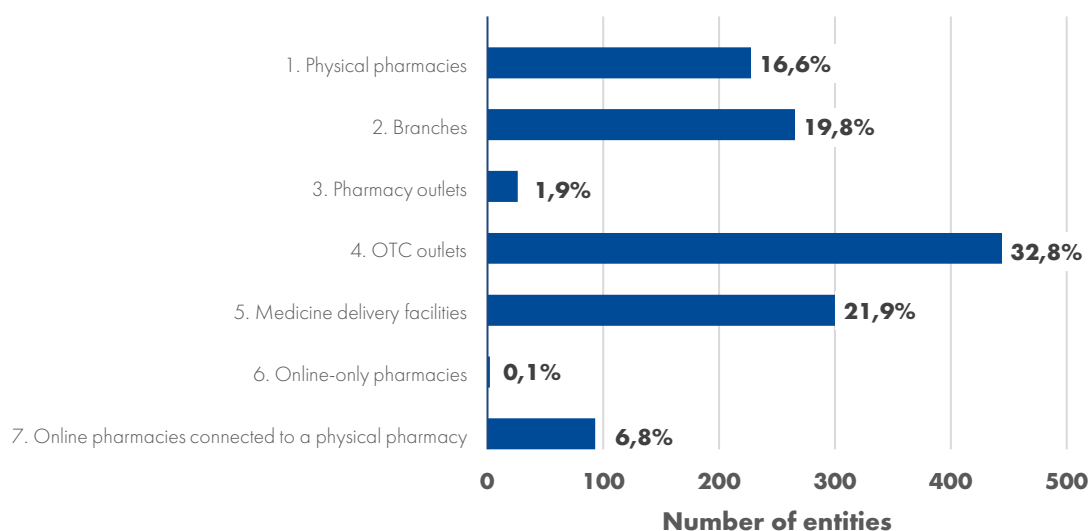
⁴⁷ The Danish Ministry of Health, *Report regarding liberalisation of the pharmacy sector*, page 33.

⁴⁸ The Danish Medicine Agency's website, <https://laegemiddelstyrelsen.dk/da/apoteker/apoteker/>

⁴⁹ On the Danish Medicine Agency's website, there is a list of pharmacies legally selling pharmaceuticals online in Denmark. See <https://laegemiddelstyrelsen.dk/da/apoteker/koeb-og-salg-af-medicin-paa-internettet/apoteker-der-lovligt-saelger-medicin-paa-nettet/>

⁵⁰ The Danish Medicine Agency's website, <https://laegemiddelstyrelsen.dk/da/apoteker/koeb-og-salg-af-medicin-paa-internettet/apoteker-der-lovligt-saelger-medicin-paa-nettet/> and the Danish e-commerce platform's website, <https://www.dinapoteker.dk/info/om-dinapotekerdk>. The e-commerce platform *DinApoteker.dk* is owned by a Danish private company. When you buy pharmaceuticals through the platform you buy the products from the specific pharmacy chosen at the platform and not the company owning the platform.

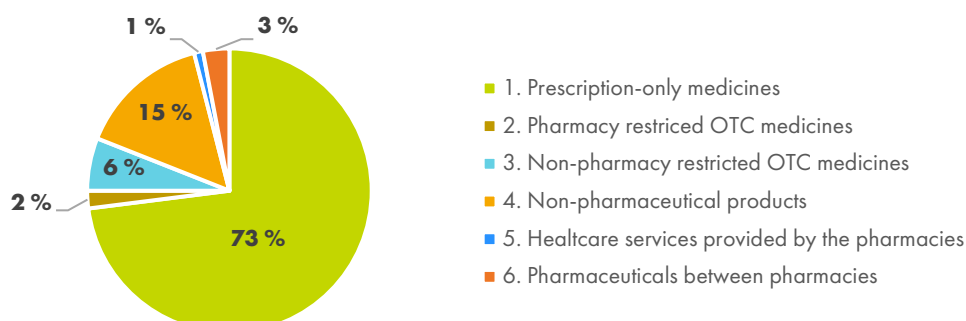
Figure 3.1 Allocation of different entities of pharmacies in Denmark 2020



Ten percent of Danes that shopped online in 2015 had bought pharmaceuticals online, whereas the number had increased to 25 percent by 2019. Especially young people, women and people living in the Copenhagen Metropolitan Area and Zealand buy pharmaceuticals online. Discreet and personal consultation and quick home delivery are some of the reasons why more Danes are choosing to buy pharmaceuticals online.⁵¹

Looking at both physical and online pharmacies, Danish pharmacies had a total turnover of DKK 11.7 billion excluding VAT (approx. EUR 1.6 billion) in 2018. 73 percent of the turnover was related to the sale of prescribed medicines, 2 percent to the sale of pharmacy restricted OTC medicines, 6 percent to the sale of non-pharmacy restricted OTC medicines, 15 percent to the sale of non-pharmaceutical products, 1 percent to the sale of healthcare services provided by the pharmacies and 3 percent to the sale of pharmaceuticals sold between the pharmacies.⁵² This is illustrated in figure 3.2 below.

Figure 3.2 Allocation of the total turnover for Danish pharmacies in 2018



⁵¹ The Confederation of Danish Industry, *More Danes buy pharmaceuticals online* (2019), page 2.

⁵² The Danish Pharmacy Association, *Pharmaceuticals in Denmark 2018-2019*, page 18.

According to information received from the online-only pharmacies, it appears that they sell a lot more non-pharmacy restricted OTC medicines and non-pharmaceutical products than prescribed medicines and pharmacy restricted OTC medicines. However, the share of the sale of prescribed medicines and pharmacy restricted OTC medicines has increased in recent years.⁵³

In particular, the online sale of prescribed medicines and pharmacy restricted OTC medicines increased during the first six months of 2020 due to Covid-19. The online-only pharmacies have experienced a significant increase in the sale of these products, one of them experiencing an increase of approximately 2.5 times from February to March 2020.⁵⁴

On average, a Danish pharmacy achieved a turnover of DKK 24 million (approx. EUR 3.2 million) in 2018. However, the turnover differs between pharmacies located in cities and pharmacies located in the rural areas of Denmark.⁵⁵ This difference in turnover is among other things based on pharmacies located in cities selling more non-pharmaceutical products with a higher gross profit, compared to pharmacies in the rural areas of Denmark, which mainly sell prescribed medicines with a lower gross profit.⁵⁶

In general, the online-only pharmacies have experienced an increase of approximately 50 percent in total turnover from 2018 to 2019. For the online-only pharmacies, turnover for the first six months of 2020 was higher than the total turnover for 2019.⁵⁷

As mentioned above, online-only pharmacies also sell more non-pharmacy restricted OTC medicines and non-pharmaceutical products. However, they find it difficult to compete with other companies in the retail sector in particular on non-pharmaceutical products, as these companies are not subject to the same regulation as pharmacies, while online pharmacies are obligated to pay a fee to the Danish Ministry of Health for the sale of non-pharmaceutical products.⁵⁸

3.4 Challenges and future development

The online pharmacy market is still developing in Denmark and online sales of pharmaceuticals have increased. According to the Confederation of Danish Industry (*Dansk Industri*), pharmaceuticals are the product category with the highest growth in the number of consumers, who have bought the product online, when looking at the past 5 years. The two online-only pharmacies entered the market approximately 4 years ago. However, there have been online sales of pharmaceuticals through physical pharmacies for a longer period of time.

⁵³ Information received from online-only pharmacies, August 2020.

⁵⁴ Information received from online-only pharmacies, August 2020.

⁵⁵ The Danish Pharmacy Association, *Pharmaceuticals in Denmark 2018-2019*, page 21.

⁵⁶ The Danish Pharmacy Association, *Pharmaceuticals in Denmark 2018-2019*, page 19.

⁵⁷ Information received from online-only pharmacies, August 2020.

⁵⁸ Information received from online-only pharmacies, August 2020.

3.4.1 Challenges with the pharmacy sector

As mentioned above, only a person holding a Danish pharmaceutical master's degree or a foreign equivalent and approved degree can receive a license to run a pharmacy in Denmark.

This **restriction on ownership** excludes people and businesses with, for example, a business background from owning a pharmacy but who do not fulfil the above criteria, and thus limits the scope for new business models. The restriction creates a barrier to entry and may reduce innovation and access to capital. Some of the other Nordic countries only require that there must be a responsible pharmacist available at the pharmacy at any time.

The online-only pharmacies experience a lack of natural consumer flow compared to physical pharmacies. Unless they have a strong brand within the personal care segment, it is not likely that consumers will go directly to the pharmacy website. The online-only pharmacy therefore needs to build a strong brand to attract consumers, which requires significant financial resources and several years of building a customer base.⁵⁹

Less far-reaching requirements on ownership could therefore also make it easier to establish online-only pharmacies in Denmark, for example if it became easier for them to attract foreign capital to be used for building a strong brand.

The **geographical restriction** still limits competition between pharmacies. The change in the regulation of the Danish pharmacy market in 2015 made it easier for pharmacies to establish branch pharmacies, pharmacy outlets, OTC outlets and medicine delivery facilities. This has strengthened the accessibility of pharmaceuticals in Denmark but has not necessarily strengthened competition.

The fact that a pharmacy can only establish a branch pharmacy or pharmacy outlet within a radius of 75 km from the main pharmacy limits competition as the branches and outlets will often "compete" with the main pharmacy owned by the same pharmacist in the same area, thus putting no real competitive pressure on the main pharmacies.

Online pharmacies could also be a way to ensure a more effective competitive pressure on the pharmacy market in general, as they are present throughout Denmark.

In Denmark, there is **no competition on price or the range of products** between pharmacies when it comes to prescribed medicines and pharmacy restricted OTC medicines. This means that consumer prices for these types of pharmaceuticals are fixed and identical across all pharmacies in Denmark.

Online-only pharmacies are subject to the same purchase prices and gross profit ranges as physical pharmacies and therefore, online-only pharmacies are not allowed to compete on prices for these pharmaceuticals either. This is in particular a challenge for online-only pharmacies, as price is typically the main parameter of competition for online companies.

⁵⁹ Cf. information received from Apopro Online Pharmacy, August 2020.

As mentioned earlier, all pharmacies in Denmark are included in **the Gross Profit Agreement**, which covers the sale of all pharmaceuticals, sale of non-pharmaceutical products and other services provided by the pharmacies.

As a consequence of the Gross Profit Agreement, when some pharmacies sell more non-pharmacy restricted OTC medicines or non-pharmaceutical products, all pharmacies earn less money on selling prescribed medicines and pharmacy restricted OTC medicines. This is to ensure that the annual agreed gross profit is not exceeded. However, this may also give pharmacies an incentive to focus more on selling non-pharmacy restricted OTC medicines and non-pharmaceutical products. The share of these products has increased over the years, which means that the gross profit on the sale of prescribed medicines and pharmacy restricted OTC medicines has decreased.⁶⁰

This mainly affects pharmacies located in the rural areas of Denmark negatively, as they sell less non-pharmacy restricted OTC medicines and non-pharmaceutical products and are therefore more dependent on the gross profit related to the sale of prescribed medicines and pharmacy restricted OTC medicines.

As a result of **the Economic Equalisation Scheme**, which aims to ensure a broad geographic coverage of pharmacies in Denmark, pharmacies with an annual turnover lower than the threshold have less of an incentive to increase their annual turnover, as they are compensated for their low turnover.

