



Expertise  
and insight  
for the future

Roobert Karttunen

# The Potential Changes to Finnish Pharmacy System Regulations and Their Effect on the Economy

Metropolia University of Applied Sciences

Bachelor of Business Administration

International Business & Logistics

Bachelor's Thesis

18 October 2020

Author Title Number of Pages Date	Roobert Karttunen The Potential Changes to Finnish Pharmacy System Regulations and Their Effect on the Economy 42 pages 18 October 2020
Degree	Bachelor of Business Administration
Degree Programme	International Business and Logistics
Instructor/Tutor	Michael Keaney, Senior Lecturer
<p>The aims set for this Bachelor's Thesis are to inspect and evaluate the current retail pharmacy system in Finland, and to investigate what potential changes should be made in order to increase the wellbeing of the population in terms of therapeutical treatment that medicine provides, as well as their impact on the Finnish economy. There are two channels for the delivery of prescription medicine to patients: via community pharmacies and via hospitals or health clinics. This thesis, however, is only focusing on delivery and distribution of medicine via community pharmacies.</p> <p>The whole topic is culminated into one question that the thesis tries to answer through prescriptive analysis. The questions is as follows: How can Finland create better value for the population via deregulating the current pharmacy system? Other Nordic countries' pharmacy systems are assessed via empirical impact analysis where their experiences from different types of pharmacy system reforms are inspected to see if they can be adopted by Finland's system. 5 different public authorities' statements were also assessed more in depth and analysed.</p> <p>The results from the research indicates that there is not just one correct answer nor there is just one aspect that should be addressed when giving suggestions regarding what should or should not be done. The retail pharmacy system consists of multiple volatile variables that may have irreversible effects to the economy, and they are required to be handled with great caution.</p>	
Keywords	Pharmacy, Deregulations

## Contents

1	Introduction	1
1.1	Introduction	1
1.2	Research question and structure	1
2	Pharmacies as a business	3
2.1	In numbers	3
2.2	Current regulations	3
2.2.1	Pharmacy ownership	4
2.2.2	Legal obligations	5
2.2.2.1	Medication advice	5
2.2.2.2	Medicine supply	5
2.3	Medicine distribution system of Finland	6
2.4	3 Potential Pharmacy Models	6
3	How medicine differs from traditional goods	8
3.1	Pricing	8
3.1.1	Wholesale Price	9
3.1.2	Medicine Fee	9
3.1.2.1	Pharmacy Tax	10
3.1.2.2	VAT	10
4	State of Competition	11
4.1	Pharmacy market conditions	11
4.2	Vertical and horizontal integration	12
4.3	Price Competition	13
4.4	Online Pharmacies	13
5	Changes in medicine sales in Europe	15
5.1	Sweden	15
5.2	Norway	16
5.3	Iceland	17

5.4	Denmark	17
6	Public authorities take on Finland's situation	19
6.1	Fimea	19
6.2	Apteekkariliitto (Petri Kuoppamäki)	20
6.3	Päivittäistavarakauppa ry	21
6.4	Kaupan Liitto	22
6.5	Kilpailu- ja kuluttajavirasto	23
7	Methodology	25
7.1	Approach	25
7.2	Research method	25
7.3	Advantages and disadvantages of the method	26
8	Results and Analysis	27
8.1	Pillars of the current system	27
8.1.1	Price regulation	27
8.1.2	Licence regulation	29
8.1.3	Vertical Integration and pharmacy chains	30
8.1.4	Ownership	31
8.2	Two sides of pharmacy system	32
8.3	The Future	33
9	Conclusion	34
	References	36

# 1 Introduction

## 1.1 Introduction

The aims set for this Bachelor's Thesis are to inspect and evaluate the current retail pharmacy system and to investigate what potential changes should be made in order to increase wellbeing of the population in terms of therapeutical treatment that medicine provides, as well as having a positive impact on the Finnish economy. There are two channels for the delivery of prescription medicine to patients: via community pharmacies and via hospitals or health clinics. (Philipsen 2013) This thesis, however, is only focusing on delivery and distribution of medicine via community pharmacies.

Discussion and processes for deregulation of the pharmacy system have already been put into motion by the previous government. Preliminary action plans have been made from the basis of the current system, but nothing of these was implemented during the last government. The current government is following the previous action plan, but no concrete decisions have been made so far. In terms of this thesis, this is the perfect time to carry out research and provide a statement about what should be done regarding current issues that the retail pharmacy system is facing.

## 1.2 Research question and structure

The topic of the research is multidimensional as there are various different variables that may have surprisingly large-scale effects on the current retail pharmacy system. Even though multiple different public authorities have made statements about the potential reforms of the system, reading them gives one an impression that they were conducted from certain somewhat biased opinions that drove these statements. Someone without a preconceived opinion can be perceived as a valuable asset after conducting their own research on the matter. The topic is large and all perspectives are close to impossible being captured and evaluated, so the thesis was conducted from the standpoint of Finland's economy and the thesis question is as follows:

- How can Finland create better value for the population via deregulating the current retail pharmacy system?

The structure of the thesis is constructed in a way that the reader isn't required to have prior information on the subject. The next chapter covers basic information regarding retail pharmacies as a business and their legal obligations, as they differ from more traditional businesses quite substantially. The third chapter covers the complex nature of medicine and how it is priced in Finnish markets. Chapter 4 covers the present state of competition and gives an overall view of economic factors in field of pharmacy. Chapter 5 discusses retail pharmacy systems in other Nordic countries and how these have been reformed in the 21<sup>st</sup> century. Chapter 6 evaluates 5 different public authorities' views on the current pharmacy system and how it should be changed according to their respective opinions. Chapter 7 discusses the methodology behind the research and how it was carried out. Chapter 8 is the analysis section of the thesis. In this section the thesis covers the most important factors of the topic and critically evaluates how changes should be made. Lastly chapter 9 concludes the research and ties everything together in the end.

## 2 Pharmacies as a business

### 2.1 In numbers

The medicine industry in Finland is worth approximately €2,71 billion, from which pharmacy sales takes up €1,822 billion, hospital sales €827 million and retail plus other sales €63 million. Fortunately for Finns, the government compensates most of the prescription medicine for consumers. Compensation in 2019 was worth €1,471 billion. Self-medication sales were worth €220 million and non-compensable prescription medicine sales were € 131 million. Three largest self-medication categories in 2019 were nicotine replacement therapy (23%), digestive medicine (18%) and pain medicine (17%). (Tamminen 2019)

As of 31.12.2019, there were 819 pharmacies in total in Finland, of which 623 were main pharmacies and 196 side pharmacies. Aside from the pharmacies, there are 148 medicine cabinets and pharmacy service points in Finland's more remote areas which sells selected self-medication. Pharmacy service points can also be used to distribute prescription medicine for the people of the area. From 2012 to 2019, the amount of prescriptions pharmacies delivered has grown from €51,7 million up to €65,7 million. The turnover of private pharmacies has grown from €2,041 billion up to €2,485 billion from 2009 to 2019. In 2009 there were 811 pharmacies in total including subsidiary pharmacies. Comparing the growth of turnover to the amount of pharmacy licences given in the last 10 years is somewhat astonishing. Aggregate turnover has grown by almost 22 per cent (over €440 million) while only 8 new pharmacies have been established since 2009, an increase of less than 1 per cent. (Apteekkariliitto 2019)

### 2.2 Current regulations

According to Finnish law, a pharmacy is a medical service-providing business unit whose duty is the retail, distribution and production of medicine, as well as advice and service activities relating to medication. (Finlex Medicine Act 38 § 2010) Medication can be sold to consumers only in licenced pharmacies, side pharmacies, service points of a pharmacy or online pharmacies specified in this law. (Finlex Medicine Act 38 a § 2010) Nicotine containing medication can be sold exceptionally, according to 38 a § regulated law, in

retail stores, kiosks and gas station that have a tobacco selling licence. (Finlex Medicine Act 54 a § 2006) Finnish law states that pharmacy activities can be practised with a pharmacy licence granted by the medication industry's safety and development centre, Finnish Medicine Agency, in short, Fimea. A pharmacy licence is granted for certain pharmacy practice in a determined municipality or in part of said municipality. (Finlex Medicine Act 40 §, 2010) Fimea requests evaluation of the need for a pharmacy in a municipality if a potential need is detected. The municipality can make a proposal for a new pharmacy licence in the area on the basis of population, already existing pharmacy operations in the area, and location of other healthcare service providers. (Finlex Medicine Act 41 §, 2010)

### 2.2.1 Pharmacy ownership

The medication safety and development centre, Fimea is obligated to declare new or recently opened pharmacy licence to be applied for. The terms of a pharmacy licence are also required to be published. The pharmacy licence can only be granted for a licenced pharmacist with a master's degree of Science in Pharmacy. Additional criteria are that the pharmacist hasn't declared bankruptcy, he/she hasn't been signed with a trustee nor his/her operability has been limited. The pharmacy licence is granted to the person who is holistically most suitable for the position. When evaluating the suitability for the position, the applicant's previous career in pharmacy or other healthcare service work, as well as significant studies relating to pharmacy management, leadership and other activities are taken into account. (Finlex Medicine Act 43 §) The pharmacy licence is personal. It cannot be rented or handed over to others. If the pharmacist is granted another licence, the previously granted licence ceases to exist. The pharmacist can practise pharmacy activities until the age of 68. (Finlex Medicine Act 44 § and 45 §) A pharmacy is a private company owned by the pharmacist and is a personal business. Pharmacy activities cannot be practised as a limited company or partnership. Pharmacy chains and pharmacies that are solely online are not allowed in Finland. The only exception in Finland is Helsinki University's pharmacies. These pharmacies are governed by the University of Helsinki, but all of its pharmacies have individually licenced pharmacists operating them. University Pharmacy has one main pharmacy and 16 subsidiary pharmacies. This pharmacist ownership model is justified so that pharmacists are independent and pharmacy practices are based on being part of the healthcare sector and increasing overall health rather than personal economic gain.



