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Self-Care in Europe: Economic and Social Impact on Individuals and Society

Project on behalf of the Association of the European Self-Care Industry (AESGP)

submitted by

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Executive Summary

As a result of demographic change and medical progress, European healthcare systems are facing serious financial challenges. Public health approaches based on a strengthened personal responsibility, i.e. on a more systematic practise of self-care, can help save time and costs. However, the strengthening of self-care is today still insufficiently promoted.

The aim of this research project, commissioned by the Association of the European Self-Care Industry (AESGP), is to investigate the economic and social value of self-care for the population in 30 European countries and identify not only the current contribution of self-care for the European healthcare systems, but also its future potentials.

To do so, **four objectives** have been identified and are achieved through the following steps:

- To help **quantify the current benefits and potentials of self-care for healthcare systems and individuals**, data gathered from existing country-specific studies on the "economic and social impact of self-care" are identified and evaluated using a meta-analysis approach. In order to close the significant research gaps identified in this literature review, a health economic model is developed. For this purpose, a database consisting of country-specific data and estimates for each of the 30 countries is built up.

- The countries are clustered according to three socioeconomic criteria (physician labour costs, productivity loss of a patient and pharmaceutical expenditure) to form eleven Country Clusters. The direct and indirect effects of self-care are calculated based on productivity losses due to absenteeism, the opportunity cost for physicians and patients, pharmaceutical expenditure, and medical expenditure on a national level. This national data is applied to each Country Cluster to first calculate the economic and social value of self-care for an individual case of a minor ailment per Country Cluster and is then multiplied by the total population per Country Cluster.

- The knowledge gained from defined groups of countries considered comparable – based on socioeconomic criteria – is then extrapolated to the 30 European countries under consideration with the aim to **quantify the economic and social value of self-care should more OTC products be available**. Finally, the results are aggregated to obtain an overall value at the European level.

- Following the identification of indicators defining a national framework as self-care conducive, a **model is developed to allow European countries to be ranked in terms of access to and uptake of self-care**. This model is based on four criteria which provides the level of significance of self-care as an alternative to physician consultation in the individual countries.

- A set of **health policy recommendations addressed to national and European policy makers** for an economically reasonable and clinically acceptable development of self-care is derived from the instruments and measures previously identified as useful and effective in promoting self-care. A distinction is then made between measures to be implemented at the European level and at national levels.

The study reaches the following **conclusions**:

- Regarding the **state of research**, it was identified that only a limited number of studies on the economic and social impact of self-care in Europe is currently available. Existing surveys and questionnaires on views towards self-care show an emerging interest to foster a self-care culture and increase the uptake of self-care especially in countries such as Croatia, Estonia, Poland, Slovakia and Slovenia.

- However, based on the results of the systematic literature review, it is evident that **more research on the social and economic value of self-care in Europe is needed**. As national studies on the value of self-care in European countries are scarce, data had to be collected from each country before a thorough economic analysis could be carried out on a European level. This further research also incorporated the knowledge of country experts on the topic of self-care which was evaluated through expert interviews. This allowed the comparison of information and the discussion of specific data points to ensure the relevance, quality and credibility of the collected country-specific data.

- After a thorough examination of the **economic and social impact of self-care in the status quo in Europe** and given the prevalent health market environment in the European countries, **it was calculated that the current practices of self-care and self-medication (1.2 billion cases of minor ailments) produce considerable savings in expenses for medical services and products (EUR 23.3 billion p.a.). Furthermore, savings can be generated through time gained from reduced number of visits to a physician as well as lowered sick leave-associated losses of work productivity (EUR 10.41 billion) – costs that would otherwise be incurred by the national healthcare systems and by national economies.** In conclusion, both healthcare professionals and consumers gain substantial benefits in terms of time spent and appointments allocated to the examination and treatment of minor ailments, thus freeing up these finite resources for more urgent or complex medical cases. If self-medication were not available, about 120,000 more physicians would be required in Europe or, alternatively, each physician would have to work 2.4 hours longer per day.

- Concerning **future scenarios regarding self-care and its potential uptake**, it is obvious that the savings identified in the analysis of the status quo in Europe could be further increased by promoting self-care. Considering an expansion of self-care only on minor ailments (provided there is no loss in the quality of care), **it was found that the share of minor ailments that are currently treated by self-medication greatly varies in Europe.** This leads to two basic directions for the growth of self-care: the use of OTC preparations for previously untreated health disorders (clinically indicated in cases where there has been an undersupply to date), and the further substitution of GP contacts by self-care (linked to the calculations of the social and economic value of self-care in the status quo).

- With regard to the current conditions in the countries considered, different growth potentials for self-care were derived, either through Rx-to-OTC switches ("breadth") or through a higher utilisation ("depth") of self-care. **The share of GP consultations that could be substituted by self-care was found to lie between 10% and 25% in the different considered countries. Based on this, it was calculated that self-care**

could release additional resources worth around EUR 18.8 billion p.a. for society. In particular, 58,000 physicians could be freed up for other tasks in the healthcare systems. Alternatively, each GP currently employed in Europe could gain about one hour of time per working day which could be dedicated to patients with more severe health problems or to leisure time.

- This study further aimed to identify whether there are specific **factors that determine the current level of use and relevance of self-care ("uptake")** in the different European countries. After defining parameters which can help determine the different national levels of self-care uptake, a rating model was developed based on four criteria reflecting national markets. A rating among the European countries was then established, which provides the basis for identifying the measures and instruments suitable for promoting the role of self-care and potential obstacles.

- **The results showed that the relevance of self-care, defined by their uptake, varies greatly in the European countries, with no consistent pattern or characteristics between the groups of countries with a high, medium, and low uptake of self-care.** Rather, it became apparent that there are potentially different explanations that can be associated with the degree of self-care importance at each national level.

- However, it was found out that in many cases, **it is the overriding socioeconomic or legal conditions as well as socio-cultural conditions that have a decisive influence – a limited access of the population to the public health system (BG, RO) or a high acceptance and appreciation of public pharmacies (BE, DE) can be drivers for self-care.** In addition, given that certain self-care policies could be identified in three of those countries with high self-care uptake (FI, UK, PL), it can be assumed that an active self-care policy or targeted incentives among consumers and HCPs in these countries are causally related to the high value of self-care.

- Regardless of these findings, the health economic study revealed that **certain concrete measures or incentives have a positive steering effect with regard to self-care in their respective countries**, meaning that the promotion of self-care is possible, makes sense and should be taken into consideration. For this reason, it was considered appropriate to identify corresponding steering instruments.

- The insights gained provided the basis for identifying **best practice examples for a self-care policy in Europe** and their transferability to other countries was discussed. Approaches focussing on political commitment, pharmacists, consumers and physicians to enhance self-care were identified and selected from a range of countries across Europe, leading to the conclusion that the role of each stakeholder towards self-care can be strengthened through individually targeted and structured system approaches.

- The analysis revealed that **integrative national self-care policies are essential to provide a framework for self-care.** However, examples of guidelines, white papers and legislation on self-care could only be found in a few countries, including Ireland, Finland, Switzerland and the UK.