This is also the case for pharmacies with an annual turnover higher than the threshold. They also have less of an incentive to increase their annual turnover, as they will have to pay a higher fee to the Danish Medicines Agency.

The overall compensation system therefore to some extent reduces the incentives for pharmacies to compete effectively, as pharmacies with higher turnover end up paying more compensation to pharmacies with lower turnover.

3.4.2 Developing a strong market for online pharmacies

Despite the changes in the regulation of the pharmacy sector in 2015, regulation continues to limit the scope for competing on a number of parameters.

Developing a strong market for online pharmacies in Denmark can help ensure that citizens in the rural areas of the country will have easy access to pharmaceuticals, while the dependence on local, subsidised physical pharmacies can be reduced.

Developing the market for online pharmacies could thus improve efficiency and benefit consumers, compared to the current situation where the pharmacies that obtain the highest turnover subsidise the pharmacies in rural areas with low turnover, while the economic incentives to develop new business models still remain rather limited.

⁶⁰ The Danish Pharmacy Association, *Pharmaceuticals in Denmark 2018-2019*, page 18.

One way to improve access for online pharmacies could be to modify the abovementioned regulation regarding The Gross Profit Agreement in order to ensure that both physical and online pharmacies have better economic incentives to keep focusing on their main task: selling prescribed medicines and pharmacy restricted OTC medicines.

Furthermore, the efficiency gains of online pharmacies can be hard to achieve without some level of price competition, which is not possible in Denmark at present. One route would be to introduce maximum prices on pharmacy restricted OTC medicines and prescription medicines rather than fixed prices. Additionally, a relaxation of ownership restrictions could enhance the ability to develop these new business models and attract consumers.

The abovementioned suggestions to modify the regulation of the pharmacy sector will generally promote stronger competition in the pharmacy market to the benefit of consumers. The Danish Competition Council has published similar recommendations in the report *Konkurrence om distribution af medicin* from 2016.⁶¹

⁶¹ The Competition Council's report: *Konkurrence om distribuion af medicin*, 2016, <https://www.kfst.dk/media/2738/analyse-konkurrence-om-distribution-af-medicin.pdf>

4 Finland

The online pharmacy market in Finland is still very underdeveloped when compared to many other countries. In terms of the liberalisation of pharmacy markets, Finland lags behind many of its Nordic peers. As Finland must cope with ever increasing challenges of accessible health and social care services in rural areas, it is evident that health related e-services, online pharmacies among them, will be one answer to these challenges. Consequently, regulation should be redesigned to support this development.

4.1 The regulation of pharmacies and online pharmacies

In Finland, The Finnish Medicine Agency ("Fimea") is the corresponding regulatory authority supervising pharmacies. Fimea regulates the number and location of pharmacies by granting licences to run pharmacies based on a needs assessment of a certain area. Licences are only granted for qualified pharmacists that meet certain education requirements. Pharmacy ownership is restricted to pharmacists. This means that no vertical (i.e. manufacturer or wholesale ownership) or horizontal integration (pharmacy chains) is allowed for pharmacies. Besides the main pharmacy, a pharmacist can have at most three subsidiary pharmacies. In order to be granted a pharmacy permit for a larger pharmacy in a city, a pharmacist is generally expected to have run a pharmacy somewhere in more rural areas of Finland. In this way, it is guaranteed that the provision of pharmacy services is adequate everywhere in Finland. The prices of medicines are fixed in all pharmacies so pharmacies cannot compete on prices. This also applies to online pharmacies.

The online pharmacies in Finland are regulated by the Medicine Act (395/1987) and the associated guidelines and orders set out by Fimea.⁶² In addition, online pharmacies are regulated by the consumer protection law concerning distance sales.

The Medicine Act defines online services of a pharmacy as an act of selling medicines to the consumer based on the order the consumer has placed through the internet. The Act stipulates that only pharmacies with a valid physical pharmacy license can operate an online pharmacy. That is, the permit to operate an online pharmacy is connected to the license to operate a physical pharmacy. Regulations also dictate some specific requirements for online operations, for example in terms of safe distribution of medicines to consumers. The regulations particularly aim to guarantee that consumers receive appropriate medical guidance when purchasing medicines online, especially when prescription medicines are purchased. Guidance can be in many forms, such as phone, email and internet-based chat. Purchasing prescribed medicines online is only possible using an e-prescription. E-prescriptions have been mandatory as of 1 January 2017 and

⁶² Medicine Act 395/1987, Unofficial translation; Amendments up to 1340/2010 included
https://www.fimea.fi/documents/160140/765540/18580_Laakelaki_englanniksi_paivitetty_5_2011.pdf

Relevant EU legislation is: Directive 2011/62/EU of the European Parliament and of the Council of 8 June 2011 amending Directive 2001/83/EC on the Community code relating to medicinal products for human use, as regards the prevention of the entry into the legal supply chain of falsified medicinal products. Text with EEA relevance (<https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32011L0062>);

Fimea decree on online pharmacies, 2/2011 (10.5.2011);
https://www.fimea.fi/documents/160140/743657/18533_Apteekin_verkkopalvelu_maarays_2011-05-10.pdf (in Finnish).

only in some exceptional situations can prescriptions be given by other means such as physical paper or over the phone. For certain medicines, there are also limitations on the maximum package size that can be purchased through an online pharmacy.

All pharmacists with a pharmacy licence wishing to operate an online pharmacy must make a pre-notification to Fimea about their plans to launch an online pharmacy. Fimea evaluates this pre-notification and either accepts or rejects it. After the pre-notification period, pharmacists must also notify Fimea when the actual operation of online services has started. Furthermore, significant changes to the operations and the closing of an online pharmacy must be reported to Fimea. Fimea has the authority to cancel the online pharmacy permit if it notices shortcomings in the operations of the pharmacy.

Based on the pre-notifications, Fimea keeps a list of all authorised online pharmacies on its website.⁶³ All online pharmacies are required to have a link to this list so that consumers have an opportunity to check the authorisation of the pharmacy. In addition, online pharmacies are required to have the common EU logo for online pharmacies on their webpages.⁶⁴

4.2 Market outlook⁶⁵

4.2.1 Pharmaceutical markets overall

The size of the pharmacy market in Finland was about EUR 3.3 billion in 2018. More specifically the sales of medicines in Finland was distributed as follows (Table 4.1).⁶⁶

Table 4.1 Size of the pharmaceutical market in Finland, 2018

	EUR million	Change from 2017, %
Total sales of pharmaceuticals in 2018	3,287	6.8
Prescription medicines in outpatient care (at pharmacy prices with VAT)	2,188	3.9
OTC medicines in outpatient care (at pharmacy prices with VAT)	355	1.2
Sales to hospitals (at wholesale prices)	745	19.8

⁶³ https://www.fimea.fi/apteekit/verkkopalvelutoiminta/lailiset_apteekin_verkkopalvelut

⁶⁴ Fimea decree on Common EU logo for online pharmacies, 1/2015 (17.5.2015); https://www.fimea.fi/documents/160140/764653/29505_Maarays_1_2015_FI.pdf (in Finnish)
Common EU logo for online pharmacies/retailers; https://ec.europa.eu/health/sites/health/files/files/eu-logo/logosancointernet_charte_v2.pdf

⁶⁵ In addition to the stated references, this section uses two interviews with the representatives of the industry as a source material. Interview dates were 31 January 2020 and 25 February 2020.

⁶⁶ Finnish Medicines Agency (Fimea)/Social Insurance Institution (Kela), 2019. Finnish Medical Statistics 2018.

In terms of the availability of pharmacy services, the market has been relatively stable during the last 10 years. According to Fimea, in 2018 there were 618 pharmacies and 196 subsidiary pharmacies (Table 4.2).⁶⁷ In addition, there were 109 so called service points, which distributed medicines through physical outlets other than pharmacies.⁶⁸

The number of reported online services has also been quite stable. However, these figures represent only the permits that Fimea has granted for online services. Not all granted permits imply that the pharmacy necessarily has significant online operations. Often, online presence might mean that the pharmacy only has traditional webpages without an actual online store. According to some estimates, prescribed medicines were available in about 30 online pharmacies in 2018.⁶⁹ It is likely that this figure has increased since then, especially due to Covid-19.

Table 4.2 The structure of the pharmacy market in Finland (2018)

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pharmacies	618	620	618	616	615	612	613	616	618
Subsidiary pharmacies	194	198	200	199	201	204	201	196	196
Service points ^a	-	22	36	55	86	93	108	107	109
Online services ^b	-	-	-	-	-	101	105	102	104

a) We have omitted the number of service cabinets from the original table. Legislation concerning service points came into force on 1 February 2011.

b) No statistics available from the initial years of online pharmacy regulation that came into force on 1 February 2011

4.2.2 Online pharmacy markets

The online pharmacy market in Finland is still relatively young and a very small portion of the overall online market. The first market players entered the online markets around 10 years ago.⁷⁰ The market is characterised by a very uneven market structure as there is one larger market player operating in the market. The rest of the market is mostly populated by individual pharmacists for which their online operations are still quite small in significance. There is a large variation among Finnish pharmacists in terms of level of involvement in online operations.

⁶⁷ Table modified from: <https://www.fimea.fi/kehittaminen/apteekkitoiminta/apteekkipalveluiden-saatavuus> (Finnish Medicine Agency). In the Medicines Act, subsidiary pharmacy is defined as follows: *subsidiary pharmacy means a separate outlet of the pharmacy, the field of activities of which corresponds to that of the pharmacy.*

⁶⁸ The Medicines Act defines service point as follows: *pharmacy service point means a separate outlet maintained by the licensed pharmacist for the sale of medicinal products.*

⁶⁹ Salonen, Iiro & Hägg, Paula (2018); Apteekkien verkkopalvelut – lääkkeiden toimittaminen ja lääkeneuvonta uudella aikakaudella (Informal translation of the title: Online service of pharmacies – the new era of pharmaceutical distribution and guidance), *Sic!* (magazine of Fimea), 3/2018.

⁷⁰ Source: Industry blog by Markku Korhikoski, CEO of Vilkas Group. Vilkas provides online platforms also for online pharmacies. <https://www.myyverkossa.fi/2018/09/kuluttajat-ovat-oppineet-asioimaan.html> (in Finnish).

By far the largest player in the online market is the Helsinki University Pharmacy (Yliopiston Apteekki, hereafter referred to as "YA").⁷¹ YA's role is specifically dictated in the Medicines Act since it is responsible, for example, for running the training of future pharmacists. It is also the only pharmacy that has more than three subsidiary pharmacies, 16 in total. Consequently, it can be considered the only pharmacy chain in Finland although pharmacy chains as such are not allowed by the regulation.

Unfortunately, there are no official statistics about the overall size of the online pharmacy market in Finland. There are, however, some estimates of the market size. First, the online sales of YA, the largest market player, were according to the firm's own sources about EUR 9.5 million in 2019, with about 9 million visits on its online pharmacy.⁷² Note that this corresponds to pre-corona figures and according to YA, in 2020 the turnover for online sales increased to about EUR 23 million. We will however use the more conservative pre-corona estimate here in this report to describe the market size.

The second source is a report by Fimea (Reinikainen et al., 2020).⁷³ Based on a survey, they found that the total turnover for online pharmacies other than YA was about EUR 1.7 million, the mean turnover being EUR 19,630 (median EUR 1,056). The range of turnover was from EUR 4 to about EUR 450,000 and on average online sales were only about 0.4 percent of the total turnover of those pharmacies who reported some turnover for their online operations (n=85). This shows that online operations form a very small part of pharmacy operations for most of the pharmacies.