### 2.2.2 Legal obligations

Pharmacy activities are an important part of the healthcare sector even though they are not wholly connected to it. Pharmacies are private companies but since medicine is used as a therapy method for healthcare, pharmacies have legal obligations that pharmacists are responsible for upholding. The goals pharmacies aim for with their practices should be towards increasing overall health and the purpose cannot be increasing the usage of medicine as they are a therapeutical good and shouldn't be used more than needed. Attributes of medicine are further explained in chapter 3 of the thesis.

#### 2.2.2.1 Medication advice

Medication advice is a free service provided by pharmacies. Medication advice doesn't require a customer to purchase anything. The purpose of this to give the customer appropriate guidance on how to use certain medicines in a safe manner as well as give information about the medicine in general, such as potential side effects. Pharmacies need to have sufficient numbers of licenced pharmacists working there at all times when open. The pharmacy owner is responsible for the further education of its staff. When delivering the medicine, the pharmacist will check the customer's potential current medication and determine that the medicine doesn't have any harmful combined effects with other prescribed medication. The pharmacist is obligated to guide the customer to a doctor if serious harm or non-existent effects are noticed in customers medication. Pharmacies offer the least costly alternative of prescribed medicine; also self-medication has less costly substitutes for different medicine. (Finlex Medicine Act 56 § & 57 §, 2010)

#### 2.2.2.2 Medicine supply

A pharmacy is obligated to have an estimated two weeks' worth of medicine and other medicinal equipment and supplies in stock for its regular clientele in its area. The inventory obligation doesn't apply for medicine whose retail price including value added tax (VAT) at the time of delivery is over €1000 or rare medicine for a niche patient group that doesn't have regular demand. A pharmacy does however have an obligation to take care of the availability of such medicine in its area. (Finlex Medicine Act 55 §, 2020)

### 2.3 Medicine distribution system of Finland

In Finland as well as in Sweden, the medicine distribution is based on a so-called single channel system. This means that one medicine wholesaler is in charge of a certain medicine producer's whole medicine range's distribution to retailers (pharmacies). The current system dictates that pharmacies have no control over which medicine wholesaler they want to choose. The single channel system often has only a limited number of wholesalers in the markets which means that they have more market power than wholesalers in areas where a multi-channel system is used. As of now, Finland has four different medicine wholesale organizations: Tamro, Oriola, Magnum Medical and Medifon which is owned by Apteekkariliitto (the Association of Finnish Pharmacies, the professional organisation of proprietary pharmacists). The distribution system of Finland isn't based on legislations or any decisions of public authorities, but to an established custom of the parties involved. (PTY 2018: 12)

### 2.4 3 Potential Pharmacy Models

When investigating how pharmacy markets can be developed, there are multiple different options. The current pharmacy system in Finland is one of the strictest in the EU. The model is focused on traditional distribution of medicine. The following characteristics are typical for this pharmacy model that Finland uses. A pharmacy ownership licence is granted only to a pharmacist with a master's degree of Science in Pharmacy, the licence is personal, and vertical integration in the field is prohibited (this is discussed in chapter 4.2). Regional location control dictated by the state as well as regulation of wholesale and retail prices are also relevant characteristics of the model. Closest to Finland's model is Denmark, which also uses similar system.

A second model that could be considered for adoption is focused on pharmacies rather being special stores than stores that are exclusively for the distribution of medicine. In this model, pharmacy establishment regulations are liberalised. Pharmacies' selection is often more focused on non-medicinal products such as cosmetics and wellbeing products. Medicine can be sold in stores with minimum requirements, but prescription medicine sales would most likely be going to shift to pharmacy chains and retail stores. In this model, the pharmacy owner's economic gain is affecting the selection of

pharmacies. The idea behind this model is to make medicine distribution as efficient as possible by exploiting distribution methods used in retail. This model often includes allowance of vertical and horizontal integration where wholesale and retail markets can be integrated into one. Sweden, Norway and Iceland are using this type of model.

A third model would connect pharmacies as part of the healthcare sector. In Finland, pharmacies work in close co-operation with the healthcare sector but are private businesses with certain legal obligations, as mentioned earlier in chapter two. In this model, a pharmacy is seen as a professional operator within the healthcare sector, whose purpose is to promote the overall health of patients by selling the most suitable medicine and giving appropriate advice and guidance relating to medication. This model focuses on holistic treatment of patients and highlights the importance of pharmacy professionals alongside other healthcare professionals. Medication is important for preventative measures, maintaining health and for its therapeutic effects. (Kuoppamäki 2018: 19)

### 3 How medicine differs from traditional goods

Medicine is a therapeutical good. It is safe to a patient only when it is used correctly and in the right amount. Information about medicine is asymmetrical and customers require professional advice. Medicine is a commodity of necessity and more often one cannot affect the purchase decision when the prices rise. (Kuoppamäki 2018) Medicine cannot be compared to a regular good like clothing since the markets are very different. While clothes can be sold and purchased with little to no regulations, this is not the case with medicine. Medicine in the western world is heavily regulated. These regulations are justified by asymmetry in medical knowledge, the market power of medicine production companies, safety of medicine usage, price inelasticity of demand and governmental compensation of medicine. Inelasticity of demand refers to medicine being a therapeutical good and often consumer doesn't have a choice to not choose to purchase the medicine as their health may be dependent on it. Adding to the inelasticity of medicine demand, in OECD (Organisation for Economic Co-operation and Development) countries prescription medicine is typically paid by the public authorities. This means that if the prices of prescription medicines rise, the government (in Finland via KELA) pays these expenses because it wants to maintain the safety of medicine supply for all consumers or patients, no matter the income level. A patient not receiving the proper medication would also increase special treatment costs that typically are more expensive for the government, so medication as a preventative safety measure is often a cheaper alternative. In most European countries, the public authorities have an obligation to secure sufficient healthcare services for their citizens. The doctor typically prescribes patients with medication on the basis of their needs according to ethics and not on the basis of the costs of medication. (Kuoppamäki 2018: 33)

#### 3.1 Pricing

Medicine pricing is a complicated field. Medicine price regulation is based on national regulations, so there are differences depending on countries' policies. However, the EU has a transparency directive that dictates boundary conditions for medication that belongs to the public price reimbursement system. (Hyssälä 2018: 28) The price for medicine is compiled from the wholesale price, the medicine fee (which includes gross margin that pharmacies get) plus a progressive pharmacy tax that varies depending on

pharmacies sales and value added tax (VAT). In most European countries a lot of the prescription medicine is reimbursed by the government since a lot of medicine is costly to produce and medication costs for consumers would otherwise become too high. Medicine isn't a commodity only for the rich but should be accessible to all no matter the income level, and that's why Finland's governmental agency Kansaneläkelaitos (KELA) handles the compensation of medication for consumers.

### 3.1.1 Wholesale Price

When a new medicine enters Finnish markets, it is most often applied to be part of the governmental price compensation system. The medicine company and government authorities proceed to negotiate a suitable price for the medicine. Finland's social and health ministry has a medicine price committee (HILA) that decides the prices of medicine. If a medicine is excluded from the price compensation system, the medicine producer can price its product freely. When the medicine company is applying for retail licence in said markets, it is required to have a reasoning for the wholesale price and the compensation price. Also, patient organizations can give their statements about the therapeutic value of said medicine for the price committee to evaluate. Finland is using a reference price system for medicine. Medicines are categorized into different reference price categories. The reference price is the highest price on the basis of which the health insurance benefit of a medicinal product belonging to the same group can be calculated.

### 3.1.2 Medicine Fee

The retail price of a medicine consists of medicine companies', wholesalers' and pharmacies' medicine coverages as well as value added tax. The retail price is calculated using a formula decided by the government. This formula is also named the medicine fee. The medicine fee dictates the reward that pharmacies get from selling medicine. The same act also regulates that medicine prices are the same in all pharmacies across Finland. The pharmacy reward is calculated via a retail price multiplier. The multiplier is degressive depending on the reference price of a medicine. The cheaper the medicine, the higher the multiplier is. Medicine that costs 9,25€ at most has a multiplier of 1,45, while medicine that costs minimum of 420,47€ has a multiplier of 1,1. Additionally there is a fixed price added to the reward that varies from 0,92€ to 36,65€ depending on the reference price. Every prescription medicine has also a delivery fee of 2,17€ added to

the price which the customer pays. Self-care medicine has a similar retail price multiplier and the fixed price added, but without the delivery fee.