- Apart from the evident need for **a more explicit political commitment to self-care by European governments, the involvement of pharmacists in particular – being the initial contact point for patients with minor ailments –, but also of consumers and physicians was found to be essential to enhance self-care.** In addition, structured systems that combine behavioural incentives on the part of patients, pharmacists and physicians and support both patient and HCP education are considered particularly promising. Consumer-focused approaches such as self-medication budgets provided by some complementary health insurers, sick leave policies, as well as sources of health information and tools, such as self-care hotlines or websites, are also found to increase consumer awareness on self-care.

- **Physicians were also considered as playing a significant role in enhancing self-care** with two best practice examples identified in this study – the German "Grünes Rezept" which provides patients with written advice from a physician on non-reimbursable OTC products, and the GP Referral Pathway in England which provides GPs with the option of referring patients to the pharmacy for a minor ailment consultation and improves the collaboration between physicians and pharmacists in promoting self-care.

- **These approaches are of course not immediately transferable to other European countries**, but they can serve as a reflection basis for the development of further ideas or as a guide for the implementation of new self-care policies and activities in Europe, with adjustments to suit the needs of the respective country.

As a **general conclusion**, it can be argued that both treatment by a physician and self-care have pros and cons, depending on the actual situation. The aim of health policy must therefore be to promote the right decision of the individual in favour of treatment by a physician (if necessary) or in favour of self-care (if sufficient).

There is a strong need for new information and incentive systems throughout Europe, varying across countries. The extensive evidence base revealed in this study should serve as a foundation in the development of health policy in favour of the promotion of self-care.

The guiding role of pharmacists in the health system as well as their significance as primary care providers for minor ailments should also be strengthened.

This study has shown that, through an adequate self-care policy, resources can be freed up and considerable efficiency gains can be exploited. The success of such a policy can only be achieved if all involved stakeholders are adequately incentivised. These incentives should in any case aim to align the objectives of the individual actors with those of the society at large. The resources freed up through the adequate self-care policy play a significant role in this process as their distribution among the relevant actors determines their actions.

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A&E	Accident and emergency
AESGP	Association of the European Self-Medication Industry
AIFA	Italian Medicines Agency
AFIPA	Association francaise de l'industrie pharmaceutique – pour une Automédication responsable (new name : NèreS)
ATC	Anatomical Therapeutic Chemical
BACHI	Belgian Association of the Consumer Healthcare Industry
CAS	Common Ailment Service
CC	Country Cluster
CCG	Clinical Commissioning Groups
CESP	Common European Submission Platform
CMS	Concerned Member States
COVID-19	Coronavirus disease 2019
CP	Centralised Procedure
CPCS	Community Pharmacy Consultation Service
CPD	Continuing Professional Development
CPPE	Centre for Pharmacy Postgraduate Education
DRP	Drug-related problem
ECOCOM	Economic Affairs and Public Relations Committee
eCTD	Electronic Common Technical Document
ELGA	Elektronische Gesundheitsakte (translation: electronic health records)
EMA	European Medicines Agency
EU	European Union
Federchimica ASSOSALUTE	Italian Association of Self-Medication Drugs
Fimea	Finnish Medicines Agency
FIMP	Italian Federation of Paediatricians
FIP	International Pharmaceutical Federation
GMS	General Medical Services
GP	General practitioner
GSCF	Global Self-Care Federation
HCP	Healthcare professional

HLS-EU	European Health Literacy Survey
HPRA	Irish Health Products Regulatory Authority
IMB	Irish Medicines Board
IPHA	Irish Pharmaceutical Healthcare Association
IPU	Irish Pharmacy Union
MA	Minor ailment
MAP	Morning after pill
MAS	Minor ailment scheme
MAT	Moving annual total
MRP	Mutual recognition procedures
MS	Member State
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NMS	National Medicine Strategy
NPMP	Non-prescription medicinal products
NPMP-P	Non-prescription medicinal products dispensed in pharmacy with pharmacist intervention
OTC	Over-the-counter
OTX	Reimbursable non-prescription medicine when prescribed by a physician
PAGB	Proprietary Association of Great Britain
PCN	Primary Care Network
PGEU	Pharmaceutical Group of the European Union
PMAS	Pharmacy-based minor ailment scheme
RMS	Reference Member State
Rx	Prescription-only
Rx-to-OTC	Prescription to over-the-counter
SC	Self-care
SOP	Non-prescription class C medicines
VAT	Value-added tax

Definitions

Breadth of self-care: The availability of non-prescription medicines and extent of consumer or patient access to self-care treatments. The corresponding scope of self-care can be enlarged by adding new routes of administration and strengths of existing OTC substances. The addition of new indication areas where self-care has not yet been practised can especially extend the range of indications accessible to self-care. Moreover, product launches in established OTC indications can also affect the breadth of self-care.

Country-Cluster: Countries that have been grouped according to similarities in essential characteristics, including the following parameters: GP cost per minute, productivity loss per hour and difference in drug cost per pack.

Costs: this study examines costs that arise from self-care practices and costs that arise from a lack of self-care practices (i.e. avoidable physician consultations). Direct, indirect and intangible costs are differentiated and taken into consideration in terms of time (predominantly in minutes) and monetary (in euros).

- **Direct costs**
  Direct costs are those that arise directly in the context of therapy. They are therefore also referred to as medical costs. These costs are incurred, for example, for medical treatment, medicines or laboratory tests. However, they can also be incurred as non-medical costs, for example, for personnel or administrative expenses. As a rule, they can easily be quantified, since these costs are expressed in monetary terms.[1,2]
  Within this study, direct costs are those associated with the costs of medicines and the costs of treatment. The costs of OTC and Rx medicines included in this study are calculated based on the average price per medicine as well as on the estimated number of OTC or Rx packs purchased by a patient following the advice of a physician, pharmacist or other. Additionally, the treatment cost (EUR) of a physician visit is taken into account based on the number of physician contacts per minor ailment case, the average time per patient contact and the cost of a physician working minute. The treatment costs (min) of a physician are also included by considering the average working time of each physician per patient contact and the average number of patients treated per day.
- **Indirect costs**
  Indirect costs are those indirectly associated with a disease and its treatment. They are relevant, above all, with regard to the effect on national economies. In particular, loss of work, but also transport costs, daily hospital allowances and continued wage/salary payments cause indirect costs. The greatest impact is usually the loss of production as a result of an incapacity for work.[3]
  Within this study, indirect costs are related to a potential loss in productivity due to the treatment of minor ailments in terms of monetary and time losses. For the calculations in this study, indirect costs comprise income and non-monetary related costs as well as time and monetary costs which arise from sick leave days. This means that

[1] Rychlik, R. (1999): Gesundheitsökonomie. Ferdinand Enke Verlag, Stuttgart. S. 36 f.

[2] Foos, V., Repschläger, U., Riedel, R. (2010): Gutachten zu Kosten-Nutzen-Bewertungsverfahren (KNB) für Arzneimittel in Deutschland und im internationalen Vergleich. Rheinische Fachhochschule Köln gGmbH. S. 13 f.