Some sources report the extent of online pharmacy use among consumers.⁷⁴ Based on one survey study, about 19 percent of respondents had used online pharmacies.⁷⁵ However, the variation in estimates is high, since according to Statistics Finland, only about 3 percent of Finns had bought medicines online in 2018.⁷⁶

Based on the figures above it is difficult to make any exact estimate of the size of the online pharmacy market. Given that YA had online sales of about EUR 9–10 million in 2019, we could make a very rough (pre-corona) estimate that the order of magnitude of Finnish online pharmaceutical markets has been around EUR 10–20 million.

Although the online pharmacy market is still in its infancy in Finland, the sector has seen relatively good growth in recent years. According to one estimate, sales and volumes of online pharmacies were up about 4 to 5-fold in comparison to year 2011.⁷⁷ This prior development suggests that

⁷¹ There are in fact two university pharmacies in Finland, one owned by the University of Helsinki and another one owned by the University of Eastern Finland. The discussion in this report however concerns the one owned by University of Helsinki.

⁷² <https://www.yliopistonapteekki.fi/vuosikertomus/verkkopalvelu> (Accessed on 29.3.2021).

⁷³ Reinikainen L, Hyvärinen A, Happonen P. *Analysis of pharmacies' financial statements for 2015–2018*. Finnish Medicines Agency Fimea. Serial Publication Fimea Develops, Assesses and Informs, 2/2020.

⁷⁴ See e.g. Punakivi, K. (2019). Acceptance and use of online pharmacies and the online customer journey for the purchase of OTC medicines. University of Helsinki, Master's Thesis; <https://helda.helsinki.fi/handle/10138/305784>

⁷⁵ Iro Research Oy (2017). Tuhat suomalaista. <https://docplayer.fi/57911712-Tuhat-suomalaista-tutkimusapteekkariliitto-laakariliitto-ja-laaketietokeskus-syyskuu-2017.html> (in Finnish)

⁷⁶ Statistics Finland (2018). https://www.stat.fi/til/sutivi/2018/sutivi_2018_2018-12-04_tau_030_fi.html

⁷⁷ Source: Industry blog by Markku Korkiakoski, CEO of Vilkas Group. Vilkas provides online platforms also for online pharmacies. <https://www.myyverkossa.fi/2018/09/kuluttajat-ovat-oppineet-asioimaan.html> (in Finnish). The figures supposedly include only the online pharmacies that use Vilkas' platform.

there is much growth potential in the markets. Furthermore, as above indicated in the case of YA, the Covid-19 situation has significantly, and perhaps permanently, increased the demand for online services.

4.3 Challenges and future development

The main reason why the online pharmacy market is still very underdeveloped in Finland might be the stringency of regulation. The requirement that online pharmacy operations are bound to the physical pharmacy license is seen as a hindrance for the market to develop. The current regulation does not allow an online-only pharmacy to exist. Consequently, as some commentators have observed, warehousing and inventory management is, for example, not optimally organised from the perspective of online pharmacies. Furthermore, it is argued that the possible efficiency gains of online operations are hard to achieve without some level of price competition, which is also not possible in Finland.⁷⁸ In general, the current regulatory environment in Finland is not advancing the development of the online pharmacy sector in the best possible way.⁷⁹

Another obstacle in the development of the sector might be that the current technical online pharmacy systems are not properly integrated to the health and prescription records of citizens. This lack of integration complicates the ordering of prescribed medicines as consumers cannot place orders directly according to their e-prescriptions, but rather pharmacists must separately check the prescriptions before confirming the order. The technical challenges of integrating prescription records is further complicated by the fact that pharmacies are using multiple different pharmacy IT-systems.

Thus, the development of the online pharmacy market in Finland is very much dependent on the overall regulatory setting of the pharmacy sector. Deregulation of certain ownership and pharmacy chain restrictions, opening the pharmacy license system, unbundling online operations from the physical pharmacies and allowing non-pharmacy sales and price competition of OTC medicines would probably contribute to a faster development of the online sector. It is nevertheless still very uncertain whether such reforms will take place in Finland.

Despite the current regulatory environment, some players in the markets are expected to aim for a more intensive online presence in the pharmacy sector in anticipation of market liberalisation. Especially large wholesalers, which already have functioning logistics systems in place, might have a significant impact on the way online markets are organised in the future. In addition, larger grocery retailers with a strong brand are potential market entrants. Lastly, the current dominant market player YA, with its strong foothold in the online markets, obviously has capabilities to become an even more dominant market player. If regulation allows, the possible development towards larger online pharmacy players might have implications for the smaller online pharmacies currently operated by the individual pharmacies.

⁷⁸ Views presented in the blog by the Confederation of Finnish Industries blog (8.1.2020):

<https://ek.fi/ajankohtaista/uutiset/2019/11/08/kiesilainen-blogga-suomen-apteekkisaantely-estaa-tehokkaan-laakkeiden-verkkokaupan/> (in Finnish).

⁷⁹ Huttunen, T. (2015). Apteekin verkkopalvelu osana lääkealan digitalisaatiota – Muuttuvat rakenteet ja kilpailukyky, Master's thesis, Turku School of Economics. Available: <http://urn.fi/URN:NBN:fi-fe2016090623600> (in Finnish). Informal translation of the title: "Online services as a part of digitalisation of pharmaceutical sector – Changing structures and competitiveness."

5 Iceland

5.1 Regulation of pharmacies

The pharmaceutical market in Iceland is highly regulated. Legal requirements for traditional pharmacies and online pharmacies in Iceland are presented in the Medicinal Products Act. A new Act, No. 100/2020, came into effect on 1 January 2021, replacing an earlier act from 1994. The Icelandic Medicines Agency (hereafter "IMA") is an independent regulatory authority under the Ministry of Health, and is responsible for regulatory surveillance of all manufacturing, distribution, sale, and presentation of medicinal products in Iceland. IMA's responsibilities include, for example, assessing quality and safety of medicinal products, inspections to confirm regulatory requirements are fulfilled, acting as a source of information for health professionals and the public and ensuring consumer protection.⁸⁰ The Inspection Unit carries out regular inspections of all firms active in the Icelandic pharmaceutical market (wholesale, retail and production), depending on the nature and extent of their activities.

5.1.1 Traditional pharmacies

To operate a traditional pharmacy, certain requirements need to be fulfilled. The requirements for pharmacy operations are laid down in the Medicinal Products Act, as well as in Regulation No. 426/1997.⁸¹ One of the requirements is that the applicant has a license as a pharmacist and a confirmation that the applicant has worked as a pharmacist and has had a valid pharmacist license for at least three years.

Before giving its approval or rejection of an application, the IMA conducts an in-depth review, which can take up to three months.⁸² During the application process the IMA requests additional information from the applicant, such as a quality manual, information about job titles and copies of other public licenses. With preparations for the opening of the new pharmacy in the final stages, the applicant must formally request an inspection of premises, facilities, and activities. Furthermore, the relevant municipality is given the opportunity to review the application and give its comments to the IMA.

The IMA grants pharmacy licenses and operating licenses as appropriate when all requirements have been fulfilled. The agency also informs pharmaceutical wholesalers of the new pharmacy and thereby grants the pharmacy permission to order medicinal supplies from the wholesalers. Each pharmacy license is limited to one pharmacy and the superintendent pharmacist is professionally responsible for the operations. A pharmacist can only be responsible for a single pharmacy at any given time.⁸³ However, there are no requirements as to the ownership of

⁸⁰ <https://www.ima.is/ima/>

⁸¹ The IMA is responsible for regulatory surveillance of all pharmacies and pharmacy subsidiaries in Iceland. Legal requirements for pharmacy premises are presented in Chapter IV in Regulation No. 426/1997, on pharmacy license and pharmacies. Completed application forms for pharmacy licenses should be sent to the IMA.

⁸² One of the more important parameters that is considered in an application is the distance from other operating pharmacies and the population per pharmacy in the corresponding area, cf. Article 20 of the Medicinal Products Act.

⁸³ https://www.ima.is/inspections/pharmacies/pharmacy_license/

pharmacies and an owner can own an unlimited number of pharmacies, thus forming a chain of pharmacies with an equal number of licences. On the other hand, vertically integrated pharmacies are not allowed in Iceland.

The pharmaceutical market in Iceland is highly regulated. The state regulates prices for prescription medicines, prescription medicines cannot be advertised, and medicines, including almost all OTC medicines, cannot be sold outside of pharmacies. A very narrow selection of OTC medicines can be sold outside of pharmacies in Iceland, i.e., nicotine gum. A prerequisite is obtaining a special license from the IMA. Thus, the state carries a great deal of responsibility for making entry into the pharmacy market easier and creating conditions for competition. At the same time, public health and security considerations must be considered.

5.1.2 Online pharmacies

The postal sale of medicine has been possible for quite some time. However, the operation of online pharmacies was not legalised until 2018, and in 2019 the first online pharmacy entered the market. Online pharmacies have the same obligations as traditional, physical pharmacies, but they also have some additional obligations. The additional requirements for online pharmacies are listed in the Regulation on Online Pharmacies, No. 560/2018. The IMA is responsible for regulatory surveillance of all online pharmacies. According to the Medicinal Products Act, a pharmacist that is already operating a traditional pharmacy can open an online pharmacy. To do so, the pharmacist needs to send a notification to the IMA.⁸⁴ Therefore, no undertaking can enter the market as an online-only pharmacy. A physical location is always required.

Pharmacies that have notified the IMA of online operations can sell OTC medicines as well as prescription medication. The superintendent pharmacist is responsible for the online pharmacy and for the online pharmacy complying with laws and regulations i.e. that the consumer gets the right medication, that each shipment is delivered to the owner of the prescription, and that each shipment can be traced back to the sender.

5.2 Current market outlook

In Iceland, the pharmacy market is concentrated with two large pharmacy chains, Lyfja and Lyf og heilsa, with total [50–55]% market share, as well as a few smaller chains, and some independent pharmacies (see Table 5.1). The markets in smaller towns in Iceland and rural areas are even more concentrated.

⁸⁴ The website of an online pharmacy must have a logo from the European Union, marked with the Icelandic flag, to ensure that the consumer can know which Agency is responsible and that the pharmacy is licensed. The consumer can click on the logo and receive an official list from the IMA of all online pharmacies with permission to operate in Iceland. It is considered crucial that the consumer can trust an online pharmacy and a consumer should always look for the common European Union sign.

Table 5.1 Market shares in the Icelandic pharmaceutical market – capital area

Pharmacy chain	2005	2016	2020
Lyfja	[35–40]%	[20–25]%	[25–30]%
Lyf og heilsa	[40–45]%	[20–25]%	[25–30]%
Hospital pharmacy ⁸⁵	[0–5]%	[10–15]%	[0–5]%
Lyfjaver	[0–5]%	[10–15]%	[10–15]%
Lyfjaval	[5–10]%	[5–10]%	[5–10]%
Other pharmacies	[5–10]%	[15–20]%	[20–25]%

Although the pharmacy market in Iceland is concentrated, there have been signs of increased competition in the last few years. During the last 10-15 years there has been an increase in the operation of independent pharmacies, especially in the capital area. ICA's interventions⁸⁶ have facilitated the entry of new firms and therefore contributed to that development. In May 2017, Costco opened a store in Garðabær with a large pharmacy. Furthermore Hagar hf., the largest retailer in Iceland, recently acquired the independent pharmacy, Reykjavíkur Apótek⁸⁷, although in October 2020, Hagar announced their intentions to sell the pharmacy.⁸⁸

The two largest pharmacy chains in Iceland, along with four independent pharmacies, have permits to operate online.⁸⁹ The permit is granted for the physical location of each pharmacy. In 2019 the first online pharmacy entered the market. In the year 2019, the joint market shares of the pharmacies operating online was less than 1% of the total turnover on the pharmaceutical market.