Ostohinta (tukkuhinta), €	Vähittäismyyntihinta	Toimitusmaksu	ALV
0–9,25	1,45 x tukkuhinta	+ 2,17 €	+ 10 %
9,26–46,25	1,35 x tukkuhinta + 0,92 €	+ 2,17 €	+ 10 %
46,26–100,91	1,25 x tukkuhinta + 5,54 €	+ 2,17 €	+ 10 %
100,92–420,47	1,15 X tukkuhinta + 15,63 €	+ 2,17 €	+ 10 %
yli 420,47	1,1 x tukkuhinta + 36,65 €	+ 2,17 €	+ 10 %

Figure 1 Pricing of medicine (Source for data: PTY Medicine distribution report 2018).

### 3.1.2.1 Pharmacy Tax

The Pharmacy owner pharmacist is annually obligated to pay pharmacy tax, formerly known as the pharmacy fee, depending on the pharmacy's annual turnover. The pharmacy fee has been used to secure pharmacy activities all across the country and to even out income differences between pharmacies. Pharmacy tax is paid as a percentage of turnover before value added tax. The pharmacy tax is a progressive tax, meaning pharmacies with higher turnover pay higher pharmacy tax, and so on. Progression is put into different tax brackets where pharmacies with annual turnover under €871,000 do not pay any pharmacy tax, but those with annual turnover that exceeds that amount pay 6,1% pharmacy tax, and the highest bracket pays 11,2% after turnover exceeds €6,2 million. (Hyssälä 2018: 30) Finland's pharmacy tax raises approximately €180 million annually. (Kuoppamäki 2018: 9)

### 3.1.2.2 VAT

Value added tax for normal products such as clothing or any other traditional good in Finland is 24 %. It differs on a country basis: for example VAT in Norway is 25 %. However, in Finland foodstuffs and medicine, among some other goods, have tax rates that are different from the regular VAT rate. VAT for foodstuff is 14 % and for medicine it is 10 %. Value added tax is calculated according to the retail price of medicine.

## 4 State of Competition

Competition in such a highly regulated field as medicine retail is difficult. Finland is one of the strictest countries in terms of how regulated the field is. As mentioned above in chapter 2, the pharmacy establishment is heavily controlled by governmental institution Fimea and as numbers show, the amount of pharmacy establishment licences given in the past decade is quite conservative. Inelasticity of demand as discussed in chapter 3 and various different factors also makes the competition harder than in many other fields. However, there are various different models and adjustments to the law that are used in multiple different European countries that could lead to increase of competition and more importantly, giving more value to the users of pharmacy services as changes always should aim towards. This chapter discusses some relevant elements and characteristics in medicine markets.

### 4.1 Pharmacy market conditions

There are 3 parties in medicine purchase. Doctors prescribing the medicine on the basis of the need of a patient as well as the pharmacist providing medicine for the patient and giving professional medication advice to ensure safe usage of medicine. The demand of medicine is indirectly determined by the doctors prescribing medicine and not by pharmacists or patients. (Philipsen 2013) In Finland a doctor's salary isn't tied to what medicine and how much of it they prescribe to patients (Lääkäriliitto 2020) nor are pharmacists' (Farmasialiitto 2020), so neither of the two parties currently have an economic incentive to prescribe and distribute more medicine than required for the treatment of patients. Additionally, malpractice for either professions can cause a loss of practice licence.

Competition is what drives change for many when inspecting potential liberalization of the pharmacy system, so it is important to inspect what type of competition should be aimed towards. Currently in Finland, pharmacies have received critique on their monopolistic and cartel-like characteristics. To be clear, pharmacies technically do not have a monopoly in its pure meaning, where one player controls the entire industry, but since government is regulating the ownership and controlling location, regional or local monopolies for pharmacies exist. Also pharmacists are exclusive for the pharmacy

ownership. Additionally, even if Fimea were to grant an establishment licence for a pharmacy, other pharmacists in the area can prevent market entry or at least prolong it by making a reclamation about the new licence. (Hyssälä 2018: 66) Other forms of competition are free competition, where competition isn't regulated by public authorities; perfect competition, where resources are allocated to their most efficient source and effective competition where imperfections of natural markets are replaced with other elements for example regulations by the government. All in all, no competition is perfect. (Kuoppamäki 2018: 25)

#### 4.2 Vertical and horizontal integration

According to the book *Corporate Financial Management Today*, vertical and horizontal concerns are stated as followed: Vertically integrated concerns are formed by companies that represents different production stages of the same industry or different parts of the exchange process. Horizontally integrated concerns are formed by companies that represents same stage of the industry. (Ikäheimo 2014: 18) Vertical integration in the pharmacy industry in simple terms can be explained by the merging of a pharmacy and a wholesaler such as Tamro or Oriola in Finland. Another potential vertical integration type is integration of medicine companies and pharmacies or integration of doctors' practices and pharmacies. Horizontal Integration allows pharmacy chains to integrate under one name. Vertical and horizontal integration isn't allowed in Finland. The only exception is University Pharmacy that currently is the only pharmacy chain allowed in Finland with a special permit. Regulation of vertical integration in Finland is justified by the personal nature of the pharmacy licence and pharmacists' personal obligations. Additionally, the government justifies the prohibition by the fact that in case medicine companies or wholesalers were to own a retail company, they could affect medicine selection of the pharmacy (Kuoppamäki 2018). However, Norway and Sweden for instance have allowed vertical integration, which has led the pharmacy industry to become oligopolistic, meaning that 3 international medicine wholesale companies together control approximately 80 % of the pharmacy markets. (Vogler 2014)



### 4.3 Price Competition

As learned in chapter 3 how the price of medicine is compiled in Finland, one can realize that at the retail level of the supply chain of medicine, price competition is impossible. Medicine has the same retail price everywhere in Finland. However, this is not the case in all countries. Some countries have adopted a price cap system where medicine wholesalers sell medicine for pharmacies at certain price and pharmacies are allowed to price compete by selling said medicine at a lower price than the price cap suggests, but cannot exceed the price cap. Some countries can also even price their medicine freely, but this system is often applicable only for self-care medication and those countries have often released self-care medication to be sold outside pharmacies. According to Pharma Industry Finland, when a new outpatient prescription medicine is introduced to Finnish markets, normally it is applied to the reimbursement system that was mentioned earlier in chapter 3. The wholesale price of a medicine that isn't added to the reimbursement system, is decided by the medicine company and can be priced freely. However generic substitutions affect price competition. (PIF 2020)

### 4.4 Online Pharmacies

According to article 38 § of the Finnish Medicines Act, a pharmacy's online service means the sale of medicines on the basis of an order placed by the customer via the Internet. (Finlex 2010) Regulations towards online services of pharmacies are stated in both national and EU legislation. Under the Medicines Act, a licenced pharmacist with a physical pharmacy can offer services of a pharmacy through online services in Finland. (STM, 2020) Online pharmacy activities in Finland are quickly rising and, according to Ministry of Social Affairs and Health (Sosiaali- ja Terveysministeriö, STM) in collaboration with KELA, Fimea and National Institute for Health and Welfare of Finland (Terveystieteiden tutkimuskeskus, THL) in their statement relating to online pharmacy activities and its need for development, in 2018, 100 pharmacies offered online services and their share of pharmacies' overall sales was less than 1 %. Currently approximately 170 pharmacies have made prior notification in accordance with the Medicines Act to start providing online services and the number is increasing, especially as the current Covid-19 pandemic situation is speeding the system. As prescriptions are mostly made online nowadays, providing online services is easier as long as patient information security is

at sufficient level and online identification is possible. However, this would require implementation of an online search interface to the current system. Online prescriptions are recorded to a prescription centre, which provides an online search interface from where a pharmacist can search patients' medical records. The current online pharmacy activities in Finland allow distribution of prescription medicines and the development statement made by STM suggests that online services are an important part of development of pharmacy services. (STM 2020) Additionally, providing pharmacy services for remote areas of Finland has always been troublesome, but development of online services can potentially provide the means to increase availability of medicine.

## 5 Changes in medicine sales in Europe

In this chapter, the thesis discusses changes in pharmacy models in different European countries that shares similarities with Finland in terms of the economic system. When conducting an investigation of potential amendments to the law that will change Finland's current pharmacy system, it is important to look at what experiences other countries have with deregulation of pharmacy laws. As other Nordic countries share a somewhat similar economic system as Finland, they are very suitable for comparison. Additionally, all the other Nordic countries have made some big changes to their pharmacy system in the last 20 years, so it's relevant to inspect and compare experiences and try to find out whether there are any aspects of Finnish law that could be deregulated for economic gain while the corner stones of medical care remain untouched.