[3] Rychlik, R. (1999): Gesundheitsökonomie. Ferdinand Enke Verlag, Stuttgart. S. 38 f.

treatment-related work loss (EUR) is based on work loss per minor ailment case treated by a physician and the average labour cost of a working day per person. Treatment-related work loss (min) considers the patient time per physician case, employment rate and share of physician visits during working hours. Moreover, absence from work due to sick leave (EUR) is calculated on the basis of avoidable sick leave days per physician case and the average labour cost of a working day per person, while absence from work due to sick leave (min) takes into account absence from work due to time related to physician visits and the number of avoidable sick leave days per physician case.

- **Intangible costs**
  Intangible costs are those effects that can initially only be assessed subjectively. They cannot be quantified or valued via the market. These include, for example, pain, anxiety and lost leisure time. Various measurement instruments are used to try to objectify them. In health economic studies, such effects that cannot be valued in monetary terms should also be taken into account. Depending on the definition, intangible costs can be a comparison of positive and negative dimensions or a comparison of effects in terms of costs and benefits.[4]
  Within this study, intangible costs especially refer to the patient's loss in leisure time (min). This takes into consideration the time it takes the patient to travel to the physician/pharmacy, the GP consultation time as well as the pharmacy consultation or service time, and the waiting time per physician case (e.g. time spent in the waiting room).

Depth of self-care: The potential to increase the impact of self-care by facilitating access to a greater number of individuals in already established areas of self-care.

Europe: In this study, 'Europe' refers to the 27 countries of the European Union as well as Norway, Switzerland and the United Kingdom.

IQVIA data: For the purpose of this health economic study, a dataset was obtained from the market research institute IQVIA. The corresponding data was used in the health economic model calculations. Whenever it is referenced as "IQVIA data" in this report, the references are the following. For OTC data: IQVIA Consumer Health Global OTC Insights, for Rx data: IQVIA Midas.

Minor ailment: A health problem that is commonly self-limiting and does not result in any long-term consequences such as headaches, common cold, cough, musculoskeletal pain, allergies, tobacco dependence and heartburn.[5] The individual's ability to perform everyday activities and occupational tasks is either not impaired or only impaired for a few days.

National healthcare system: There are many typologies used in the literature to classify healthcare systems, yet a collective term for all basic models, such as the National Health Service (NHS), the social insurance and the private insurance model, does not exist. To enable ease of reading and understanding, in this study, 'national healthcare system' refers to all types of healthcare systems, including those that are financed through tax, e.g. the National Health Service (NHS) in the UK as well as systems financed via mandatory health insurance contributions, e.g. the Statutory Health Insurance system (SHI) in Germany.

[4] Rychlik, R. (1999): Gesundheitsökonomie. Ferdinand Enke Verlag, Stuttgart. S. 40 f.

[5] AESGP (n.d.): Non-Prescription Medicines. Retrieved from: https://aesgp.eu/otc-medicines (27.04.2021).

OTX: Medicines that can essentially be purchased without a prescription, but are reimbursable by the national healthcare system or health insurance companies under certain conditions such as a prescription issued by a physician.

Over-the-counter medicines (OTC)/Non-prescription medicinal products: Medicines available for purchase by the patient/consumer without the requirement of a prescription. As defined by the European legislation in Article 72 of Directive 2001/83/EC, these are medicinal products which do not meet the following criteria (listed in Article 71 of the Directive):

- are likely to present a danger either directly or indirectly, even when used correctly, if utilised without medical supervision, or
- are frequently and to a very wide extent used incorrectly, and as a result are likely to present a direct or indirect danger to human health, or
- contain substances or preparations thereof, the activity and/or adverse reactions of which require further investigation, or are normally prescribed by a doctor to be administered parenterally.

Throughout this study, the authors will use the abbreviation 'OTC' to refer to OTC/non-prescription medicinal products.

Prescription-only medicines (Rx): Medicines that require a prescription, which is written by a physician, dentist, or other qualified prescriber. They can generally only be supplied at a pharmacy under the supervision of a pharmacist or in the case of rights to dispense by physicians.

Rx-to-OTC switch: A reclassification process that involves a change of legal status from prescription to non-prescription which is regulated by Article 74 of Directive 2001/83/EC as amended. It is a scientifically rigorous and highly regulated process that allows people to have non-prescription access to a growing range of medicines. For a medicine to be granted non-prescription status (i.e. switched), it must demonstrate that none of the criteria of Article 71 are met. This means, for example, that they are unlikely to present a direct or indirect danger and potential risks of abuse or misuse are known.

Self-care: The World Health Organization (WHO) defines self-care as: "The ability of individuals, families and communities to promote health, prevent disease, maintain health, and cope with illness and disability with or without the support of a healthcare provider".[6] According to the Global Self-Care Federation (GSCF), self-care involves: "Making healthy lifestyle choices, avoiding unhealthy lifestyle habits, making responsible use of prescription and non-prescription medicines, self-recognition of symptoms, self-monitoring and self-management, i.e. managing symptoms of disease, either alone, in partnership with healthcare professionals, or alongside other people with the same health condition".[7] The definition of self-care used in this study is as follows: The proactive management of minor and transient ailments by a patient or consumer according to their personal preference and without the use of a prescription medicine.

[6] WHO (2021): Self-care interventions for health. Retrieved from: https://www.who.int/health-topics/self-care#tab=tab_1 (22.08.2020).

[7] GSCF (2021): What is self-care? Retrieved from: https://www.selfcarefederation.org/what-is-self-care (22.08.2020).

Self-medication: Self-medication is one element of self-care which involves the use of medicines that do not require a prescription by a physician. This excludes the use of non-prescription medicines that are prescribed by a physician (i.e. OTX medicines).

Self-treatment: The act of treating oneself using OTC medicines without any prior clinical examination by a physician.

Time costs: Time costs include travel times, waiting times as well as treatment and consultation times. These time costs are differentiated between pharmacy and physician visits and consultations. The same time costs are assumed for patient visits to the pharmacy to obtain OTC or Rx medication.

Uptake of self-care: In the context of this study, this term is used to refer to an increase in the degree of utilisation of non-prescription treatment options.

1 Introduction

This research project, commissioned by the Association of the European Self-Care Industry (AESGP), investigates the economic and social value of self-care measures for the population in 30 European countries. It examines the individual perspectives of consumers, healthcare professionals and payers as well as the societal perspective. The insights gained through this approach will be used as a framework to analyse and discuss whether and, if so, how self-care can be promoted in Europe. Ultimately, health policy implications will be derived from this.

In the following, the background of this topic is outlined before the relevant research questions are specified and the methodological approach of the project is described.

1.1 Background

As a result of demographic change (ageing population) and medical progress, European healthcare systems are facing serious financial challenges. Public health approaches based on a strengthened personal responsibility represent one partial way out of this economic and political dilemma. As OTC products can typically be taken without prior medical consultation, this form of self-care can spare time capacities and resources in the field of outpatient care and at the same time save costs for prescribed medicines and physician visits. The current COVID-19 pandemic has contributed to revealing the limits to the resilience of public health systems in all European countries. This has once again underlined the role of individual responsibility and subsidiarity as the basic pillar of a sustainably utilised healthcare system.

In 2004, the importance of OTCs for healthcare in Europe was examined in the context of a comprehensive and robust project sponsored by the AESGP.[8] This study substantiated the social and economic aspects of self-care with concrete data and made an important contribution to the political discussion.