In recent years there has been an increased general interest of Icelanders to shop online, including pharmaceuticals products. From 2007 to 2019, the proportion of Icelanders that had shopped for services or goods online in the past twelve months increased from 67 percent to 77 percent.⁹⁰

⁸⁵ In Iceland there are two hospital pharmacies in operation. In previous cases, the Icelandic Competition Authority has stated that the hospital pharmacies can to some extent be considered to serve as a competitive constraint to other pharmacies. There are, however, some important differences between the hospital pharmacies and other pharmacies. Those differences are for instance that the hospital pharmacies mostly sell a certain kind of medication (S-merkt lyf), and that the variation of OTC medication is far less in hospital pharmacies compared to traditional pharmacies. In addition, hospital pharmacies are only allowed to sell prescription medication that is prescribed by doctors working in the hospital.

⁸⁶ For example, ICA prohibited the merger of Lyf og heilsa and an important new entrant Lyfjaver in 2006. In that case it was concluded that Lyfja and Lyf og heilsa were collectively dominant in the pharmacy market. In 2010 ICA fined Lyf og heilsa for abuse of a dominant position. In 2018, ICA prohibited the merger of Lyf og heilsa and an important new entrant Apótek Mos. In that case, ICA's investigation revealed that the services of pharmacies were local in nature and that customers do not travel far for the service. It was concluded that the geographical market was Mosfellsbær. The merging parties were close and important competitors in that town and in fact the only competitors in the municipality. ICA concluded that the merger would create a dominant position (100% market share) in the market for the retail sale of pharmaceuticals in Mosfellsbær. The case was appealed by the parties and the Appeals Committee confirmed ICA's conclusion. See for example ICA's decisions no. 4/2001, 28/2006, 4/2010 and 28/2017

⁸⁷ See ICA's decision no. 29/2019

⁸⁸ <https://www.vb.is/frettir/hagar-ad-selja-utilif-og-apotekid/164943/>

⁸⁹ In May 2020, there were 27 registered online outlets for medicine sales in Iceland, most of them operated by the two large pharmacy chains.

⁹⁰ <https://www.gallup.is/frettir/aldrei-fleiri-islingar-verslad-netinu/>

Following the restrictions due to the COVID-19 pandemic, online sales of pharmaceuticals increased significantly, although online sales seemed to drop again after the restrictions were temporarily mitigated in May 2020.

5.3 Challenges and the future development

ICA is of the opinion that measures must be taken to ease access for new market players to increase competition. ICA has previously pointed out that the fact that a pharmacist must operate a traditional pharmacy to get permission to open an online pharmacy makes it harder for new and innovative competitors to enter the online market. It also prevents companies from saving the costs of operating a physical pharmacy and therefore lowering the prices which would benefit consumers. It has been shown in the Nordic countries that allowing online-only pharmacies without any ties to physical pharmacies has put competitive pressures on traditional pharmacies and online-only pharmacies have gained market shares. For example, Sweden is ahead of Iceland when it comes to facilitating entry of online pharmacies.

One way to increase competition in the pharmaceutical market is to allow a broader selection of OTC medicines to be sold outside of pharmacies, e.g. mild pain relievers. Denmark, Sweden and Norway are ahead of Iceland when it comes to selling OTC medicines outside of pharmacies.

Therefore, the Icelandic Competition Authority is of the opinion that by allowing online pharmacies to operate without any ties to physical pharmacies, and by easing the restriction on the types of players that can sell certain OTC medicines outside of pharmacies, this would increase competition in the Icelandic pharmacy market.

6 Norway

6.1 Introduction

Traditionally, consumers could only purchase prescription and non-prescription medicine in physical pharmacy stores in Norway. In 2003, an arrangement called LUA⁹¹ was introduced which allowed consumers to purchase some non-prescription medicines at grocery stores, gas stations and in kiosks. In 2010, it became possible to purchase non-prescription medicine online and finally, since 2016, prescription medicines have been able to be purchased online. The market for online sales of medicines is still considered small.

6.2 Regulation of online pharmacies

The pharmaceutical market in Norway is highly regulated. The Norwegian Medicines Agency (Statens Legemiddelverk, NoMA) is an agency under the Ministry of Health and Care Services and is, among other things, assigned to the assessment of medicines and administration of the pharmaceutical distribution chain. Its tasks include, *inter alia*, the assessment of medicines and issuing of market authorisations, the assessment of clinical trials regarding medicines and medical devices, and the authorisation of the manufacturing, import, sale and distribution of medicine.⁹²

The minimum requirements for pharmacy operations are laid down in the Pharmacy Act (apotekloven), which contains provisions on personnel requirements in pharmacies and on requirements for the premises, furnishings and equipment of the pharmacy, what the pharmacies are obliged to sell, supply of goods, inventory, acceptable level of supply security, as well as accounting and other reports to public authorities. Most of these provisions are further specified in the Pharmacy Government Regulation (apotekforskriften). Online pharmacies selling prescription medicine have the same obligations as physical pharmacies, as well as some other minor obligations, such as having information about the physical address of the pharmacy's delivery point and requirements for content on the website.

According to the Pharmacy Act, a pharmacy must offer all medicines that can be sold in Norway. An online pharmacy is defined by NoMA as a pharmacy that offers either to prepare prescription medicines or to both prepare and sell prescription medicines on a website or app.⁹³

Ownership and (physical and online) operations of pharmacies must be approved by NoMA. Doctors and pharmaceutical manufacturers are not allowed to own or operate pharmacies in Norway.

Furthermore, online pharmacies are obligated to provide NoMA with information on the postal address for delivery, the date of commencement of operations and the address of the online website (URL) of the pharmacy. The website must include a logo set by NoMA, a link to NoMA's

⁹¹ "Legemiddel utenom apotek" (translated: medicines outside pharmacies).

⁹² See also <https://legemiddelverket.no/english/about-us/our-goals-and-tasks>.

⁹³ See <https://legemiddelverket.no/import-og-salg/utlevering-og-salg-i-apotek/veiledning-for-apotekenes-netthandel-med-legemidler#nettapotek-handler-om-å-inngå-avtale-om-kjøp>

online information on online sales of medicines and a link to NoMA's online list of approved online pharmacies.⁹⁴ According to the Pharmacy Act, a pharmacy is a physical point of sale where the consumer can get guidance regarding the use of medicines. The interpretation of this is that an online pharmacy must have a physical location (a physical pharmacy) where the consumer can choose to pick up their ordered medicines.

Both physical and online pharmacies are obligated to trade all pharmaceuticals which are permitted to be sold in Norway, and to carry all the pharmaceutical products that are most in demand.⁹⁵ The online pharmacies may, however, omit offering medicines with certain requirements for shipping, storage or shelf life, and medicines that require special care upon delivery.

Lastly, online pharmacies can only sell a limited quantity of non-prescription medicines to consumers. This means in practice that online pharmacies can sell only one package of the same non-prescription medicine at any one purchase. Further, online pharmacies cannot sell non-prescription medicines to minors under 18 years.⁹⁶

6.3 Market outlook in Norway

6.3.1 Pharmaceutical markets in Norway

The three major pharmacy chains, Vitus Apotek AS/Ditt Apotek, Boots Apotek and Apotek 1, are vertically integrated with the three main wholesalers Norsk Medisinaldepot AS, Alliance Healthcare AS and Apokjeden Distribusjon AS.⁹⁷ In addition to these chains, there are hospital pharmacies, online outlets selling non-prescription medicine, online pharmacies selling both non-prescription medicine and prescription medicine, and online pharmacies with click-and-collect services (no home delivery). Finally, grocery stores, kiosks and gas stations sell some of the most used and well-known non-prescription medicines through the LUA-arrangement.⁹⁸ All pharmacies other than hospital pharmacies will hereinafter be referred to as primary care pharmacies.⁹⁹ Figure 6.1 below illustrates the market shares between the different pharmacies in Norway.

⁹⁴ Apotekforskriften § 42.

⁹⁵ Apotekforskriften § 26.

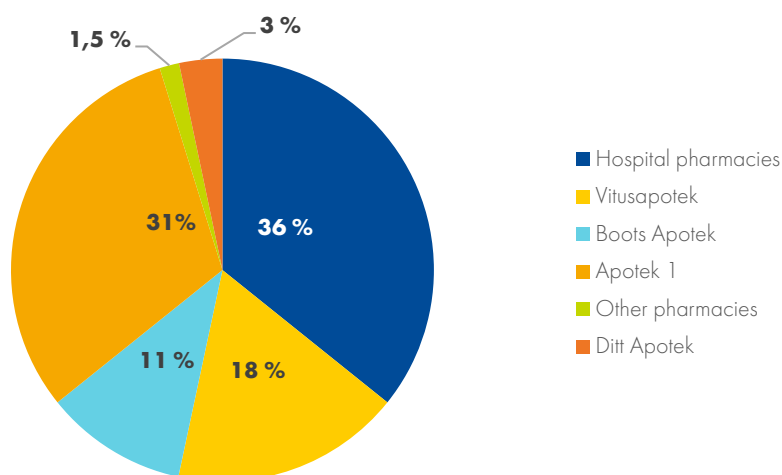
⁹⁶ See <https://legemiddelverket.no/import-og-salg/utlevering-og-salg-i-apotek/veiledning-for-apotekenes-netthandel-med-legemidler#forskrift-om-rekvirering-og-utlevering-av-legemidler-fra-apotek>:

⁹⁷ Ditt Apotek is a cooperation for independent pharmacies and the chain is owned by Norsk Medisinaldepot AS.

⁹⁸ For a description of this arrangement see section 6.1 above.

⁹⁹ The competition between hospital pharmacies and the primary care pharmacies are not fierce, as they address different groups of consumers.

Figure 6.1 Market shares in the Norwegian pharmacy market in 2018¹⁰⁰

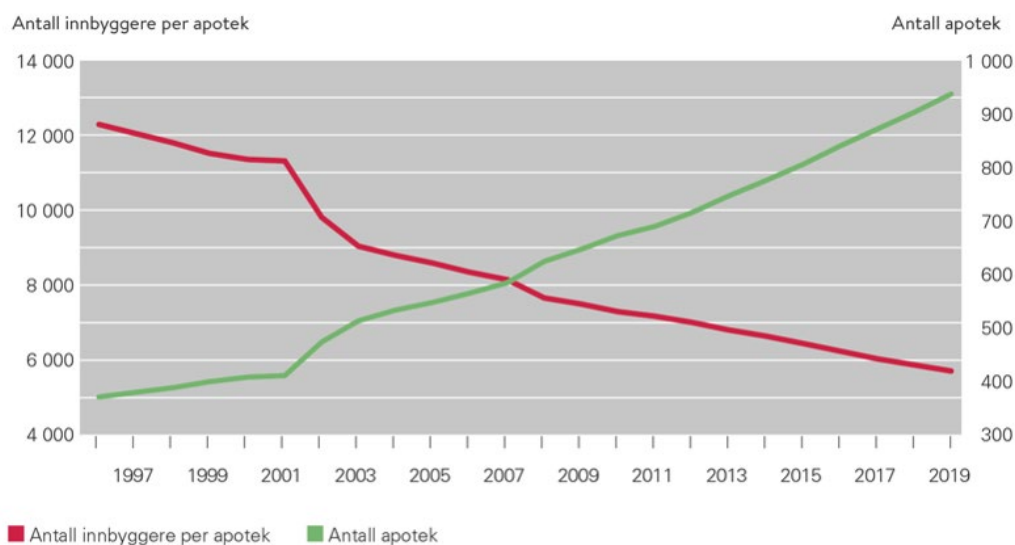


Note: In the category "Other pharmacies" and "Ditt Apotek" there are both independent pharmacies (not owned by one of the three chains), and pharmacies which are only partly owned by one of the three chains.