### 5.1 Sweden

Until 2009, Sweden's pharmacy markets were monopolistic, meaning there was only one player in the market and competition was non-existent. The only pharmacy chain was government owned and deregulating the sector was partially ideological because the authorities decided that there was no reason for a government-owned system anymore. Also, pharmacy professionals didn't like the fact that there was only one employer in the field. Sweden basically turned things upside down by deregulating the whole sector. The amount and location of pharmacy licences were no longer controlled and basically anyone could enter the markets except for doctors or medicine companies. Self-care medication was released to be sold now outside pharmacies bar a few exceptions; also, self-care medication and non-compensable prescription medicine pricing was deregulated so retailers could price them freely. In addition, compensable prescription medicine was introduced with a price cap, so pharmacies can sell them at a lower price at their own personal expense if they see fit. Vertical and horizontal integration are allowed also. Goals for the reform of the whole system were better availability of pharmacy services, increased efficiency of pharmacy activities, allowance of price competition, diversification of markets as well as advanced entrepreneurship. After the liberalization of the system, the prices of medicine have gotten lower but not because of liberating the pharmacy establishment legislation, but because of introduction of the price cap system and reference price system. Even though number of pharmacies has

increased after the reform, the availability of medicine on the other hand hasn't. Other notable problems Sweden has been facing from the liberalization are inconsistent quality of medication advice and paracetamol medicine poisonings did increase by 40 % after self-care medication was made possible to be sold outside pharmacies. Sweden however started from a monopolistic situation and have made efforts to increase medicine security since and are making adjustments to enhance the system after learning from its mistakes. (PTY, Fimea, Kuoppamäki, 2017-2018)

## 5.2 Norway

Norway was unhappy with the inefficiency of its pharmacy system. Differences in profitability between pharmacies were big and the government was obligated to give financial support for pharmacies with big losses to secure the population's pharmacy services. In 2001 Norway decided to deregulate location control and control of the amount of pharmacy licences. Pharmacies can be established by anyone with a master's degree of pharmacy in science, with the exception of medicine companies and doctors, and self-care medication can be sold outside of pharmacies and be priced freely. Also, a price cap similar to Sweden's was introduced for prescription medicine. Vertical and horizontal integration are allowed in Norway. Norway's goals for deregulation of pharmacy laws were to increase efficiency of pharmacy activities, increase competition in the field as well as increase the availability of medicine for the population of Norway. In Norway after the reforms in 2001, number of pharmacies doubled in the next 8 years, the pharmacy network surpassed Finland's network and through vertical integration, warehousing of pharmacies have gotten more efficient. However, an oligopolistic situation has taken place in Norway where 3 international medicine wholesale companies are now controlling approximately 80 % of the pharmacy markets and they have control over which products are sold in their pharmacies, so the medicine selection doesn't favour competitors. Negotiations towards medicine are now made on an international level in Norway and national authorities have limited power over the negotiation processes. Additionally, the prices of medicine have gotten lower in Norway, but the system allows profits in Norway to be moved outside of Norway via wholesale pricing. The big vertically integrated companies can tamper with the opaque pricing model and then according to official accounting, independent pharmacies are made to seem more profitable. (PTY, Fimea, Kuoppamäki 2017-2018)

### 5.3 Iceland

Iceland's commitment to the European free trade agreement, increasing costs of the health care sector, want for reform of the previous pharmacy system and poor financial situation of the country led to the reform of the whole pharmacy system. In addition, pharmacists were dissatisfied with the system being unfair for it required tens of years of working in pharmacies and in remote areas to be able to own a pharmacy that was at least somewhat profitable. Goals for the reform of the pharmacy system were efficient pharmaceutical supply in accordance with the principles of equal competition, high quality and safe medicine distribution and better control for increasing costs. Iceland decided to deregulate the pharmacy sector in 1996. The amount and location control of pharmacies is deregulated, but in order to receive the pharmacy establishment licence, it requires permission from the regional agency of said municipality. It is required to have a pharmaceutical degree in order to receive a pharmacy licence, but the ownership of the business isn't regulated. Pricing of the self-care medication is deregulated, whereas a price cap now applies to prescription medicine. When deregulating medicine pricing, Iceland added a clause to the law which obliges a licensed pharmacist to give required medication advice to the patient and to double check the given prescription to secure medicine safety. Excepted decrease in medicine prices did not occur and according to multiple authorities, deregulations did lower medicine prices, but the government increased patients' deductibles, so the only benefit was for the government. Price competition seems to be possible only in the capital area and remote areas haven't benefitted from these changes. (PTY, Fimea, Kuoppamäki 2017-2018).

### 5.4 Denmark

Denmark, in terms of regulations of the pharmacy system, is probably the most similar to Finland's current pharmacy system. The amount of pharmacies and regional control in Denmark are similarly regulated as in Finland, but the pharmacist is allowed to have up to 7 subsidiary pharmacies in a 75km radius from the main pharmacy. In Finland, the radius isn't regulated, but the pharmacist is able to have 3 subsidiary pharmacies and one main pharmacy. In Denmark, only a pharmacist with a master's degree of science in pharmacy can be granted with a pharmacy licence as in Finland. However, in Denmark self-care medication to some extent can be sold outside of pharmacies and for those,

the pricing is deregulated, and retailers can price their self-care medication as they see fit. Prescription medicine and self-care medication that can only be sold in pharmacies have a similar pricing system as in Finland to secure the same price for medicine for the population. Before Denmark made adjustments to the pharmacy system in 2015, deregulations were carefully considered and the parties involved in decision making were strongly divided into two groups: those in favour of public regulation, and those for market mechanisms. Negotiations between the groups ended with both agreeing to securing medicine supply in remote areas, pharmacies being defined as part of the health care sector more clearly and the removal of cosmetics from pharmacies. These reforms in Denmark did not have an effect for new pharmacy licenses, but subsidiary pharmacies have been easier to establish since, and over 100 new subsidiary pharmacies and self-care medication outlets were established after the changes. The range of services have been increased, but product selection has decreased. However, the decrease in product selection is caused by the enhancement of pharmacies as a part of healthcare sector, where the medicine authorities publish a list of suitable and non-suitable products to be sold in pharmacies every quarter. Non-suitable products consist of beauty products such as lipsticks, for instance. The regional control of pharmacies in Denmark is a big question mark as the population density of Denmark is clearly the highest in Nordic countries (131 inhabitants/km<sup>2</sup>), yet number of pharmacies is relatively low (228 pharmacies). Overall Denmark's reforms of the system have been very systematic and carefully considered and no big issues have arisen after the changes in 2015. (PTY, Fimea, Kuoppamäki 2017-2018)

## 6 Public authorities take on Finland's situation

In recent years, there has been a fair amount of discussion on the matter of renewing the pharmacy system in Finland. Many different authorities have given their statements on behalf of reform of the system. The retail pharmacy system has remained relatively untouched for the past 3 decades and according to the majority of public authorities, deregulations should be made. However, there are some disputes over what should be changed and in what way that the corner stones of Finnish pharmacy system such as medicine safety would remain relevant and how these would develop even further. This chapter discusses different authorities' take on the current situation and how should it be changed or not, and if so, how. There are multiple different factors that authorities analyse in their statements on the basis of which they make their conclusions. Said factors are: Impacts on medicine prices, impacts on availability of pharmacy services and medicine, impacts on the quality of pharmacy services, impacts on competition between pharmacies, and the structure of pharmacy activities. The statements are based on either empirical studies where authorities have compared pharmacy systems of different countries and how deregulations have affected them as well as some qualitative and quantitative studies where authorities have used secondary data, including other sources' already conducted interviews of either "consumers" or other public authorities.

### 6.1 Fimea

Fimea has done research on deregulation of pharmacy markets in Europe in 2017 as well as given their statement on potential expansion of sales channels with self-care medication in Finland in 2018. Both of these statements are based on comprehensive comparison between Finland and multiple European countries such as other Nordic countries. As the pricing of medicine and the retail pharmacy system are typically regulated separately, it is fairly difficult to see positive or negative effects on the economy of a country on a correlation basis. Fimea couldn't find a study that can clearly find a correlation between deregulation of the pharmacy system and a drop in medicine prices in the long run. (Fimea 2017: 25) Availability of medicine and pharmacy services after deregulation has often had a positive impact on amount of pharmacies in countries of comparison as well as in opening hours of pharmacies. However according to the studies, Fimea found that increase of pharmacies in cities have been bigger than in

remote areas, also the size of pharmacies has gotten smaller, meaning the medicine supply is also smaller and the number of users of pharmacy services has decreased per pharmacy. Quality of pharmacy services according to studies has been scattered. For example, Sweden has been struggling to maintain sufficient quality in medication advice after the liberalisation of the sector in 2009, but meantime the obligation of medication advice has been found to improve medication advice. In countries of comparison the competition has been found to have increased but for example in Norway, allowance of vertical and horizontal integration has caused large international medicine wholesale companies to establish an oligopolistic setting in the pharmacy markets. All in all, Fimea seems to have a quite conservative view on the matter of potential deregulations of pharmacy system in Finland. According to Fimea's research there aren't really proper evidence that certain deregulations in the markets has caused any positive effects. (Fimea 2017)