A study initiated by the European Commission in 2015 identified measures which actively support the promotion of self-care in only four EU-Countries, namely the Netherlands, France, Latvia and the UK.[9] This stresses a great need to identify general instruments, concrete measures and framework conditions that are suitable for promoting self-care.

Recognising the state of scientific knowledge concerning the importance of self-care for society, the health ministers of the twenty major industrial nations of the world stated: “The G20 members should […] adopt policies that improve access to healthcare by establishing a pro-innovation ecosystem that prioritizes self-care and empowerment of individuals.” [10] Nevertheless, it is still true that today there is insufficient proactive promotion of the framework conditions for the OTC market, including the strengthening of self-care, in most European countries. As it can be observed in international surroundings, Rx-to-OTC switches (‘switches’) can provide, among other measures, important incentives for the OTC market and exert positive effects on consumers, healthcare professionals and the public healthcare system as well as OTC manufacturers. Against this background, it is obvious and has been acknowledged by various relevant studies that switches in suitable areas of self-limiting diseases are one of the most important pillars for the promotion of self-care in European markets. However, the

[8] AESGP (2004): The Economic and Public Health Value of Self-Medication. AESGP, Brussels 2004.

[9] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015, p. 61-62.

[10] BDI, BDA, DIHK (2017): Stepping Up Global Health. Towards Resilient, Responsible and Responsive Health Systems. B20 Germany, Berlin 2017.

availability of OTC substances is a necessary but not sufficient condition for people to use the corresponding OTC products in the context of self-care. For this purpose, further prerequisites have to be identified and created, which also give impetus to conduct the study herewith submitted.

1.2 Objectives of the Study and Research Questions

The study at hand aims to create a database consisting of valid facts on the value and benefits of self-care in Europe. Based on the results of the study, the economic, political and legal framework for self-care is to be improved and strengthened. On the one hand, this is intended to be implemented on the level of EU legislation, but on the other hand also in individual European countries. The study not only identifies the current contribution, but also the future potentials of self-care for the European healthcare systems. With the help of best practice examples, concrete recommendations and ideas for the further development of self-care in Europe are provided.

Against the background described and the objectives of the project, the AESGP as the financier of the study defines four thematic blocks (A.– D.) to be addressed. On this basis, the respectively assigned concrete research tasks and questions were derived by the authors, which are dealt with in the research project:

A. Quantify economic and social value that the use of self-care products generates to individuals, health systems and society at large in Europe

- What is the current contribution of self-care to healthcare supply and what health-related benefits does self-care bring to individual consumers? What economic and socioeconomic aspects are associated with self-care at the individual level?
- To what extent do the previously identified individual effects contribute to a reduction in the use of capacities and resource consumption of public health systems in European countries through self-care?
- How can the consequences be quantified that arise from the effects at the level of the individual and the healthcare system and subsequently at the social, societal and macroeconomic level?

B. Quantify the economic and social value of more products being available without prescription and by increasing the uptake of available products

- Given the economic and social effects of self-care in the status quo as calculated in step A., to what extent can additional effects be achieved by expanding self-care?
- Under what conditions and to what extent can this expansion of self-care be achieved by Rx-to-OTC switches?
- To what extent and within what limits can the economic and social contribution of self-care be increased on the basis of the currently available OTC substances?
- How can the interplay between the expansion of self-care in breadth (availability) and depth (utilisation) be evaluated and quantified?

C. Develop a model that allows ranking European countries in terms of access to and uptake of self-care

- What parameters can be applied to measure the importance and use of self-care in a country?
- What does an algorithm look like with which the identified parameters can be quantitatively recorded and integrated into an evaluation index?
- What is the importance of self-care according to this approach in the individual European countries?
- Do this assessment and the country comparison reveal which factors influence the status of self-care?
- Which country- and system-specific factors, as well as framework conditions, are decisive for a country's high level of access to and use of self-care?
- In which countries do the framework conditions and circumstances prevail that are most conducive to the expansion of self-care?
- Can any insights be derived from this with regard to measures to promote self-care?

D. Develop a set of policy recommendations addressed to national and European policy makers to release the full potential of self-care for individuals, society and health systems.

- Which of the factors and conditions identified in step C. can realistically be influenced or shaped by political decisions in the foreseeable future?
- Which of the potential policy instruments identified in this way can be applied generally and transnationally and which can only be applied under certain national conditions (e.g. socio-economy, healthcare system, patient mentality)?
- What examples of best practices can be found in Europe that can serve as a blueprint for other countries in general or specifically?
- Against this background, what is the composition of a set of policy measures that can be recommended at European level, at national level in general or for subgroups of European countries?

The added value of the study in addition to previous research is to create an up-to-date and scientifically sound database on the value of self-care in Europe. With the help of this evidence, measures can be initiated at both European and national levels that are suitable for generating direct impulses for the role of self-care. The guiding principle behind this is to use the resources of the European healthcare systems efficiently and sustainably in order to ensure that people in all European countries continue to have broad and comprehensive access to healthcare while feeling empowered to practise self-care where appropriate.

1.3 Methodology and Terminology

This study rests upon a qualitative health economic analysis of the specific effects of self-care in the European healthcare systems, focusing on public healthcare systems and individual consumers or patients. Within this framework, the impact on health economics is simulated with the aid of a decision-analytic model calculation. For this purpose, already existing country-specific studies on the topic of "economic and social impact of self-care" are identified and evaluated using a meta-analysis approach. This is done for both the question of quantifying the benefits and potentials of self-care as well as the topic of switches and access or use of self-care within the individual countries. Severe research gaps which are relevant for the research project are identified and will be closed by explicitly gathering knowledge and data in these areas.

On this basis, the socioeconomic and macroeconomic effects of self-medication and its future potential are quantified, both in monetary and real units. The methodological approaches that were developed by the authors in the course of various previous projects of a similar nature serve as a basis for this purpose. The research projects carried out by the authors (see references) concern both the health and economic effects of self-care as a whole in various countries, as well as potential switches and individual OTC products. Against this background, a comprehensive set of figures and various model calculations exists that serves as a basis for this AESGP project.

The methodology will first be applied to defined groups of countries (so-called Country Clusters) that have been classified as comparable in the present context based on socioeconomic criteria. The knowledge gained following this approach is then extrapolated to all of the 30 European countries under consideration. As such, beyond the European results, more precise statements can be made for a cluster of countries that are similar in essential characteristics (e.g. healthcare system, gross domestic product per capita, physician utilisation, OTC access). In addition, case studies are included which represent certain reference countries as models for a specific type of "OTC approach".

The methodological approach described above serves to quantify both the economic and social value of self-care in the status quo as well as the effects of an expansion of self-care (work package B).

The development of a model that allows European countries to be rated in terms of access to and uptake of self-care (work package C) starts with the identification of certain indicators (e.g. market share of self-care, number of GP consultations) that define a national framework as self-care conducive. On the basis of four criteria in total, the level of significance of self-care as an alternative to physician consultations can be factually determined in the individual countries. This makes it possible to rate the countries accordingly. The qualitative analysis of the 30 European countries takes into account the existing framework conditions in each country and provides information about the framework conditions that are closely linked to easy access and a high level of acceptance of self-care.