In 2001 there was a deregulation of the pharmacy market in Norway. Until 2001 the Norwegian government decided who could own a pharmacy, the location of the pharmacies and the number of pharmacies through a concessionary license system. The deregulation allowed non-pharmacists to establish and own pharmacies. Nevertheless, in order to be granted an operating licence, one must have an authorisation as a pharmacist. The deregulation resulted in an increase in the numbers of pharmacies, especially in central districts. This is illustrated in Figure 6.2 below. The green line shows the number of pharmacies and the red line shows the number of inhabitants per pharmacy. Furthermore, the number of independent and pharmacies partly owned by chains has also decreased since the deregulation in 2001 (yellow line in Figure 6.3).

¹⁰⁰ <https://www.lmi.no/download.php?file=/wp-content/uploads/2019/04/Tall-og-fakta-2019.pdf>, page 32.

Figure 6.2 Number of pharmacies and number of inhabitants per pharmacy¹⁰¹



Kilde: Apotekforeningen og SSB (befolkningstall)

© Apotekforeningen 2019

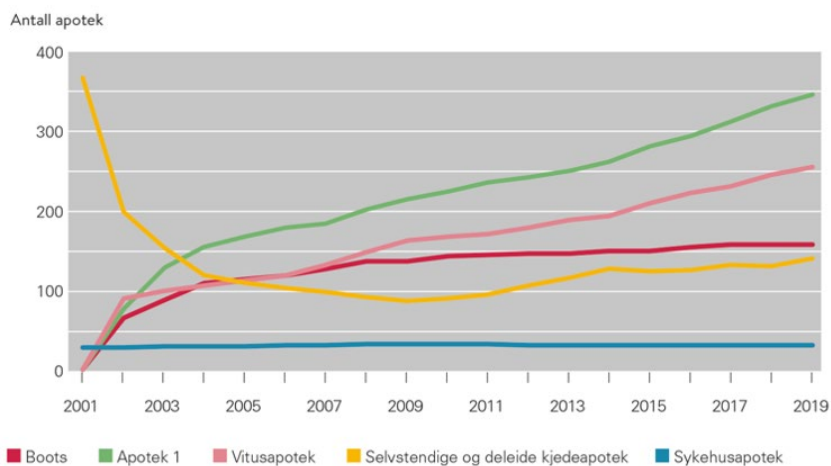
Note to figure:

Translations

Antall innbyggere per apotek = number of residents per a pharmacy

Antall apotek = the number of pharmacies

Figure 6.3 Number of pharmacies distributed by ownership¹⁰²



© Apotekforeningen 2019

Note to figure:

Translations:

Antall apotek = the number of pharmacies

Selvstendige og deleide kjedeapotek = independent and partly-owned chain pharmacy

¹⁰¹ Source: <https://www.apotek.no/fakta-og-ressurser/statistikk-for-2018/1-apotek-i-norge/1-3-apotekdekning>

¹⁰² Source: <https://www.apotek.no/fakta-og-ressurser/statistikk-for-2018/1-apotek-i-norge/1-3-apotekdekning>

The total turnover of pharmaceuticals was about NOK 36.6 billion (approx. EUR 3.6 billion at exchange rates on 24 March 2021) in 2018. The distribution of the sale of medicines in Norway in 2018 is specified in Table 6.1 below.¹⁰³

Table 6.1 Size of the pharmaceutical market in Norway, 2018, millions of NOK

	NOK million	Change from 2017, %
Total sales of pharmaceuticals in 2018	36,608 (~ EUR 3.6 bn)	4.3
prescription medicines (at pharmacy prices with VAT)	25,336 (~ EUR 2.5 bn)	3.8
OTC medicines (at pharmacy prices with VAT)	2,792 (~ EUR 274 million)	2.4
Other goods sold in pharmacies	8,480 (~ EUR 832 million)	6.3

6.3.2 Online pharmacy markets in Norway

Table 6.2 below contains an overview of the providers of online sales of medicines, divided into approved online pharmacies, click-and-collect pharmacies and websites offering medicines through the LUA-arrangement (situation on June 2020).¹⁰⁴

Table 6.2 Overview of online sales of medicines in Norway

Type of online operator	Number of outlets/websites
Approved online pharmacies ¹⁰⁵	15
Pharmacies with click-and-collect services ¹⁰⁶	3
Registered websites for sales of medicines through the LUA-arrangement	7

The three major pharmacy chains are all represented online as one of the 15 registered online approved pharmacies. In addition, two of the pharmacies connected to Ditt Apotek have their

¹⁰³ <http://www.apotek.no/fakta-og-ressurser/statistikk-for-2018/nokkeltall-2018>

¹⁰⁴ <https://legemiddelverket.no/import-og-salg/apotekdrift/registreringsordning-for-netthandel-med-legemidler/godkjente-utsalgssteder#oversikt-over-godkjente-nettapotek>

¹⁰⁵ According to NoMA these are pharmacies with a website with a shopping cart for medicines and an approved logo on the website, cf. <https://legemiddelverket.no/import-og-salg/apotekdrift/registreringsordning-for-netthandel-med-legemidler/godkjente-utsalgssteder#oversikt-over-godkjente-nettapotek>

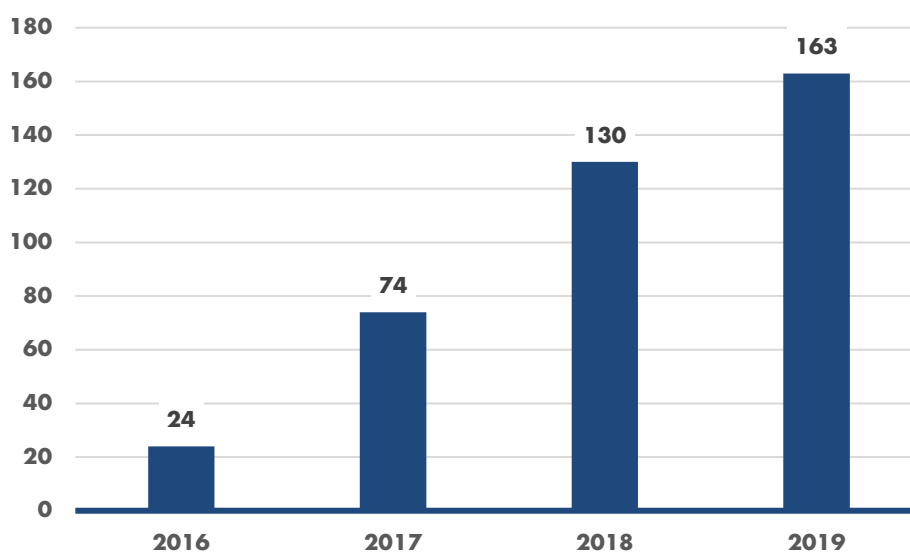
¹⁰⁶ Click-and-collect pharmacies has websites with the possibility to order medicines to collect in the physical pharmacy, cf. <https://legemiddelverket.no/import-og-salg/apotekdrift/registreringsordning-for-netthandel-med-legemidler/godkjente-utsalgssteder#oversikt-over-godkjente-nettapotek>.

own online website for pharmacy sales, however one of them has apparently discontinued its operation. The remaining ten approved online pharmacies are independent.

The approved online pharmacies also have turnover related to their physical outlet(s). This means that summarizing the total turnover for the online pharmacies will exaggerate the turnover for the online sales.

The largest online pharmacy in Norway, Farmasiet, had a turnover of about NOK 163 million in 2019 (mostly due to online sales). Farmasiet saw a significant increase in turnover from 2016 to 2019, as illustrated in Figure 6.4 below.

Figure 6.4 The turnover for Farmasiet, 2016–2019 (million NOK)¹⁰⁷



Unfortunately, there are no official statistics relating to the turnover of online sales of pharmaceuticals in the Norwegian market. The turnover of online pharmacies will consist of both sales in the physical store(s) and the online sales.

6.4 Challenges and future development

The online pharmacy market in Norway is still at an early stage of development. The online sale of non-prescription medicine was allowed in 2010, while the online sale of prescription medicines was allowed in 2016. However, the technical solution for online sales of prescription medicines was not available until the end of October 2016. Prescription medicine has thus only been offered online to Norwegian consumers for about four years.

An online pharmacy must have a physical pharmacy. Further, the three main pharmacy chains are all vertically integrated with a pharmacy wholesaler. An independent online pharmacy is dependent on achieving an agreement with one of these wholesalers, or to also establish as a

¹⁰⁷ Turnover numbers taken from www.bisnode.no (website with overview of Norwegian companies accounting)

wholesaler, to obtain all the medicines required to become an online pharmacy. There are, therefore, high barriers to entry and growth for online pharmacies.

The physical pharmacies are well spread around the country. This may indicate that consumers can easily purchase their medicines nearby their home. The demand and need for online pharmacies have therefore probably not been too urgent. In addition, many consumers have been sceptical about purchasing medicines online, which may also have prevented growth in the market. However, during the Covid-19 pandemic, medicine sales online have seen a significant increase.¹⁰⁸ As more and more people experience that purchasing medicine online is safe, and become accustomed to purchasing online, it is likely that turnover relating to online sales of medicine will continue to increase after the pandemic has passed.

¹⁰⁸ <https://www.nrk.no/norge/disse-selskapene-holder-koken-oppe-under-covid-19-1.14955514>

7 Sweden

7.1 Regulation of online pharmacies

As in most countries in Europe, trade with pharmaceuticals is highly regulated in Sweden. In Sweden online pharmacies must be authorised in the same way as physical pharmacies by the National Medical Product Agency (NMPA, *Läkemedelsverket*). The applicant must also pay a fee of SEK 20,000 (~ EUR 2000). There is also an annual renewal fee of SEK 11,500 (~ EUR 1100). It is the government that decides the amount of these fees.¹⁰⁹

Licences to run pharmacies are granted by NMPA. It is the Law on Sales of Medicinal Products (SFS 2009:366) that dictates who can own a pharmacy in Sweden. Online-only pharmacies are permitted without any need for a connection to a physical pharmacy. However, online pharmacies must have their facilities (warehouse etc.) in Sweden so they can be inspected by NMPA. Retail pharmacy operations are defined in the law as the sale of prescribed and non-prescribed OTC medicines to consumers, hospitals or to persons who are authorised to prescribe drugs. Thus, producers of medicinal products, Market Authorisation Holders (MAH), and prescribers of medicinal products (e.g. doctors, dentists and veterinarians) are not allowed to own pharmacies in Sweden. The main conditions to receive a licence to run a pharmacy are as follows:

- The pharmacy must have at least one pharmacist on duty during opening hours.
- The business shall be conducted on appropriate premises.
- The pharmacy should be able to provide all reimbursed prescription drugs, normally within 24 hours on working days.¹¹⁰
- There must be a pharmacist responsible for the pharmacy.