## 6.2 Apteekkariliitto (Petri Kuoppamäki)

According to Kuoppamäki's statement for Apteekkariliitto, the retail pharmacy system in Finland should be renewed, but not by liberalising the whole system but by changing legislations to a more liberalised direction that allows innovation and new solutions to be implemented to the system while complementing the corner stones of the current system. As mentioned previously in the thesis, perfect competition in medicine markets just isn't possible and normal market forces aren't applicable in the markets in a traditional sense as medicine is a therapeutical good. Kuoppamäki states that competition in the field can be utilised to reach the goals of the healthcare sector but in a regulated way so the economic gain isn't prioritized over the objectives of healthcare sector. The amount of pharmacy licences should be increased; as Kuoppamäki states that larger pharmacies distribute much larger amounts of prescriptions than smaller ones, and that because of that, the regional regulation of pharmacies doesn't work that well. He states that in cases where large differences in prescription distribution between pharmacies in certain areas are noticed, there could be identified room for new pharmacy licences, as the current medicine fee – pharmacy tax system works better with pharmacies that are rather smaller in size. Apteekkariliitto seems to be happy with the current regional control for new pharmacies as well as with the career rotation system for pharmacists because that allows the pharmacy system to maintain pharmacy services



sufficiently in more remote areas of Finland as well. The pharmacy network in Finland is also in a good state compared to Sweden for example, where pharmacy establishment has been liberalised for 11 years now and even though the number of pharmacies has increased by 50 % there, Finland's pharmacy network is still bigger. Apteekkariliitto's statement says that there is not enough evidence that deregulating medicine pricing would cause prices to become lower for users of pharmacy services. Prices of medicine and the retail pharmacy system are separate from each other's, so the correlation is hard to detect. Also as mentioned already earlier in the thesis, in Finland, medicine is the same price no matter from which pharmacy you purchase it, and by deregulating the pricing, Finland would have to get rid of that principle. Price competition wouldn't most likely work as planned even if the pricing is deregulated because of various imperfections of the market. Apteekkariliitto wants to retain pharmacist ownership to secure medicine safety and with respect to vertical integration, it would create interest for wholesale companies to market their own medicines for pharmacies instead of competitors' and overall transparency would be compromised, as the situation in Norway already shows. (Kuoppamäki 2018: 100-101)

### 6.3 Päivittäistavarakauppa ry

Päivittäistavarakauppa ry made a statement in July 2018 about guidelines of pharmacy activity reform. The statement was made by a former politician of the Finnish Centre Party, along with two pharmacology specialists: Reijo Kärkkäinen, a professor of pharmacology and medicine development, Heikki Ruskoaho and a statement project secretary Lauri Pelkonen. Aspects to note in this statement: Needs of the client, digitalisation, the European regulation environment, objectives of social and health policies, as well as economic sustainability. As the population gets older, the need for more individualised treatment increases as well. The development of health technology and medicine offers more opportunities for this increased need. The statement says that the implementation of these new innovations requires reform of the current system. These reforms Päivittäistavarakauppa ry suggests are as follows: Pharmacy regulations' foremost goals are high medication security, pharmaceutical medication advice, sufficient availability of medicine, services of pharmacotherapy, independence of pharmacy activities, control of costs, and cost efficiency. The quality of the services is guaranteed by pharmaceutical expertise and sufficient personnel. Päivittäistavarakauppa

ry states that the ownership of a pharmacy shouldn't be regulated to be exclusive for pharmacists with a master's degree of science in pharmacy since it is not a primary concern and isn't tied to maintaining the quality of pharmacy services. They also state that price dependency of the pharmacy fee should be decreased, and pharmacy tax system should be removed. They justified these statements by saying that in the reasoning of the pharmacy fee, incentives for usage of cheaper medicine, giving medication advice as well as supportive services to enhance rational medicine usage should be taken better into account. Introduction of the price cap should be added to the system instead of the current minimum price and it should be executed by starting from self-care medication. Based on the experience gained, the effectiveness of maximum pricing in prescription medicine can also be assessed. Same price for medicine in all pharmacies across Finland in the current system has been serving as an equality factor, but if vertical integration is introduced to the system, pharmacy chains are allowed and online pharmacy activities expand, the factor loses its purpose since users of pharmacy services aren't bound to the physical pharmacies in the area anymore. If pharmacy tax were to be removed as Päivittäistavarakauppa ry suggests, it should be noted in determining the pharmacy fee, because otherwise pharmacies' profits would grow significantly from their current levels. Pharmacy tax's percentage from the price of a medicine is approximately 7 %. According to the rough estimates of Päivittäistavarakauppa ry, lowering the pharmacy fee by that 7 % would lower prices of medicine by the same amount. They also claim that releasing self-care medication to be sold outside of pharmacies is a possibility as long as pharmaceutical medication advice is available at least on a similar level as in current online pharmacy activities. (PTY 2018)

#### 6.4 Kaupan Liitto

Kaupan Liitto in their statement has taken a more progressive and modern stand on the deregulation of pharmacy markets. They seem to be more confident on following what other Nordic countries have done to renew their systems. The statement is looking at the topic from a more economic point of view while still trying to keep the goals of healthcare as a priority. These new elements that Kaupan Liitto proposes are: Deregulating restrictions of ownership and allowing vertical integration to the extent that medicine companies are still excluded from establishing pharmacies. Pharmacy chains would be allowed. The number of pharmacies and regional control would be deregulated,

but Fimea would still assess the suitability of a new candidate for pharmacy establishment licence. Self-care medication pricing would get deregulated meaning they would get introduced with a price cap. This means that self-care medicine would have a maximum price and price competition is only allowed in a way that pharmacies could sell them cheaper than the price cap on pharmacies' own cost. Discounts would be allowed but cannot be connected to prescription medicine acquisition. Lastly Kaupan Liitto proposes that establishing online pharmacies wouldn't require owning a physical pharmacy. Medicine safety, customer data security and medication advice cannot be compromised in online pharmacies. Kaupan Liitto emphasises that medicine safety and other goals of healthcare sector are still the priority and pharmacists are as relevant in pharmacy activities as before. Medicine information and advice is required from a licenced pharmacist. At least one pharmacist with a master's degree of Science in Pharmacy is required to lead the pharmacy. Pharmacy activities should be separate from other businesses. Lastly, the pharmacy tax should be kept as it is but it should be assessed after 3 years from the deregulation of the system. These reforms are based on calculations that are focused on the long term of the pharmacy system. Kaupan Liitto estimates that overall the amount of pharmacies would grow by around 100 new pharmacies which would lead to better competition and pharmacy activities in remote areas of Finland would remain at least the current level of sufficiency as they are now. (Avance 2019)

## 6.5 Kilpailu- ja kuluttajavirasto

The Finnish Competition and Consumer Authority's (Kilpailu- ja Kuluttajavirasto, KKV) objective in their statement about the deregulation of the Finnish pharmacy system is to develop it into a more competitive direction without compromising medicine safety. They state that current pharmacy law regulations prevent new competitors entering the field and the amount of pharmacies in an unnecessary fashion. This, added with Finland's price regulation system is causing pharmacies in good locations to be disproportionately profitable compared to other pharmacies, which makes the competition unequal. The pharmacy business in Finland is naturally a profitable field. According to KKV between 2006 and 2016 number of main pharmacies only grew by 0,8% and at the same time according to Finnish medical statistics, sales of prescription medicine has grown by 32% and prescriptions delivered has grown by 35%. They also state that pharmacists' career

cycle is out of date in Finland and often industries are developing at a faster rate when there's new entrants and business ideas thriving for that development. The pharmacy system would still have obligations in order to maintain sufficient medicine safety and new obligations could be added, for example relating to staff, security of supply and medication advice. Pharmacies should be allowed to grow their business and establish new pharmacies more swiftly to cater to the needs of users of pharmacy services, as the population of Finland is getting older. KKV would allow vertical integration and chain activities since it would bring benefits in terms of efficiency for concentration of support activities, information systems, stock management, acquisition and customer service. Pharmacy ownership wouldn't be exclusive for pharmacists with a master's degree of science in pharmacy, but they are required to be kept in a managerial position. KKV also states that price competition should be allowed at least for self-care medication and maybe even release to be sold in regular stores to curb medicine expenses. "Pharmacies should be able to compete in ways that benefit consumers, and regulation should focus on maintaining pharmacovigilance and the quality of pharmacy operations. Regulation should define what the tasks of pharmacies are and how they should be performed, rather than what pharmacies are, for example, in their corporate form or where they are located." (KKV 2018)

## 7 Methodology

### 7.1 Approach

The approach for the research is to address the current retail pharmacy system and identify its main characteristics. Through understanding the key elements of how the medicine and pharmacy industries work and how they differ from traditional markets, is the key for understanding how such systems can be developed. The thesis discusses these key elements and tries to give the reader an overall view of which compounds the system is compiled from. Development of retail pharmacy activities is the main element of this thesis, and changes to such a system cannot be made without careful assessment of potential opportunities and, more importantly, potential risks. The thesis has taken the approach of assessing other Nordic countries' pharmacy system reforms and comparing their experiences potentially to be implemented to Finland's system. All of the other Nordic countries have made somewhat significant changes during the 21<sup>st</sup> century to reform their pharmacy system, so should Finland follow the trend or retain the current system, is a question the thesis tries to answer.