Pursuant to the formulated objective of this study, health policy recommendations for an economically reasonable and clinically acceptable development of self-care are derived (work package D). These recommendations are based on the instruments and measures identified as useful and effective in promoting self-care in work package C. This is done using a structured and transparent approach. Furthermore, a distinction is made between measures to be implemented at the European and national levels. Regarding the latter, a further distinction must be made based on different prerequisites that are met by countries in the initial status

quo situation. For this purpose, a checklist is developed with regard to country-specific prerequisites. The processing of this checklist by individual national stakeholders leads to a specific set of recommendations in order to strengthen self-care in the corresponding country.

The term “self-care” as it is used here, shall be restricted to those forms of self-care which go beyond the general conduct of life (i.e. usual everyday behaviour) and which are characterised by active behaviour (not by waiting). In the literature, the classical definition of “self-medication” is the use of (non-prescription) medicines.[11] This definition is also used in this present study. In practice, self-care is predominantly exercised in the field of minor and transient ailments. The complaints are mostly self-limiting and are resolved without any long-term consequences. The ability to perform everyday activities and occupational tasks is either not impaired or only for a few days. In this study, a special focus is placed on self-care supported by pharmacies. This so-called “pharmacy-based” self-care can encompass self-care with medicines (i.e. self-medication) as well as other forms of self-care.

For further terms and definitions, please refer to the "Definitions" index at the beginning of the report.

[11] For example, see: May, U., Bauer, C. (2018): Pharmacy-based Self-care of Minor Ailments – A Health Economic Analysis Focused on the German Healthcare System. In: SelfCare Journal. 9(2). S. 27-46. Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

2 State of Research

As presented in Chapter 1, self-care is increasingly gaining importance on the European health agenda. European health systems are exploring new approaches to minimise inappropriate use of health resources and free up savings for reinvestment in services that will deliver higher quality and better patient care. Despite a greater focus on self-care, research on the benefits and value of self-care remains scarce. To date, only three literature reviews have been published on the topic of self-care and these studies have been conducted on an international level.

Two of the aforementioned literature reviews are systematic literature reviews that examine Rx-to-OTC switches with regard to monetary and time costs. Karray et al.'s study in 2011 considered the uptake rates of OTC drugs, various therapeutic areas, and the use of disreimbursement policies, whereas Cohen et al.'s study in 2013 took into account various populations, switch rate, and handling of misuse.[12] A targeted literature search approach was used in a more recent publication in 2018 by Noone and Blanchette to gather data between 1990 and 2016 on Rx-to-OTC switches as well as on the economic value of self-care through an analysis of measures related to treatment access, time, and productivity. These reviews were conducted on an international basis and only approximately 17% of the publications selected for analysis in these studies were centred on self-care in Europe. The authors of all three reviews recognise the importance of economic models in estimating the value of self-care and agree that more robust models with relevant data inputs and evidence-based assumptions are needed.[13]

When focusing only on Europe, existing evidence on the social and economic impact of self-care is even more limited. A noteworthy economic study on the benefits of self-medication was conducted by the AESGP in 2004 to examine the potential cost and time savings in seven countries, i.e. Austria, France, Germany, Italy, Portugal, Spain and the United Kingdom. However, this study analyses only a small proportion of European countries. A second noteworthy study on self-care was published by Ostermann et al. on behalf of the European Commission in 2015. This study used a combination of literature search and expert interviews to identify eight self-care initiatives from five different European countries that promote self-care and also conducted a cost-benefit analysis on four best-practice initiatives from the United Kingdom.

Therefore, a brief search of the current literature on self-care demonstrates that while there are three existing literature reviews on the topic of self-care that have been carried out on an international level, no systematic reviews on the social and economic impact of self-care in Europe have been conducted so far. Moreover, existing European-wide studies focus on only a limited number of countries, especially from Western and Southern Europe, which does not sufficiently represent the impact of self-care in Europe as a whole.

To overcome the limitations of existing studies mentioned above, this present study begins with a systematic literature review to examine available evidence on self-care in Europe with particular attention to both economic and social aspects. This literature review aims to create

[12] Cohen, J., Millier, A., Karray, S., Toumi, M. (2013): Assessing the economic impact of Rx-to-OTC switches: systematic review and guidelines for future development. In: Journal of Medical Economics. 16(6).

Karray, S.M., Plich, A., Flostrand, S., Toumi, M. (2011): PHP31 The Economic Impact of Switches of Prescription Drugs to the Over-the-Counter Status (Rx-to-OTC): A Systematic Literature Review. In: Value in Health. 14(7).

[13] For example, see: Cohen et al. (2013).

an evidence base of relevant data required for subsequent economic calculations and serves as a foundation for any assumptions necessary in the course of this study. For this purpose, a total of 30 countries across Europe are included in the literature review to provide a broad and comprehensive overview of the impact of self-care in the European context.

This chapter first presents the systematic literature review that assesses the existing evidence on the topic of self-care in Europe. Next, the relevant research gaps that this study aims to close are identified. Finally, recommendations for further research on the social and economic impact of self-care in Europe are presented.

2.1 Systematic Literature Review

A systematic literature review was performed between August and December 2020 in order to understand the European experience of self-care and gain a comprehensive insight into the hurdles and factors that influence the uptake and success of self-care. The search strategy is summarised in Table 1 below.

Search Strategy	
Electronic Databases	• PubMed • Cochrane • AESGP database • ISPOR database
Non-Databases	• Google • Google Scholar
Strategy	• Peer-reviewed and grey literature • Building block • Snow-balling • Personal/expert contact
Search Terms	• Terms relating to prescription and non-prescription medicines (“prescription”; “non-prescription”; “over-the-counter”; “OTC”) • Adjectives relating to Rx-to-OTC switches (“Rx-to-OTC”; “reclassification”; “status change”) • Adjectives relating to “self-care” and “minor ailment” (“self-care”; “self-treatment”; “self-medication”; “minor ailment”; “common condition”) • “EU-countries”; “Europe”; “Norway”; “Switzerland”; “UK” • Economic studies (e.g. budget impact analyses, cost-utility analyses, or cost-effectiveness analyses) and types of economic models used (e.g. decision trees, Markov model, or micro-simulation model); or • Surveys or questionnaires on patients, pharmacists, or physicians views (e.g. knowledge, attitudes and experiences) of self-care

Table 1: Search strategy systematic literature review

An advanced search using a building-block method was carried out on the PubMed and Cochrane databases for potentially relevant peer-reviewed literature; in addition, the AESGP and the International Society of Pharmacoeconomics and Outcomes Research (ISPOR) websites were searched to identify relevant literature. Google and Google Scholar were used as adjunct search tools to retrieve literature that may not be found via conventional sources, including white papers and other government reports. Unpublished research studies and presentations were received from AESGP members. A snow-balling strategy was used to identify additional literature from reference lists.

Keywords relating to prescription and OTC medicines, including “Rx”, “OTC”, and “non-prescription” were included as search terms in addition to the words “change”, “switch” and

"reclassification" to identify any Rx-to-OTC switches. The terms "self-care", "self-treatment", "self-medication", "OTC" and "minor ailment" were also included to restrict the search to evidence on self-care that is specifically related to the treatment of minor ailments. To limit the search to the 30 European countries of interest, "EU", "European Union", "Europe", the 27 EU countries of interest as well as Norway, Switzerland and the United Kingdom were added to the search string. The initial search also included the terms "economic", "social", "cost", "impact", "benefit", "analysis" and "potential" to identify comparative research on the topic of self-care. Search terms were truncated where appropriate (e.g., reclassif*) and searches were refined using Boolean operators (AND, OR and NOT).