Online pharmacies must follow the Medical Product Agency's regulation concerning distance trade of pharmaceuticals (LVFS 2009:10). According to the regulation, the online pharmacy is responsible for the pharmaceuticals until they are received by the consumer. The online pharmacy is also responsible for ensuring that the person that receives the prescribed medicine is the person that had the medicine prescribed.¹¹¹

Online pharmacies should also have the common EU-logo for safe distance trade with pharmaceuticals on their website. In October 2019 there were 19 online pharmacies with an authorisation, of which 13 had e-commerce on their platform. One of the online pharmacies held only veterinary medicines.¹¹²

7.1.1 Regulation of prices on prescribed pharmaceuticals.

For reimbursed prescription pharmaceuticals the prices are regulated by the Dental and Pharmaceutical Benefits Agency (TLV) and the prices are the same in all pharmacies. The Agency

¹⁰⁹ The Medical Product Agency will ask the Government to raise the fees in 2021.

¹¹⁰ This regulation also applies for the wholesalers and online pharmacies

¹¹¹ Kvalitet och säkerhet på apoteksmarknaden, SOU 2017:15

¹¹² TLV, 2019 års uppföljning av apoteksmarknadens utveckling

also determines retail margins for all pharmacies in Sweden, regulates the substitution of medicines at the pharmacies and supervises certain areas of the pharmaceutical market. Pharmacies can price prescribed medicines without reimbursement and OTC medicines freely. Pharmaceuticals in hospitals are normally procured in public tenders by the regions.

7.2 Putting the online market into context

During the past five years the market for online pharmacies has rapidly grown in Sweden. Although e-commerce of pharmaceuticals has benefits for consumers, there are some concerns for regulatory authorities. One concern is how online pharmacies educate consumers about taking their prescribed medicine in the right way as online pharmacies never meet their consumers physically.

The Swedish Competition Authority has stated that online pharmacies are in general cheaper for OTC medicines compared with physical pharmacies. In Sweden the price differences for OTC medicines can be fairly large between online pharmacies and physical pharmacies.¹¹³ Other than lower prices on OTC medicines, the main competition tool for online pharmacies is their logistical solutions for consumers. Normally, consumers receive their medicines in their mailbox within 0-2 working days.¹¹⁴

7.3 Market outlook

7.3.1 Deregulation in 2009 and market evolution

The Swedish pharmacy market was liberalised in 2009 with deregulation through the liquidation of the state pharmacy monopoly. The aim with the reform was to increase accessibility to pharmaceuticals and pharmacies. At that time Sweden had the lowest density of pharmacies within the EU. Before 2009 there were many complaints about long waiting times for consumers to receive their prescribed medicines at the monopolist's pharmacies. These days consumers normally receive their medicine within a few minutes. The opening hours for pharmacies in Sweden have also increased compared with 2009. Most pharmacies are open on Sundays, which was unusual before 2009. Consequently, this reform can be seen as a success for consumers. The Swedish Competition Authority had for a number of years proposed that the monopoly should be removed.

The consequence of deregulation was a free right of establishment for pharmacies in Sweden, assuming that pharmacies receive authorisation by NMPA. That is, there is no supply regulation in terms of the number and location of pharmacies in the Swedish pharmacy market.¹¹⁵

¹¹³ Konkurrensverket, *Prisutveckling på receptfria läkemedel sedan omregleringen*, 2017:3

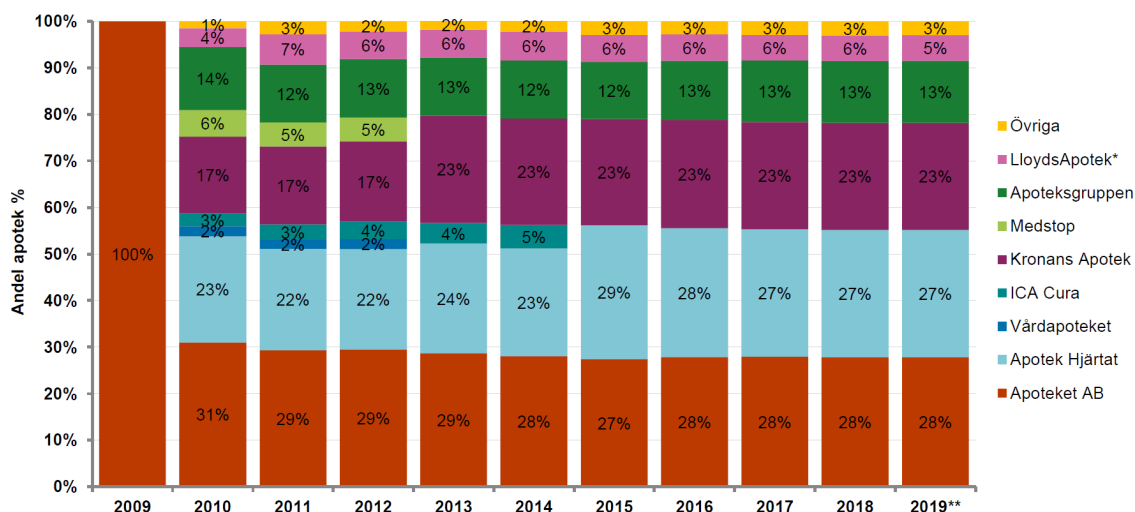
¹¹⁴ In parts of Stockholm (the capital) delivery can happen within a few hours of placing an order on the internet.

¹¹⁵ Kvalitet och säkerhet på apoteksmarknaden, SOU 2017:15

7.3.2 Current market situation

The figure 7.1 below shows the evolution of the market situation from 2009 to May 2019 in the Swedish pharmacy markets. Figure 7.1 shows the share of physical pharmacies of different actors. Thus, online pharmacies that have no physical pharmacies are not included in the figure.

Figure 7.1 Pharmacy chain market shares 2009–2019 (no. of pharmacies) ^a



Source: TLV (2019, figure 1, page 14)¹¹⁶

Translation of the Y-axis name: Share of pharmacies %

Figure notes

Note: Apotea, which only conducts e-commerce and which had approximately 4 per cent of market share in 2017, is not shown in the figure as they do not have a physical outpatient pharmacy.

Note*: LloydsApotek (formerly DocMorris) is reported separately in 2010, despite the chain having fewer than ten pharmacies.

Note***: Data for 2019 is through May 2019

a) Calculated as the number of outpatient pharmacies for firms with more than ten pharmacies

After the deregulation the market has been restructured several times. Nowadays five pharmacy chains dominate the market. Their total market share is over 95 percent, thus only a very small share of the pharmacies is run by independent pharmacists.

Two mergers have been approved over the years by the Competition Authority. The latest one was approved in 2018 when Euroapotekha acquired Apoteksgruppen, and the Swedish state sold its shares in Apoteksgruppen.¹¹⁷ Only the former monopolist Apoteket AB is now owned by the state. It had 394 pharmacies in 2018.¹¹⁸ At the end of 2019 there were 1,465 physical pharmacies, whereas in 2009 there were about 900 pharmacies. Only few pharmacies in rural areas have been shut down since 2013. One reason is that it is possible for pharmacies in rural areas to apply for a government grant to maintain drug supply across the whole country.¹¹⁹

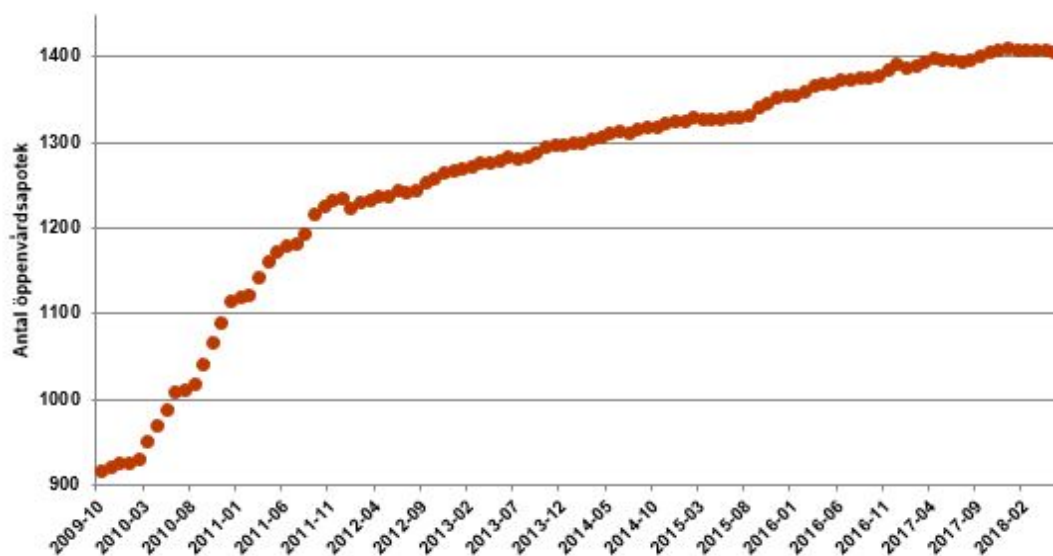
¹¹⁶https://www.tlv.se/download/18.2871f8a016e89d3c17feb8f1/1574950745100/rapport_uppfoljning_apotekmarknaden_utveckling_2019.pdf

¹¹⁷ Konkurrensverket, Dnr. 8/2018

¹¹⁸ Apoteket AB, *Årsredovisning 2018*

¹¹⁹ TLV, *Redovisning av uppdrag att se över förordning om bidrag till öppenvårdsapoteksservice*, 2020

Figure 7.2 Development of number of pharmacies in Sweden 2009–2018



Source: TLV (2019)

Informal translation of the Y-axis name: The number of outpatient pharmacies

In 2018 the total sale of pharmaceuticals was SEK 47.4 billion. The sales in each sale channel are shown in Table 7.1. Of the total turnover in physical pharmacies, approximately 70 percent is prescribed medicines and the rest is OTC medicines and merchandise.

Table 7.1 Sales volumes for each channel 2018, SEK and in EUR

Prescribed pharmaceuticals with subsidy	Prescribed pharmaceuticals without subsidy	Pharmaceuticals in hospital	OTC	Total
SEK 28.7 billion (EUR 2.6 billion)	SEK 5 billion (EUR 0.45 billion)	SEK 9 billion (EUR 0.8 billion)	SEK 4.7 billion (EUR 0.4 billion)	SEK 47.4 billion (EUR 4.3 billion)

Source: TLV (2019)

7.3.3 The development of e-commerce with pharmaceuticals

By the end of 2019, Sweden had 1,465 registered pharmacies, 5,351 outlets for OTC medicines, 18 online pharmacies and 360 e-commerce sites for OTC medicines.¹²⁰

Today each of the pharmacy chains also have an online pharmacy. However, it took until 2015 until they had all entered the online market. Thus, compared with other online services, it was quite late on that pharmacies had completely entered the online market.¹²¹ By using electronic identification (Bank ID) consumers can order prescribed medicines online. All prescriptions are

¹²⁰ Läkemedelsverket, *Årsredovisning 2019*

¹²¹ Konkurrensverket, *prisutveckling på receptfria läkemedel sedan omregleringen, 2017:3*

electronic in Sweden and they are stored in a national prescription register at the Swedish E-health Agency. All pharmacies in Sweden are connected online to this national database for prescriptions. A special service for consumers is also online, www.fass.se, where consumers can see the nearest pharmacies that have the prescribed medicine in stock. All inhabitants in Sweden can check online at <http://www.1177.se> their list of prescribed medicines using electronic identification (Bank ID).