### 7.2 Research method

The research is carried from various different articles, public authorities' statements and memos, books and other internet sources. Secondary data was used for the entirety of the research. The data gathered concerns the complex nature of medicine, legal issues of retail pharmacy activities and how it differs from more traditional businesses, market conditions of the field and the economic standpoint of the system. Empirical impact research through indirect observation was used to get better understanding of how deregulations of the system would affect users of pharmacy services and to see whether there is a positive secondary effect to the wider economy. Both qualitative and quantitative research was conducted by the published sources through consumer satisfaction surveys and interviews of public authorities and their take on the matter. The data analysis used for the thesis was prescriptive analysis. Data was gathered and compiled from various sources and combined into one package from which basis the thesis gives its take on the issue of development of Finnish pharmacy system.

### 7.3 Advantages and disadvantages of the method

Secondary data that was used throughout the research was the most beneficial method for compiling the required data to inspect and analyse the system and its development needs. As the subject matter is not completely new and much research has been done already, it is only wise to make use of it. The thesis relied particularly on a few certain sources such as Apteekkariliitto's statement and PTY's statement for compiling factual information about the system. The advantages of using secondary research lie in not having to start research from the ground level but being able to critically view other research and using gathered already information to form one's own research on basis of assessment and scrutiny. However, using secondary data can easily make one blind to the holistic view of the subject. Reading information from only certain point of view can affect critical thinking and formation of opinion that leans to certain direction already before whole topic is comprehensively covered. Biased opinions without fully understanding the topic can lead to unprofessional outcome of research. This is why a wide variety of sources enables the researcher to construct a more objective analysis of the issues under investigation.

## 8 Results and Analysis

This chapter tries to capture the very essence of the topic and give a comprehensive analysis on which elements, if any, of the current system are working and what should be changed, on the basis of an empirical impact analysis made from comparing experiences of other Nordic countries and their different reforms of their retail pharmacy systems. Furthermore, digitalisation hasn't skipped the retail pharmacy industry and the fact that the population of Finland is growing older means that strides towards enhancing the current system, in order to secure medicine safety and availability as well as the need for more individual services, are needed to be made. Therefore, what does the future look like and what is the government currently doing towards these evolving issues? These are questions that are inspected and analysed below.

### 8.1 Pillars of the current system

As already established, Finland's retail pharmacy system is highly regulated and has one of the most strictest policies in the EU. The subsections below deal with these so called pillars of the system and what could potentially be deregulated in order to achieve goals that have been set when discussion of deregulation of the system was initially started, the main objectives being control of costs in healthcare and giving better value for users of retail pharmacy services.

#### 8.1.1 Price regulation

Price regulation in a nutshell mean that the prices of medicine are regulated to a certain extent, depending on the country's policies. In Finland, this means that the price of medicine is fixed in all pharmacies via retail price, pharmacy fee and tax as well as VAT. It doesn't matter from which pharmacy the patient buys the medicine as it is same price everywhere. In Sweden, the pricing of medicine has been deregulated to the point where pharmacies can price non-compensable prescription medicine as well as self-care medicine freely and the price cap that is mentioned in chapter 4.3 is used for compensable prescription medicine. This allows price competition on a retail level and its aim is to control rising costs of medicine and overall costs of healthcare. Pharmacy earnings are also affected by the pharmacy tax. As discussed in chapter 3.1.2.1, the

pharmacy tax in Finland is progressive and is based on the pharmacy's revenue. The smallest pharmacies with lower sales don't have to pay pharmacy tax as their sales don't exceed the first taxation bracket. In the first tax bracket, pharmacies pay 6,1 % of tax and highest tax bracket pays 11,2 % pharmacy tax. Pharmacy taxation is another way that the pricing system could be changed. For instance, University Pharmacy's CEO Kimmo Virtanen stated in Information Office of Finland's (STT) post that the progressive pharmacy tax should be changed to a flat tax and justified this statement with statistics saying that University Pharmacy already pays 16 % of the whole tax revenue of Finland while their medicine sales only covers approximately 10 % of overall sales. He also mentioned that the pharmacy fee that dictates medicine prices should be lowered (Virtanen 2020). PTY also supports renewing the pharmacy tax, but it supports removal of pharmacy tax while the surplus should be noted in the pharmacy fee (PTY 2018). Considering these two methods of price deregulation, the latter version is less likely to be added to the system as it would require huge amounts of analysing the current markets and as pharmacy tax's fiscal value is currently already approximately €180 million, large scale estimates are needed to secure similar tax revenue to the government. Deregulating pricing of medicine for pharmacies and potentially to other medicine retailers if self-care medication were to be sold outside pharmacies is an option that Finland should carefully evaluate and maybe even consider adopting. Many public authorities are rooting for deregulating medicine pricing at least for self-care medication. Every other Nordic country has already deregulated the pricing and released at least some of self-care medication to the public and according to Petri Kuoppamäki's statement, prices of self-care medication are approximately 11 % cheaper when sold outside pharmacies (Kuoppamäki 2018). However, if such deregulations were to be made, big emphasis on medicine security is required and as PTY suggests, medication advice for self-care medication outside pharmacies should be at least on a similar level as it is currently in online pharmacies; preferably pharmaceutical staff should even be hired (PTY 2018). On the basis of already completed research, there are three options for Finland to deregulate pricing. The first is to change the current retail price system to a price cap system only for self-care medication in pharmacies. The second is to follow the first one and after gaining experiences if it works or not, to liberalise self-care medicine pricing and if that works, potentially introduce a price cap system for increased competition in prescription medicine. These changes dismiss the current principle of same price, but as online pharmacy activities start growing and developing, users of pharmacy services are no longer bound to physical pharmacies in their area anyway.



This allows price competition between pharmacies and good potential gains for the population in terms of medicine pricing. Lastly, releasing self-care medication to be sold outside pharmacies with free pricing and introducing price cap for prescription medicine. To respond to developing health technology and development of the field, such as online pharmacy activities, the most suitable solution would be the first option where a price cap for self-care medication is added to allow price competition at pharmacies' expense.

### 8.1.2 Licence regulation

As discussed in chapter 2.2, a licence for a retail pharmacy establishment is granted by governmental authority Fimea, the Finnish Medicine Agency, which applies two main regulations in determining whether to grant a licence. These are location control and evaluation of need. As mentioned in chapter 2.1 and later in chapter 6.5, only a handful of licences have been granted in the last decade. Adding to the issue regarding the lack of new pharmacy licences, when a new licence is issued in said area, other pharmacists around the area are able to make reclamations about the new licence that prolong or even prevent the establishment, as further mentioned in chapter 4.3 with a take on monopolistic position of pharmacies. What comes to other Nordic countries in terms of pharmacy licence regulations, Norway and Sweden have both liberalised the system, except for doctors and medicine companies. Iceland doesn't regulate establishment of new pharmacies either, but there is required permission from the regional agency of the municipality where the pharmacy is meant to be established. Denmark on the other hand has similar establishment regulations as Finland with a few variables that are further discussed in chapter 5.4. When inspecting whether Finland should liberalise its system or not, empirical study of other countries' experiences should be evaluated and compared to Finland's situation. What are the aims for reformation of licence regulations and how they should be implemented if at all, are questions that must be answered before making any actions. For instance, Sweden wanted to get rid of its pharmacy monopoly and did so by liberalising the whole system as part of an ideological purpose. Availability of medicine, increased competition and lower medicine prices were some of the goals that Sweden wanted to achieve with liberalisation of the system. One of many such studies stated, "the estimated reform effects via the general reform effect and the introduction of price cap, respectively, each corresponds to a 10 % decrease in the cost." (Bergman, Granlund and Rudholm, 2014) Additionally the pharmacy network has grown since the liberalisation and the amount of pharmacies has increased by 50 %, but the starting

point in Sweden was significantly worse and even as of now, Finland has a better pharmacy network than Sweden does. However, the situation is not all black and white and even though in Sweden the amount of pharmacies has increased, the size of pharmacies and availability of medicine hasn't increased according to the study made by Kristin Wisell, Ulrika Winblad and Sofia Källemark (2016). Other authorities suggest that licence regulations shouldn't be liberated in Finland, but rather increase the amount of licences given with governmental control and allow further competition in that sense. Currently the revenue pharmacies get from such a highly regulated field where demand is inelastic, is divided between a fixed amount of pharmacies and many consider current earnings of pharmacists to be too high. Pharmacy licences should still be assessed by Fimea, but the control should be decreased; for example, regional control can be removed in order to discontinue regional monopolies in certain areas and increase competition. All in all, more licences should be granted with lesser requirements without sacrificing medicine security.