The titles, abstracts and summaries of the identified literature were screened for eligibility against the following inclusion and exclusion criteria in Table 2.

Inclusion and Exclusion Criteria	
Timeframe	• 2000-2020
Language	• No language restrictions applied
Population	• People with a minor ailment; or • Participants in approaches to enhance self-care; and/or • Healthcare professionals involved in the treatment of minor ailments.
Setting	• European Union countries; and • Norway, Switzerland and the United Kingdom
Self-Care for Minor Ailments	• Studies that included non-prescription medicines or approaches to enhance self-care (e.g. Minor Ailment Schemes or telephone helplines) for the management or treatment of minor ailments (e.g. cold and flu, cough, hay fever, back pain, gastrointestinal disorders, migraine)
Outcome	• Reports of costs relating to self-care practices for minor ailments (e.g. drug acquisition costs; number of physician visits or hospitalisations; productivity loss); • Effectiveness of approaches to enhance self-care in terms of reducing GP consultation rates and/or emergency department cases for minor ailments, resolved symptoms and participant rates; • Patient, consumer and healthcare professional views (e.g. knowledge, attitudes and experiences) towards self-care for minor ailments
Type of Evidence	• Peer-reviewed and grey literature • Economic analyses (e.g. budget impact, cost-effectiveness, or cost-utility analyses) • Qualitative studies (e.g. cross-sectional interviews, surveys and questionnaires) • White papers and other government reports

Table 2: Inclusion and exclusion criteria systematic literature review

The search was initially limited to the years 2010-2020. However, due to the lack of data on self-care in the European setting, the timeframe of the search was expanded and a complete review of relevant literature published between 2000 and 2020 was conducted. The search was not restricted to a particular language as the research team is comprised of native English, German, Greek and Italian speakers. The researchers also have knowledge of additional European languages, including French and Spanish. Once the literature was screened, the following data were extracted: author(s), date of publication, title, country or region, research questions or objectives, methodology, main results and conclusions. The data were recorded into a Microsoft® Excel data extraction form. The results of the literature review are presented in the following.

2.2 Results of the Systematic Literature Review

The literature review identified both peer-reviewed and grey literature on the topic of self-care, including economic model publications, database analyses, surveys, questionnaires or interviews. The literature identified was divided into three main categories of studies relating to self-care (Table 3).

Category	Description
Category A: Evidence on the social and economic value of self-care	- Status quo - Rx-to-OTC switches - Increase of self-care replacing physician visits
Category B: Evidence on the measures and frameworks for self-care	- Uptake - Rx-to-OTC switches - Incentives - Policy proposals and recommendations
Category C: Evidence on the attitudes and behaviours towards self-care	- Burden of minor ailment consultations in GP and ED settings - Consumer and HCP perspectives on self-care - Role of the pharmacist

Table 3: Three categories of literature on self-care

Category A consists of studies regarding the economic or social value of self-care. These studies either focus on one specific indication, such as migraine, or examine the potential benefits of an Rx-to-OTC switch within a particular country. Category B includes literature on measures or frameworks in regard to self-care and category C is made up of studies which provide indirect measures of self-care, such as perspectives of GPs on self-care or the value of self-care to patients. It is important to note here that some publications have been included in more than one category. For example, the Patiëntenfederatie Nederland's publication on self-care in 2020 was included in category B due to the detailed recommendations to promote self-care provided in this study as well as in category C because it includes a questionnaire that indicates the current behaviour and attitudes of consumers towards self-care.

Most publications originated from Germany (seven), followed by the United Kingdom, Greece, and Poland. Seven publications were carried out on a European level.

2.2.1 Summary of Evidence on the Social and Economic Value of Self-Care

A limited number of economic modelling studies analysing the social or economic impact of shifting or switching a proportion of the prescription medicines market to OTCs were identified. Six economic analyses examined the country-specific benefit of Rx-to-OTC switches across multiple classes of medicines and indications, while four studies focused on indication- or therapy-specific studies. Only two of these studies were conducted at European level.

2.2.1.1 Country-Specific Rx-to-OTC Switches

The five country-specific Rx-to-OTC studies looked at the impact of switching a proportion of the current prescription market to OTC status based on the number of GP consultations, prescription-only medicines or reimbursable medicines that can be shifted. This is summarised in Table 4 below. The countries studied include Austria, Germany, Greece, Italy and Spain. The European-wide publication by the AESGP in 2004 analysed Austria, France, Germany,

Italy, Portugal, Spain and the United Kingdom. An economic modelling approach was used across these studies to estimate the cost impact and a variety of perspectives were taken into account, such as the patient, pharmacist, physician, social health insurance fund, pharmaceutical company, national economy and society.

To estimate the potential savings of switches, four out of six publications developed scenarios to compare the economic value of switching according to current self-care practices and increases in self-care practices. Three scenarios are typically used, including a status quo or base-case scenario, in which no changes are considered, and two additional scenarios. For the additional scenarios, authors have considered restrictive, realistic and statistical average-based scenarios, chosen to project the potential mid- to long-term and short-term effects of switches or highlighted the effects of switches in regard to variations in price and levels of consumption.

Additionally, the authors of these studies needed to make some assumptions and hypotheses based on existing literature or expert knowledge due to a lack of real-world evidence. Based on the results of a market analysis using statistical data which demonstrated that there is a direct relationship between the level of physician prescriptions for minor ailments and the level of self-care with non-prescription medicines for these minor ailments, the 2004 AESGP study assumed that there is a substitutive effect between prescribed and non-prescribed medications. Subsequent economic studies on self-care also based their calculations around this assumption and used similar methodologies to calculate the economic value of self-care.

Author(s)	Year	Methodology	Switch Rate	Scenarios considered
AESGP	2004	Economic modelling.	Based on existing research, an assumption of a 5% switch rate for the total prescribed volume to self-medication was made (35.2% of the prescribed non-prescription market in Germany).	• n/a
Milonas et al.	2012	Economic modelling.	Following calculations based on an algorithm developed by the authors, it was estimated that 4.3% and 40% of medicines belong to the reimbursement and negative list, respectively.	• Base-case • Two additional cases
Millier et al.	2013	Economic modelling.	Based on estimates from past examples of Rx-to-OTC switches in Europe. Maximum switch rate of 20% and minimum of 3%. Focus of study on triptans.	• Base-case scenario • Additional scenario
Pellise & Serra	2015	A decision model.	A hypothetical Rx-to-OTC switch of 5% of currently publicly covered prescription drugs for mildest conditions.	• Unclear • Sensitivity analyses conducted
Otto, Pillarella & Jommi	2018	Economic modelling.	The switchable market was calculated to be approximately 8% of the total retail market of Italian medicines.	• Static scenario • Intermediate dynamic scenario • Comprehensive scenario
May & Bauer	2018	Data analyses and evaluation of relevant studies and literature.	Following an analysis and recommendation of products that are switchable, an estimated 7.43% of the existing market can be switched.	• Status quo • Future scenario • Ad-hoc scenario