The former monopolist, Apoteket AB, started e-commerce in 2006 but the service at that time was poor and delivery to consumers took several days. In 2011 Apotea, the first online-only pharmacy, started. Apotea's turnover was SEK 2.7 billion in 2019 and Apotea's market share in E-commerce is over 50 percent, which can be explained by its first mover advantage. The abovementioned chains have been concentrated on establishing physical pharmacies since deregulation and started e-commerce quite late. During the past two years, two additional online-only pharmacies, Meds and Apohem, have started e-commerce of pharmaceuticals. Competition on the online pharmacy market is fierce and establishing a successful online pharmacy requires a lot of capital for investments in technology, logistics and marketing. Consequently, both Apohem and Meds experienced big financial losses in 2018.¹²²

The turnover for online pharmacies was approximately SEK 5.6 billion in 2019.¹²³ This is an increase of 36 percent compared to 2018.¹²⁴ In 2018 online pharmacies were the fastest growing retail market in Sweden. Since 2015 e-commerce has increased from SEK 85 million per month to SEK 430 million in December 2019. Table 7.2 shows the online pharmacies' growth concerning the market share of the sale of prescribed medicines for the period of 2013 – September 2019 compared with physical pharmacies and dose dispensing pharmacies).^{125 126} The market share for online pharmacies has rapidly grown from approximately 2 percent in 2015 to 12 percent in 2019. By 2025 it is estimated that the market share could exceed 20 percent.

Table 7.2 Market share (%) of online pharmacies, sales of prescribed medicine

	2013	2014	2015	2016	2017	2018	2019*
Physical pharmacies	92.1	92.4	91.3	89.1	87.8	87.4	86.1
Dose dispensing pharmacies	4.9	4.9	5.2	5.4	5.8	6	6.2
<i>Online pharmacies</i>	<i>3.0</i>	<i>2.7</i>	<i>3.5</i>	<i>5.4</i>	<i>6.4</i>	<i>6.6</i>	<i>7.7</i>

Source: TLV (2019)

*January-September 2019

The turnover for online pharmacies can be divided into three main segments: 1) the pharmacy's basic assignment to dispense prescribed medicines, 2) OTC medicines and 3) other merchandise. The last segment has become more and more vital for all pharmacies, including online pharmacies. Pharmacies are often criticised for focusing too much on merchandise (cosmetics,

¹²² TLV, *2019 års uppföljning av apotekmarknadens utveckling*

¹²³ The outpatient market is the retail market for pharmaceuticals where sale of pharmaceuticals to hospitals is excluded.

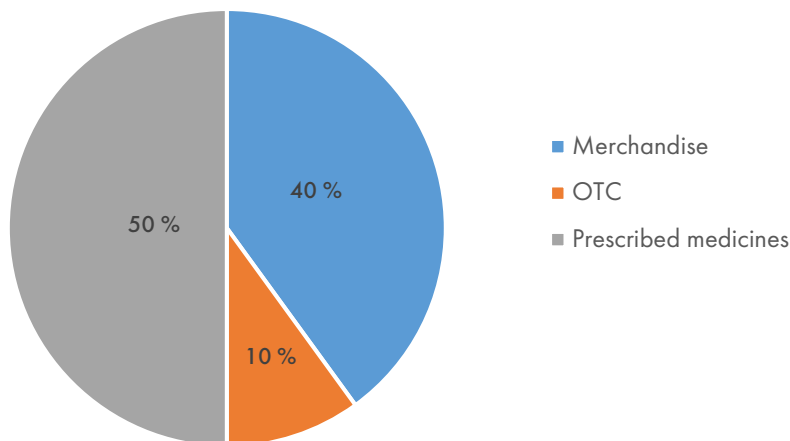
¹²⁴ Sveriges Apoteksförening, *Årsrapport 2019*

¹²⁵ Dosapotek are pharmacies that manufacture prescribed medicines in special bags for consumers who are not able to take the medicine on their own, without help from a nurse or other form of home care.

¹²⁶ <https://www.breakit.se/artikel/23745/apoteken-vaxer-snabbast-pa-natet-knappar-in-pa-andra-branscher>

shampoo and health food products etc.), instead of focusing on counselling how consumers should take their medication.¹²⁷

Figure 7.3 Online sales, turnover per segment, 2018



Source: Sveriges Apoteksförening, *Branschrapport 2018*

There is a difference between online and physical pharmacies in how their turnover is composed. The turnover for physical pharmacies from prescribed medicines (around 70-75 percent) is considerably higher than for online pharmacies, for which it is around 50 percent. One reason is that online pharmacies normally do not deliver refrigerated prescribed medicines to their consumers.¹²⁸ Such products must be collected by consumers at a pharmacy.¹²⁹ Another reason may be that older people and people with limited capabilities for making online purchases are less able or used to utilizing the e-commerce of medicines.

A study by TLV in 2019 showed that 98 percent of all postcodes in Sweden had received prescribed medicines from online pharmacies.¹³⁰ E-commerce's share of prescribed medicines was between 6–8 percent in 2019 within the municipalities. The municipalities with highest share of e-commerce have a population between 5,000–20,000 inhabitants. This is an indicator that e-commerce of prescribed medicines is especially important in rural areas.¹³¹

There are no statistics about how many people visit online pharmacies, but Apoteket AB stated in May 2019 that its app for mobile phones had been downloaded more than one million times. In the app, consumers can do more than order prescribed medicines. They can have a chat with a pharmacist and check their own and their children's prescriptions.¹³²

¹²⁷ Approximately 75 % of the pharmacies' costs are covered by the retail margin on subsidised medicines.

¹²⁸ Interview with TLV 25.02.2020

¹²⁹ Apotea has their warehouse in Morgongåva, a small municipality in the middle of Sweden.

¹³⁰ Sweden has 290 municipalities and there are approximately 1,700 postal localities.

¹³¹ TLV, *2019 års uppföljning av apoteksmarknadens utveckling*

¹³² http://www.mynewsdesk.com/se/apoteket_ab/pressreleases/oever-en-miljon-nedladdningar-av-appen-mitt-apotek-2876544

7.4 Challenges and future development

As described above, e-commerce with pharmaceuticals has rapidly increased in Sweden. In recent years there have only been a few new establishments of physical pharmacies in the country, compared with the year after deregulation. The market for physical pharmacies is more or less saturated, and it has already started to decrease.¹³³ More consumers see the benefits of buying medicines online. Especially in rural areas with long distances to the local physical pharmacy, online pharmacies are increasing their market shares at the expense of physical pharmacies.

According to the NMPA most complaints regarding online pharmacies are about the delivery of medicines or that the consumer has received another consumer's medicines. This rarely happens at physical pharmacies. Consequently, one of the challenges for online pharmacies is to ensure high quality assurance.

¹³³ <https://svenskfarmaci.se/apotek/antalet-apotek-i-sverige-har-borjat-minska/>

8 Comparison of online pharmacy markets in the Nordic countries

In this section we summarize and compare some of the main characteristics of online pharmacy markets in the Nordic countries. In addition, we briefly recap the main policy suggestions for each country in order to form an overall picture of how to develop the online pharmacy markets in the Nordic countries.

8.1 Summary of online pharmacy markets

In Table 8.1 we have a summary of characteristics of online pharmacy markets in the Nordic countries. We can highlight a few key differences between the countries. First, there are differences with regard to whether countries allow online-only pharmacies without any ties to physical pharmacies. Sweden and Denmark allow online-only pharmacies. Finland, Norway and Iceland, on the other hand, have tied the license to operate online operations to the physical pharmacy. In these countries, it is not possible to operate an online-only pharmacy.¹³⁴ From the perspective of competition policy, this is a rather significant difference between the countries. Especially in Sweden, online pharmacies have been able to put competitive pressures on traditional pharmacies and gained 10-20 percent of the market share already.

The second key difference between the countries is the role of other outlets selling pharmaceutical products. Countries have very different rules concerning this. Sweden and Norway seem to be the most liberalised in this respect, although sales outside pharmacies is restricted to OTC medicines in these countries. In Sweden, the non-pharmacy outlets can also sell OTC medicines online. In Sweden, the outlets determine the prices of all kinds of OTC medicines by themselves. Price competition on OTC medicines in Sweden has led to lower prices in general, which is beneficial for consumers. In Denmark, Norway and Iceland, it is possible to sell a narrow selection of OTC medicines outside of pharmacies (in physical stores and online). However, this requires a license from the respective medicine agency.

Third, the market size of online pharmacy markets seems to be quite difficult to estimate at the moment in the Nordic countries.¹³⁵ An exception to this is Sweden. This is partly due to the active monitoring of the market that the Swedish authorities do. One reason might be that the markets have not been developed systematically in many of the other countries and thus the monitoring of the markets has not been very detailed. Clearly this is one aspect that should be developed to gain a better understanding about the state of online markets. Furthermore, based on the previous country sections we see that the online pharmacy markets are still relatively nationally segmented in the sense that there are no cross-border actors in the markets. This is due to differing regulations in the different countries.

¹³⁴ In Denmark, only two licenses to run an online-only pharmacy have been granted.

¹³⁵ The estimate for the Finnish market is very rough, no exact figures are available from any official sources.

Lastly, the comparison clearly shows that online pharmacy markets are at very different stages of development. The difference is to a large extent explained by the different approach these countries have taken towards market liberalisation and the regulation of online pharmacies.

When making comparisons between the countries, we must take into account certain market features that affect the operating environment of online pharmacies. For example, the market leading online pharmacy in Sweden, Apotea, has a very strong brand and has focused on selling cheap generics within the OTC-segment, which have significantly lowered prices compared to the original branded products that the pharmacy chains have in their selection. Thus, when comparing online pharmacy markets in the Nordic countries in detail, we should also pay attention to the selection of medicines that online pharmacies offer. The countries also have different systems in place, for example, in terms of reimbursement of pharmaceutical costs for consumers and the level of price competition differs greatly among the countries. For example, price competition between pharmacies is currently not allowed in Finland. This limits the possibilities for online pharmacies to bring large benefits to consumers.