### 8.1.3 Vertical Integration and pharmacy chains

Vertical integration in the pharmacy industry in simple terms means integration of a pharmacy and a wholesale company, integration of a pharmacy and a medicine company or integration of a pharmacy and a doctor's practice. Currently in Finland vertical integration is prohibited at all levels of the pharmacy industry. Pharmacy chains are also prohibited in Finland except for University Pharmacy's special permit. However, cooperation networks do exist in Finnish pharmacy markets. Avain pharmacies is an example of this kind of pharmacy chain-like activities. This means that marketing activities for example are handled in cooperation between independent pharmacies along with other processes. Additionally Finnish grocery store chain Kesko and wholesale company Oriola had plans to open a health, beauty and wellbeing store chain in 2017 and be prepared to start selling medicine if vertical and horizontal integration are allowed in Finland (Partanen, 2017) The venture ended being closed in 2019 due to it being unprofitable. (Kesko, 2018) In Europe some countries such as the comparison countries Sweden, Norway and Iceland have all allowed vertical integration between wholesale companies and pharmacies but prohibited it on other levels to secure independence of activities. As mentioned in chapter 4.2, allowance of vertical integration has led to an oligopolistic situation in Sweden and Norway where 80 % of the markets are controlled by 3 international wholesale companies. As mentioned in KKV statement in chapter 6.5,

“KKV would allow vertical integration and chain activities since it would bring benefits in terms of efficiency for concentration of support activities, information systems, stock management, acquisition and customer service.” These are some of the benefits that are pursued when inspecting whether vertical and horizontal integration should be an option for a country to adopt in its pharmacy system or not. However potential threats of allowance of this system should also be considered before any actions. Independent pharmacies that want to practise activities on their own without integrating to a pharmacy chain can end up being sold to bigger concerns or are forced out of the markets completely, while market entry for independent pharmacies can become more complicated. Another threat is that vertical integration might end up targeting medicine with better profit margins to be sold and narrow down medicine selections in pharmacies. All in all, even though benefits gained from vertical and horizontal integration are economy-wise tempting, aims for fair competition, governmental level goals of enhancing the pharmacy system as a part of healthcare system, and better distribution of earnings without pharmacy chains and already profitable potential big market entrants such as Kesko and S-Group exceeds in this category, so vertical and horizontal integration should not be allowed in Finnish pharmacy system.

#### 8.1.4 Ownership

Chapters 2.2.1 and 4.1 touch upon the subject of pharmacy ownership and how it is exclusive to pharmacists with a master’s degree of science in pharmacy in the current system in Finland. There are discussion and different opinions whether ownership of pharmacies should or should not be exclusive to pharmacists only. All authorities agree on the fact that medicine security is a priority and to make sure it stays so, a pharmacist should at a minimum, be in managerial position in each pharmacy. KKV, PTY and Kaupan Liitto are supporting deregulation of pharmacy ownership to be accessible for anyone. Fimea and Apteekkariliitto on the other hand wants to secure medicine safety via keeping pharmacists as head of pharmacies. Due to the nature of pharmacies’ legal obligations, it is wise to maintain the pharmacist ownership regulation. This is because the current system takes care that the owner of a pharmacy realizes that medicine is a therapeutical good that differs from other traditional (“normal”) goods and should only be distributed when necessary and is able to keep the objectives of healthcare as a priority over economic gain.

## 8.2 Two sides of pharmacy system

Inspecting the current state of the retail pharmacy system and realising that the system has remained almost untouched for 30 years makes one wonder why Finland has not made any larger scale changes. As different studies and statements by public authorities made in recent years show quite clearly, everyone is on the side of reforming the system. However there seems to be two schools of thought in the matter: authorities and researchers that want to make smaller and more cautious adjustments to the pharmacy system, and others, who are more liberal and want to make larger scale changes. In chapter six, the thesis covered 5 different statements made by different public authorities, two of which were Apteekkariliitto and Fimea. These two have a more conservative view regarding these potential deregulations. Small adjustments should be made such as; Instead of deregulating pharmacy establishment, more licences would be issued. The other three statements were from KKV, PTY and Kaupan Liitto. Their statements were more liberal and competition was put on the pedestal so to say. They want to get rid of regional control and evaluation of need, as well as to deregulate medicine pricing at least for self-care medication and introduce a price cap for prescription medicine. Both sets of parties do agree on the fact that the number one priority is medicine security and obligations that pharmacies have should not get compromised by the potential reform of the system, because the overall aim of the reforms is to enhance pharmacy services' co-operation with the healthcare sector. When inspecting these proposals that these authorities have made and on which side they stand, there seems to be similarities within these sides. Fimea and Apteekkariliitto are specialised in field of medicine and have a clear understanding of the attributes of medicine and how it cannot be treated as any other traditional good. On the other side there are KKV, PTY and Kaupan Liitto which share the similarity of being specialised in the field of business and economics. These three parties understand market conditions and elements of competition. The conclusion of the potential reforms of the pharmacy system should be made on the basis of each sides' views and make a compromise that creates the most value for users of pharmacy services and that way have a positive impact on the economy.

### 8.3 The Future

The previous government was supposed to start the process of evaluating and developing the pharmacy system. The reforms would have been made from the basis of the current system, maintaining the ownership, evaluation of need and regional control. According to the government guidelines, the amount of pharmacy licences should be increased, price competition of medicine should be allowed in controlled terms and their sales channels should be expanded in moderation. Increasing the number of licences would be handled in a way that the criteria for establishment are not based on the availability of medicine anymore, but the criteria would be made more flexible that pharmacies can be established when securing pharmacy activities in the area is necessary. Apart from these propositions, changes were not made during the last government and as of today, little to no progress has been made towards developing the system, except for the memo made by STM along with Kela, Fimea and THL that covers the need for development of online pharmacy services that is discussed in chapter 4.4. As long as these current propositions are driven to be published, the development of the whole system will be set in motion. Finland's current system is built on a solid base, but the regulations are getting outdated and reforms should be made in foreseeable future. Development of technology, and online pharmacy activities should have emphasis when making decisions because digitalisation is a big part of technological revolution in most fields including the field of medicine and retail pharmacy activities as well.

## 9 Conclusion

All parties across the board unanimously agree on the fact that reforms to the Finnish pharmacy system should be made. Before decision making, understanding key elements of the system, experiences of other economically similar countries that have made reforms of their system, legal issues, what are the current problems and what should be changed, as well as how would these changes potentially affect the population and the economy, are factors that should be assessed. The previous government started the process of assessing reforms of the current system which included price cap for self-care medication to allow price competition between pharmacies and more fluent system for new pharmacy establishment to increase number of pharmacies. Additionally, as Covid-19 has been speeding up, is the adoption of online pharmacy activities. STM with the current government have made groundwork to make reforms to the Medicine Act that allows better prescription medicine distribution through online pharmacies and developing the distribution channels.

To conclude the analysis of potential deregulations and which elements of the system should and should not be deregulated are further mentioned in chapter 8. Price regulation, licence regulation, the state of self-care medication, vertical integration and the ownership of pharmacies are some of these key elements that were being addressed in this thesis. The main objective of these potential reforms is to enhance the current system and to make it more receptive towards future innovation while maintaining and increasing medicine security. Secondary objectives are economic, such as increase of competition and decrease of medicine prices. Both of these objectives are tied to each other and these potential reforms should complement these objectives. Price cap for self-care medication should be added to enable price competition on pharmacies own expense to create more value for users of pharmacy services. The regulation behind self-care medication sold outside pharmacies, should be prepared, but not implemented until the effects of the price cap can be observed, and then implemented if any positive effects were discovered such as a decrease of prices. Vertical and horizontal integration shouldn't be allowed simply to avoid the oligopolistic situation that has taken place in Sweden and Norway. Pharmacy licences should be increased by a lot and the heavy control should be decreased to allow better competition, remove regional monopolies and remove the outdated career cycle of pharmacists and allow development of the system in that sense. Pharmacists should be kept as owners of pharmacies to secure the

goals of healthcare and maintain independence of pharmacies. All in all, the current pharmacy system is still working and can be considered as one of the better ones in the European scale in terms of medicine security and availability of medicine, but Finland should strive for development and give digitalisation a bigger foothold in the industry. Settling for decent doesn't motivate for being better.