Table 4: Switch rates and scenarios in identified economic studies on self-care

In the AESGP's Europe-wide analysis of 2004, a 5% shift of the total prescribed volume to self-medication was used following extensive research and it was viewed as a conservative assumption since it corresponds to approximately only one-third of the prescribed items to treat minor ailments in a given country. Seven country analyses were carried out and combined to

report a value of EUR 16.4 billion for the total potential economic savings across Europe.[14] In addition to this, the time saved for GPs was estimated to be 13 to 51 hours per GP per year. Pellisé and Serra also applied a hypothetical 5% shift of current prescription medicines to OTC status and estimated that this could result in a societal effect of EUR 3.13 million that would be achieved by improving the quality of primary healthcare (EUR 2.26 million), improving labour productivity, optimising non-working patients' time and reducing public expenditure on publicly covered medication.[15] However, this estimate cannot be applied on an international level. Within the economic study commissioned by the AESGP in 2004 itself, two different switch rates were assumed for Spain (15%) and Germany (35.2% of the prescribed non-Rx market).[16] Otto et al. chose a switch rate of 8% of the total retail market of Italian pharmaceuticals.[17]

Indirect savings were often reported in the publications to be time saved for GPs from avoided visits for minor ailments (four studies) and productivity gains for workers (four studies). Milonas, C. et al. stated that a switch would reduce medical visits by 1.8 million visits and save 1.28 million days of work.[18] Pellisé and Serra not only reported an improvement in labour productivity but also acknowledged that switches would optimise non-working patients' time.[19] Lastly, both of May and Bauer's studies on switches in Austria and Germany reveal that GPs could save up to two hours per day.[20]

Overall, country-specific studies on Rx-to-OTC switches consistently show that there are positive net economic benefits to be realised from moving prescription medicines and unnecessary GP consultations to OTC medicines. These benefits can be contributed to by savings in terms of physician time due to an increase in avoided consultations for minor ailments as well as savings resulting from avoided travel time and improved labour productivity.

2.2.1.2 Indication- or Therapy-Specific Rx-to-OTC Switches

Three studies focused on indication- or therapy-specific Rx-to-OTC switches. Two of these studies analysed the economic impact of a switch across several European countries. One calculated the economic impact of a switch in Germany and one collected data among migraine

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[14] AESGP (2004): The Economic and Public Health Value of Self-Medication. AESGP, Brussels 2004.

[15] Pellisé, L., Serra, M. (2015): The Economic Impact of an Hypothetical Rx-to-OTC Switch in Spain. In: Value in Health. 18.

[16] AESGP (2004): The Economic and Public Health Value of Self-Medication. AESGP, Brussels 2004.

[17] Otto, M.H., Pillarella, C., Jommi, C. (2018): The Economic Impact of. Switch From Prescription-Only to Non-prescription Drugs in Italy. In: Frontiers in Pharmacology. 9(1069).

Milonas, C., Milonas, A., Kouvelas, D., Dokios, G, Maniadakis, N. (2012): The Economic Health Value from Rx to OTC Switch in Greece. In: Value in Health. 15(7).

May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheitsstörungen – Nutzen und Potenziale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitäts-management. 22(S 01).

[18] Milonas, C., Milonas, A., Kouvelas, D., Dokios, G, Maniadakis, N. (2012): The Economic Health Value from Rx to OTC Switch in Greece. In: Value in Health. 15(7).

[19] Pellisé, L., Serra, M. (2015): The Economic Impact of an Hypothetical Rx-to-OTC Switch in Spain. In: Value in Health. 18.

[20] May, U., Bauer, C. (2013): Der gesundheitsökonomische Stellenwert von OTC-Präparaten in Öster-reich. Vienna 2013.

May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheitsstörungen – Nutzen und Potenziale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitäts-management. 22(S 01).

patients to evaluate the need for further switches of triptans. These publications examined switches and the treatment of migraine with triptans. The findings and corresponding references of these studies are described in the following.

All three economic analyses concluded that savings could be realised with further switches, including cost savings for the national healthcare systems, third-party payers, society and consumers, stemming from avoided hospital events, avoided physician visits, non-prescribed medication and/or an improvement in labour productivity. Göbel et al. reported annual savings for the German SHI system between EUR 964.9 million and EUR 1,101.0 million due to the benefits of migraine and headache self-treatment.[21] Millier et al. estimated annual direct savings to public healthcare budgets from a third-party payer perspective of EUR 75 million and annual estimated savings on costs relating to migraine management from a societal perspective of EUR 86 million.[22]

Schneider-Ziebe and May's study collected data among German migraine patients, which revealed that 49% of respondents choose a pharmacy as their first point of contact for an upcoming migraine attack, but often use prescription medicines approximately twice as often as OTC medicines at the start of an attack.[23] Patients require immediate treatment and a wide range of treatment choices as each individual responds differently to various triptans. Therefore, the authors concluded that additional Rx-to-OTC switches of triptans would increase the number of patients with access to OTC triptans and reduce days of incapacity for work due to illness. This study highlights the demand for further Rx-to-OTC switches of triptans in Germany and discusses a potential decrease in productivity loss that could result in economic savings.

2.2.1.3 Economic Analyses on Self-Care Initiatives

Four economic analyses and one retrospective analysis examine eight different initiatives that have been implemented in France, Germany, Latvia, the Netherlands, Switzerland, and the United Kingdom. The majority of these initiatives were identified in Ostermann et al.'s study on self-care initiatives in the European Union in 2015; however, due to a lack of data especially on costs and user rates, an economic analysis was conducted for only three initiatives that have been developed in the UK. The initiatives that were economically studied include the Non-Medical Prescribing and Independent Prescribing (NMP/PIP) programme, a web-based information portal called NHS Choices, and the Minor Ailment Scheme (MAS). Apart from the economic studies on initiatives in the UK, Switzerland's netCare scheme has also been analysed in terms of cost-effectiveness and impact on the Swiss healthcare system.

Schneider et al. calculated the net benefit per shift case according to the patient, provider (pharmacy) and system perspectives as well as the type of minor ailment, including athlete's foot, cold, cough, heartburn and urinary tract infection (UTI). Shift rates of 5%, 10% and 20% were taken into consideration to analyse the economic impact of the MAS. It was determined that the net benefit is dependent on the type of minor ailment and shift rates. Patient participation rates for the MAS have to reach a target rate of at least 27.5% to achieve a

[21] Göbel, H., Braun, J., Petersen-Braun, M., Gessner, U. (2015): Pharmakoökonomischer Nutzen der Selbstmedikation in Deutschland – Empirische Untersuchung am Beispiel von Migräne und Kopfschmerzen. In: Gesundheitsökonomie & Qualitätsmanagement. 21(1).

[22] Millier, A., Cohen, J., Toumi, M. (2013): Economic Impact of a triptan Rx-to-OTC Switch in Six EU Countries. In: PLoS ONE. 8(12).