Table 8.1 Comparison of online pharmacy markets in the Nordic countries

	Denmark	Finland	Iceland	Norway	Sweden
Start of the online pharmacy market	The possibility to sell online has always been present for pharmacies. In 2015 it became possible for pharmacies to run an online-only pharmacy.	Online markets have been in operation for approximately 10 years.	First online pharmacy entered the market in 2019.	Online sales of OTC medicines since 2010. Online sales of prescription medicines since 2016.	Since 2006, but the market began developing from 2011.
Estimate of the market size	No exact estimate as turnover from online sales is included in the overall turnover of pharmacies.	Rough estimate of the market turnover: EUR 10-20 million.	Below 1 percent of total turnover of pharmacies.	No exact estimate as all the pharmacy chains have online sales included in their overall turnover.	Market turnover was 5.6 billion SEK in 2019.
Number of market players in online markets	In 2020 there were approx. 95 pharmacies selling pharmaceuticals online with varying online market presence. These entities were owned by approx. 81 market players (including both physical and online-only pharmacies).	One larger pharmacy chain, approx. 100 individual pharmacists with varying online market presence.	Three market players with online presence.	15 registered pharmacies, but only a few of these are selling prescription medicines.	19 online pharmacies with authorisation, of which 15 have e-commerce on their platform. One of the online pharmacies is a veterinary pharmacy.
OTC medicine online	Yes	Yes	Yes	Yes	Yes
Prescription medicine online	Yes	Yes, but not all pharmacies.	Yes, but not all medicines.	Yes, but not all pharmacies.	Yes
Online only pharmacies	Yes, there are two online-only pharmacies.	No	No	No	Yes, three online-only pharmacies.
Other outlets operating in (online) sales of medicines	No; only pharmacies sell prescribed medicines and pharmacy restricted OTC medicines. A selection of OTC medicines can be sold outside pharmacies as well.	No; only pharmacies can sell medicines	No; only pharmacies can sell medicines.	Yes. Through the LUA-arrangement grocery stores are allowed to sell OTC medicines. Some grocery stores also sell OTC medicines online.	Yes, but for OTC medicines only

Besides comparing the online pharmacy markets in each country, it is beneficial to examine these markets in the larger e-commerce context. Thus, we next look at the overall e-commerce markets in the Nordic countries. For this purpose, we will utilise three reports made by the logistics and transportation company PostNord, except for Iceland for which we utilize other sources. These reports are:

- a) A full year report on the Nordic countries, reporting the situation in 2018.¹³⁶
- b) A report covering the first half of 2019 in the Nordic countries.¹³⁷
- c) A European level report conducted in 2020 including the Nordic countries.¹³⁸

Because of the timing of the reports, the Covid-19 pandemic has not yet affected the views expressed in the first two reports. The European level report, which also includes the Nordic countries, was conducted later and thus the Covid-19 pandemic might have some bearing on the results of that report. Unfortunately, Iceland had not been included into the surveys conducted by PostNord. Some findings of the reports are summarized in table 8.2.¹³⁹

PostNord has estimated that in 2018 the Nordic e-commerce market was approximately EUR 22.4 billion. Of this, Sweden contributed about EUR 9 billion. In terms of population, the Swedish economy is about twice as large as each of the other countries. Sweden has around 10 million inhabitants whereas Denmark, Finland, Norway each have roughly 5.5 million inhabitants. It is notable that Finland seems to have a significantly smaller online market than Norway and Denmark with roughly the same population. In each country, internet penetration and share of people who have shopped online is generally high (not reported in table 8.2).

Interestingly, the report covering the first half of 2019 suggests that consumers in Sweden tend to spend less per month on beauty and health products than in other countries. This might indicate a lower price level for these products in Sweden. Strong conclusions concerning pharmacy products are however hard to make as we cannot know the exact composition of product categories here.

In the European level report, pharmacy products are separated into a different product category from the rest of the beauty and health products. Most likely due to Covid-19, pharmaceutical products are now purchased a lot more often online in all countries. In Sweden, it is the most common product category in which consumers have made online purchases according to the report.

¹³⁶ <https://www.postnord.fi/siteassets/raportit/verkkokauppa-pohjoismaissa/verkkokauppa-pohjoismaissa-2019.pdf> (in Finnish, last accessed 3.2.2021)

¹³⁷ https://www.postnord.com/siteassets/documents/media/publications/en_e-handeln-i-norden_halvar_2019_highres.pdf (last accessed 3.2.2021)

¹³⁸ <https://www.postnord.com/siteassets/documents/media/publications/e-commerce-in-europe-2020.pdf> (last accessed 3.2.2021)

¹³⁹ Note that findings over different reports should be compared with great caution as for example survey methodologies and product category definitions might have changed between the reports. In addition, the results in Postnord reports are based on consumers' own estimations which adds additional layers of uncertainty about the comparison of different reports.

Table 8.2 E-commerce markets in the Nordic countries

Nordic report 2018 (n = 89,053 respondents)	Denmark	Finland	Iceland	Norway	Sweden
E-commerce consumption in 2018, (billions of EUR) ^a	5.5	2.8	0.09 ^g	5.1	9.0
Share of respondents who bought health/beauty products online in the past 30 days ^b	17 %	8 %	NA	10 %	32 %
Nordic report 2019 (first six months) (n = 43,468 respondents)	Denmark	Finland	Iceland	Norway	Sweden
Estimated amount that consumers spend online on beauty and health products, per month, EUR ^c	69.2	64.9	NA	66.6	54.4
European report 2020^d	Denmark	Finland	Iceland	Norway	Sweden
Average spend in one year (EUR) ^e	850	788	NA	635	1012
Most commonly bought products online	Clothing and footwear	Clothing and footwear	Clothing and footwear	Clothing and footwear	Pharmacy products
Percentage of e-commerce consumers who have made purchases from the <i>most common product category</i> over the past year.	52 %	54 %	72% ^h	61 %	66 %
Percentage of e-commerce consumers who have made purchases from the <i>pharmacy products category</i> over the past year. ^f	23 %	24 %	15% ^h	27 %	66 %
Percentage of e-commerce consumers who have made purchases from the <i>cosmetics and skincare category</i> over the past year. ^f	25 %	31 %	NA	34 %	38 %

^a Calculated based on consumers' answers to the question "How much do you estimate you have spent on goods purchased online in the past month?" Base: Shopped online in the past month.

^b Base: Have purchased goods online in the past 30 days.

^c Base: Have shopped online in the past 30 days. An approximate exchange rate of 1 EUR=10 SEK has been used as the original figures were in SEK.

^d The survey was conducted in the second quarter of 2020 by the research company Nepa. The number of respondents varies somewhat between the countries. In most countries about 1,000 people responded to the survey. The survey was carried out online, which means the results are relevant for people who have internet access. In order to comment on the population as a whole, calculations have therefore been made based on internet penetration and population statistics for each country.

^e Base: entire population aged 15–79.

^f Base: Have shopped online.

^g Source: <http://px.rsv.is/PXWeb/pxweb/is/Greidslumidlun/-/Greidslumidlun.px/?rxid=a6840e68-872b-44aa-92d3-6d6f9b4ae808>

^h Source:

https://px.hagstofa.is/pxis/pxweb/is/Atvinnuvegir/Atvinnuvegir__visinditaekni__Upplýsingataekninothkuneinstaklinga__ict_vidskipti/SAM07302.px

8.2 Recap of main policy findings

Here, based on the country sections, we recap the main policy findings for each country in order to make some general conclusions about the common or different needs for development of the online pharmacies markets.

Denmark

The online pharmacy market is still developing in Denmark. Online sales of pharmaceuticals have increased, especially during the first six months of 2020 due to the COVID-19 pandemic. However, regulation continues to limit the scope for competition on a number of parameters. Modifying how the pharmacy sector is regulated could generally promote stronger competition to the benefit of consumers. Developing a strong market for online pharmacies could also help ensure that citizens in the rural areas of the country have easy access to pharmaceuticals, while the dependence on local, subsidised physical pharmacies can be reduced.

One way to improve access to online pharmacies could be to modify the economic regulation of pharmacies in order to ensure that both physical and online pharmacies have better economic incentives to keep focusing on their main task of selling prescription medicines and pharmacy restricted OTC medicines. Furthermore, the efficiency gains of online pharmacies can be hard to achieve without some level of price competition, which is not possible in Denmark at present. One route would be to introduce maximum prices on some medicines instead of fixed prices. Additionally, a relaxation of ownership restrictions could enhance the ability to develop new business models and attract consumers.

Finland

In the case of Finland, the main challenge in online pharmacy markets is related to the relatively strict regulation imposed on the pharmacy markets overall. The requirement that online pharmacies can be operated only by those who hold a licence to run a physical pharmacy is limiting the entry of online-only pharmacies. Thus, a new kind of pharmacy licence that would allow online-only pharmacies should be considered. In addition, several other regulatory reforms might be needed in order to fully benefit from better-functioning online pharmacy markets. For example, allowing some price competition in OTC medicines would probably increase the positive effect of online pharmacies as consumers could purchase OTC medicines at lower prices.¹⁴⁰

Iceland

The online pharmacy market in Iceland is still at an early stage and is therefore still developing. The main challenges are still the strict regulations imposed on the pharmacy market. An online pharmacy must have at least one physical pharmacy, making it costly for a pharmacy to enter the online pharmacy market and limiting entry. Another regulation that hinders competition on the pharmacy market in Iceland is the limited price competition in OTC medicines. Allowing more outlets to sell OTC medicines would increase competition and lead to lower prices.

¹⁴⁰ The Finnish Competition and Consumer Authority (the FCCA) has proposed some potential avenues for developing the pharmacy market regulation in its recently published report. See <https://www.kkv.fi/en/current-issues/press-releases/2020/11.11.2020-the-fcca-pharmacy-market-study-proposes-measures-to-reduce-the-costs-of-medicines-for-consumers-and-society/>

Norway

In the case of Norway, the main challenge in online pharmacy markets is related both to regulations and the market outlook. An online pharmacy must have at least one physical pharmacy. This makes it more costly to establish an online pharmacy. Furthermore, the vertical integration between the three main pharmacy chains and their pharmacy wholesaler makes an independent online pharmacy dependent on their competitors to get all the medicines required.

Sweden

In the case of Sweden, the main challenge in the online pharmacy market is related to pharmaceutical safety. Generally, safety is at a high level, but the Medical Product Agency does have some concerns since Sweden has had cases where consumers received another consumer's prescribed medicines. The regulations in place allow price competition for online pharmacies (as well as all physical pharmacies) on OTC medicines and on prescribed medicines that are not subsidised. However, there are entry barriers which should not be underestimated. The overall pharmacy market in Sweden is oligopolistic.

9 Conclusions

From the perspective of competition and consumer authorities, the online pharmacy regulation should be developed towards well-functioning online pharmacy markets which at the same time improve consumer welfare and guarantee consumer safety in purchasing medicines. Both consumer protection and competition law are central in this development. It is also important to ensure that regulation does not hamper innovation in a sector that is still developing in many countries. Growing online markets increase competition within an otherwise tightly regulated sector. In some countries, attention should be paid to lowering the entry barriers into the pharmacy market, for example by relaxing some regulation relating to the establishment of a pharmacy and allowing online-only pharmacies without any ties to a physical pharmacy.

Promoting well-functioning online pharmacy markets can be welfare enhancing for consumers while also acknowledging the typical challenges related to e-commerce. Nevertheless, increasing competition on the markets and improving the access to medicines are goals that call on authorities and regulators to take even more active steps towards improving the conditions in the online pharmacy markets. Online pharmacies can increase price competition among pharmacies if price competition is allowed. Moreover, improving access to services is especially relevant in the Nordic countries, which all have sparsely populated rural areas where there are very few physical pharmacies and the distances to the nearest pharmacy may be long. The access to pharmaceuticals can be improved by fast and reliable deliveries by online pharmacies in these areas.

At the same time, it is important to ensure that online pharmacies do not reduce the availability of pharmacy services for those who rely more on physical pharmacies when buying their medication. For example, if online pharmacies lead to a reduced turnover below profitable levels for some smaller rural pharmacies, a specific grant could be designed to support these small but geographically important physical pharmacies. This is the case, for example, in Sweden, where some rural pharmacies can receive additional grants in order to ensure their operation. Online services can complement the physical pharmacy network.

The Nordic countries are, however, at very different stages in the development of the online pharmacy sector. Countries in which the markets have not yet developed so far can learn from the experiences of those countries that have opened their online pharmacy markets at an earlier stage. This calls for an increased cooperation between the countries in developing the regulation of online pharmacies and to tackle the possible challenges that the sector faces. Especially if cross-border operations of online pharmacies become more commonplace in the future, cooperation is imperative. However, competition authorities alone cannot achieve this goal, as pharmacy markets are primarily regulated by sector-specific regulators. Consequently, cooperation must also be enhanced between different regulators within each country.

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