## References

- Apteekkariliitto (2019), Pharmacies in Numbers [Online], <https://www.apteekkariliitto.fi/apteekkitieto/apteekit-numeroina.html>, [Accessed: 10 September 2020]
- Bergman M., Rudholm N. & Granlund D (2014), Reforming the Swedish pharmaceuticals market: Consequences for costs per defined daily dose. Stockholm: HUI Research [Online], <http://sh.diva-portal.org/smash/record.jsf?pid=diva2%3A777843&dswid=-791>, [Accessed: 1 October 2020]
- Farmasialiitto (2020), Current Pay Scale [Online], <https://www.farmasialiitto.fi/palvelut-ja-edut/palvelut-jasenelle/tyosuhde/apteekkisektorin-palkat/nykyinen-palkkataulukko.html#66effa3e>, [Accessed: 3 October 2020]
- Fimea (2018), Fimea's statement of the sales channels for self-care medicines [Online], <https://www.fimea.fi/documents/160140/5730881/25042018+Fimean+selvitys+itsehoitolääkkeiden+jakelukanavista+final.pdf/9352d07b-0b4d-ce99-2f64-d0b413f89480>, [Accessed: 7 September 2020]
- Fimea, Online pharmacy activities [Online], <https://www.fimea.fi/apteekit/verkkopalvelutoiminta>, [Accessed: 1 October 2020]
- Finlex, Medicine Act [Online], <https://finlex.fi/fi/laki/ajantasa/1987/19870395?search%5Btype%5D=pika&search%5Bpika%5D=lääkelaki#L6P38> [Accessed: 8 September 2020]
- Hyssälä, Liisa (2018), Guidelines for the reform of pharmacy operations [Online], [https://www.pti.fi/fileadmin/user\\_upload/tiedostot/Tutkimukset/Laakkeet/Laakejakeluselvitys2018\\_loppuraportti.pdf](https://www.pti.fi/fileadmin/user_upload/tiedostot/Tutkimukset/Laakkeet/Laakejakeluselvitys2018_loppuraportti.pdf), [Accessed: 8 September 2020]
- Hyssälä, Liisa (2018), Guidelines for the reform of pharmacy operations interim report [Online], [https://www.pti.fi/fileadmin/user\\_upload/tiedostot/Tutkimukset/Laakkeet/Laakejakeluselvitys2018\\_valiraportti\\_07032018.pdf](https://www.pti.fi/fileadmin/user_upload/tiedostot/Tutkimukset/Laakkeet/Laakejakeluselvitys2018_valiraportti_07032018.pdf), [Accessed: 8 September 2020]
- Ikäheimo S., Laitinen E., Laitinen T. & Puttonen V. (2014), Yrityksen taloushallinto tänään, [Accessed: 6 October]
- Kesko (2018), Co-operation negotiations concerning Hehku stores ended – Operations will end by spring 2019 [Online], <https://www.kesko.fi/media/uutiset-ja-tiedotteet/uutiset/2018/hehku-kauppaa-koskevat-yt-neuvottelut-paattyivat--toiminta-loppuu-kevaaseen-2019-mennessa/>, [Accessed: 3 October 2020]
- Kuoppamäki Petri (2018), The impact of the regulation of pharmaceutical distribution and its possible changes on the functioning of competition and pharmaceutical supply [Online], [https://www.apteekkariliitto.fi/media/3-apteekkariliitto.fi/media/aineistot/2018\\_04\\_26\\_kuoppamaki\\_p\\_kilpailuoikeudellinen\\_selvitys.pdf](https://www.apteekkariliitto.fi/media/3-apteekkariliitto.fi/media/aineistot/2018_04_26_kuoppamaki_p_kilpailuoikeudellinen_selvitys.pdf), [Accessed: 7 September 2020]



Lääkäriliitto (2020), Medical Contract [Online],  
<https://www.laakariliitto.fi/palvelut/edunvalvonta/laakarisopimus/>, [Accessed: 3 October 2020]

LTH ry, Medicine supply in Finland [Online],  
<https://laakehuolto.fi/laakehuolto/laakehuolto-suomessa/> [Accessed: 8 October 2020]

OECD Publishing (2008), Pharmaceutical Pricing Policies in a Global Market [Online],  
[https://read.oecd-ilibrary.org/social-issues-migration-health/pharmaceutical-pricing-policies-in-a-global-market\\_9789264044159-en#page2](https://read.oecd-ilibrary.org/social-issues-migration-health/pharmaceutical-pricing-policies-in-a-global-market_9789264044159-en#page2), [Accessed: 3 October 2020]

Partanen Karoliina (2017), The decision of Kesko and Oriola's joint venture [Online],  
<https://kesko.fi/media/uutiset-ja-tiedotteet/uutiset/2017/keskon-ja-oriolan-yhteisyrityksen-perustaminen-paatokseen/>, [Accessed: 3 October 2020]

Pharma Industry Finland (2019), Total wholesale sales of pharmaceutical products [Online],  
[https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi386Wtye\\_rAhWmmIsKHeJ1DacQFjABegQIARAB&url=https%3A%2F%2Fwww.laaketoolisuus.fi%2Fmedia%2Ftilastot%2Fsuomen-la-cc-88a-cc-88kemarkkinat.pdf%2Cdownload&usg=AOvVaw28yBuCu9Mc5nAEBx10Ks7q](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi386Wtye_rAhWmmIsKHeJ1DacQFjABegQIARAB&url=https%3A%2F%2Fwww.laaketoolisuus.fi%2Fmedia%2Ftilastot%2Fsuomen-la-cc-88a-cc-88kemarkkinat.pdf%2Cdownload&usg=AOvVaw28yBuCu9Mc5nAEBx10Ks7q), [Accessed: 7 September 2020]

Pharma Industry Finland, Medicine prices [Online],  
<https://www.pif.fi/medicines/medicine-prices.html>, [Accessed: 1 October 2020]

Philipsen, Niels J. (2013), Regulation of Pharmacists: A Comparative Law and Economics Analysis [Online],  
[https://www.researchgate.net/publication/270450913\\_Regulation\\_of\\_Pharmacists\\_A\\_Comparative\\_Law\\_and\\_Economics\\_Analysis](https://www.researchgate.net/publication/270450913_Regulation_of_Pharmacists_A_Comparative_Law_and_Economics_Analysis), [Accessed: 3 October 2020]

Puumalainen, Emmi (2019), The dissertation gives a barren picture of the Swedish pharmacy reform [Online], <https://www.apteekkari.fi/uutiset/vaitoskirja-antaa-karunkuvan-ruotsin-apteekkiiudistuksesta.html>, [Accessed: 8 October 2020]

Rouvinen P., Alkio M., Nordström L. (2019) Reform of pharmacy legislation - Assessment of the impact of the proposed regulatory change [Online],  
<https://kauppa.fi/uutishuone/2019/05/28/selvitys-vahaisellakin-apteekkisaantelyn-purkamisella-saataisiin-aikaan-paljon-hyotyja/>, [Accessed: 10 September 2020]

Ruotsalainen, Petteri (2019), Apteekkariliitto on pharmacy regulation: No scrapping of a functioning system [Online], <https://yhteishyva.fi/terveys/apteekkariliitto-apteekkisaantelysta-ei-romuteta-t/2tVTAE3lv9AhoXpLqxhKK>, [Accessed: 25 September 2020]

STM (2018), Rational pharmacotherapy action plan [Online],  
[https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160824/rap\\_19\\_18\\_RATI\\_loppuraportti%20en%20kansilla.pdf?sequence=1&isAllowed=y](https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160824/rap_19_18_RATI_loppuraportti%20en%20kansilla.pdf?sequence=1&isAllowed=y) [Accessed: 2 October 2020]

STM (2020), Online Pharmacy Activities and its development needs [Online],  
<https://stm.fi/documents/1271139/21078095/Viranomaismuistio+verkkoapteekkitoimin>

nasta+ja+sen+kehittämistarpeista.pdf/65b10d4a-9b03-776d-8e77-3db388621c46/Viranomaisuistio+verkkoapteekkitoiminnasta+ja+sen+kehittämistarp  
eista.pdf, [Accessed: 1 October 2020]

Valliluoto, Sari (2018), Reforming pharmacy regulation requires bold steps and careful impact assessment [Online],  
<https://ajankohtaistakilpailusta.fi/2018/10/22/apteekkisaantelyn-uudistamiseksi-tarvitaan-rohkeita-askeleita-ja-huolellista-vaikutusarviointia/#5>, [Accessed: 10 September 2020]

Vero (2020), Value Added Tax [Online], <https://www.vero.fi/yritykset-ja-yhteisot/tietoa-yritysverotuksesta/arvonlisaverotus/arvonlisäveroprosentit/>, [Accessed: 1 October 2020]

Virtanen, Kimmo (2020), The pharmacy tax should be converted into a flat tax [Online], <https://www.sttinfo.fi/tiedote/apteekkivero-tulee-muuttaa-tasaveroksi?publisherId=1629&releaseId=69884190> [Accessed: 3 October 2020]

Vogler, Sabine (2014), Liberalization in the pharmacy sector [Online], [https://www.researchgate.net/publication/261364232\\_Liberalization\\_in\\_the\\_pharmacy\\_sector](https://www.researchgate.net/publication/261364232_Liberalization_in_the_pharmacy_sector), [Accessed: 1 October 2020]

Wisell K., Winblad U. & Källemark Sporrang S. (2016), Stakeholders' expectations and perceived effects of the pharmacy ownership liberalization reform in Sweden: a qualitative interview study [Online],  
<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-016-1637-6>, [Accessed: 1 October 2020]

Wisell, Kristin (2019), The liberalization experiment [Online],  
<https://www.apteekkari.fi/media/2-apteekkari.fi/pdf/liberalization-experiment.pdf>, [Accessed: 25 September 2020]