[23] Schneider-Ziebe, A., May, U. (2019): The treatment of migraine patients with triptans – is there a need for further Rx-to-OTC switches? In: Gesundheitsökonomie & Qualitätsmanagement. 25(01).

positive societal net benefit and the net benefit varies from EUR 24.30 to EUR 40.43 per shift case.[24] On the other hand, the economic analysis of the NMP/PIP revealed that even at an assumed shift rate of 100% of minor ailment GP consultations avoided, the net societal benefits would be negative at EUR 7.96.[25] The results of these two cost-benefit analyses demonstrated that the status of the patient in terms of exemption or non-exemption from prescription charges significantly influences the extent of cost savings.

The netCare initiative gives pharmacists a gate-keeping role in which they triage patients. Erni et al. concluded that it is a low-threshold service, whereby 76% of cases examined were resolved in the pharmacy.[26] This study also estimated that approximately 50% of patients treated via the netCare service would have consulted a physician if the service offered by pharmacists had not been provided. Trottman and Telser further contributed to the analysis of netCare by demonstrating that a triage approach by pharmacists is approximately EUR 3.45 – or 13% – lower in cost than treatment by other providers.[27] In addition to this, the authors concluded that if pharmacists were only successful in three-quarters of the cases, while physicians are always successful in treating the patient, netCare would still be cost-effective.

Overall, the authors of the economic analyses concluded that self-care initiatives can produce positive net benefits. However, it is evident that the extent of the economic and social value of the benefit may be influenced by shift rates (i.e. participation rates) and by the level of patient co-payments for medicines. Moreover, these studies indicate that self-care initiatives provide patients with an appropriate substitute for a physician or emergency room consultation, as well as emphasise that pharmacies can play a significant role as the first point of contact in primary care and can offer patients immediate solutions for minor ailments.

2.2.2 Summary of Evidence on Approaches and Framework Conditions for Self-Care

This category of evidence includes 13 publications regarding detailed approaches and frameworks for self-care. Of these publications, four are economic analyses, one is a retrospective analysis and nine publications provide various policy proposals and recommendations on the topic of self-care based on the results of interviews, surveys or questionnaires. The three self-care initiatives that were most frequently identified in the literature include the MAS and NMP in the UK, as well as netCare in Switzerland. MAS and NMP were both included in the only study on self-care initiatives at a European level by Ostermann et al. By using a thorough hand search method, Ostermann et al. also identified the French public health information portal called Améli-Santé, the Latvian tele-helpline, the Dutch information portal on self-care known as Zelfzorg.nl as well as NHS Choices and NHS 111 (formerly NHS direct) in the UK.[28] The authors of this extensive study on self-care

[24] Schneider, P., Renner, A.-T., Bobek, J., Vogler, S., Ostermann, H. (2017): Economic Evaluation of Minor Ailment Schemes (MAS) in the UK. In: Gesundheitsökonomie & Qualitätsmanagement. 22.

[25] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

[26] Erni, P., von Overbeck, J., Reich, O., Ruggli, M. (2016): netCare, a New Collaborative Primary Health Care Service Based in Swiss Community Pharmacies. In: Research in Social and Administrative Pharmacy. 12(4).

[27] Trottmann, M., Telser, H. (2015): Cost effectiveness of a new collaborative primary health care service based in Swiss community pharmacies. Polynomics AG, Olten 2015.

[28] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

initiatives identified the MAS and NMP/PIP as best-practice self-care initiatives based on the results of their economic evaluation. The MAS has also been recommended by May and Bauer in addition to the Irish Pharmacy Union (IPU) and the Irish Pharmaceutical Healthcare Association (IPHA) with the aim to encourage patients to use community pharmacies as their first access point for minor ailments.[29]

The publications included in category B also provide a number of recommendations and policy proposals. The most common self-care enhancing suggestions identified in this literature review include Rx-to-OTC switching, web portals to disseminate information on minor ailments and/or self-care as well as the strengthening or expansion of the role of the pharmacist. These recommendations and policy proposals were each mentioned in five publications. Collaborative care and skills training to strengthen the role of the HCPs in regard to the provision of advice and information to patients were also frequently mentioned. These policy proposals reflect the continuing need to increase patient access to treatments for minor ailments through methods such as the down-regulation of certain medications, as well as highlight the potential for healthcare providers to increase the efficiency of care through information-sharing and collaboration.[30]

Furthermore, several recommendations were made based on a combination of expert opinions and primary data collected from interviews, surveys and questionnaires. The surveys and questionnaires of the identified literature predominantly targeted the patient population in order to gauge an understanding of the self-care culture amongst patients within a specific country. Activities to promote or provide information on self-care are recommended to either educate the general public on minor ailments and the possibilities associated with self-care or to increase the knowledge and support of healthcare providers on the topic of self-care.

For France and Croatia, information activities are suggested to raise awareness of minor ailments for patients and to increase the uptake of self-care. In Ireland, Germany, and the UK, the authors believe that information activities are required to get stakeholders on board that might be potentially disadvantaged, the concept of self-care needs to be encouraged among HCPs and that HCPs need to be better informed about self-care experiences in other countries.[31] A pilot project by the European Commission on the promotion of self-care systems in the European Union also recommended that self-care should be included in school

[29] Bauer, C., May, U. (2017): Potentials and Opportunities for OTC-Switches in Austria. Data and Findings for the Support of Decision-Making by Companies and Politicians. Rheinbreitbach 2017.

[30] Cf. Appendix I.

[31] Jukić, V.M. (2007): Self-Medication in Croatia. Where are we today and what is the future? PowerPoint presentation. Pharmacon 2007, Durovnik. Retrieved from: https://www.slideshare.net/inemet/final-self-medication-in-croatia-du-26507 (24.08.2020).

Schneider, P. Renner, A.-T., Bobek, J., Vogler, S., Ostermann, H. (2017): Econmic Evaluation of Minor Ailment Schemes (MAS) in the UK. Gesundheitsökonomie & Qualitätsmanagement. 22.

IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

AFIPA (2020): Automédication: marché mature ou marché d'avenir? PowerPoint presentation. Retrieved from: https://www.afipa.org/wp-content/uploads/2019/07/Etude-AFIPA-HARRIS.pdf (12.10.2020).

Stippler, A., Eckstein, N., Kroth, E. (2019): To switch or not to switch—first Germany-wide study from the perspective of pharmacists in the European environment. In: Journal of Public Health: From Theory to Practice. 29(1).

education and lifelong learning as well as included in the curriculum in the education and training of healthcare professionals.[32]

The need to strengthen or expand the role of the pharmacist to support a culture of self-care was also acknowledged across a number of publications. Stippler et al. emphasised that pharmacists have direct contact with patients and are thus able to realistically estimate the level of demand for Rx-to-OTC switches.[33] Similarly, Bauer and May recognise the great health economic potential that is linked to the expansion of pharmacist responsibilities.[34] The majority of publications support pharmacists as the first point of contact for patients, especially in the case of minor ailments, and agree that they are well-positioned in the healthcare system to build patient rapport as well as provide evidence-based information and advice.[35]

Other noteworthy recommendations and policy proposals from the literature aim to encourage the uptake of self-care using financial incentives or by incorporating self-care into the health strategy of the country. A recent study carried out by the Association française de l'industrie pharmaceutique – Pour une Automédication responsable (AFIPA) in 2020 put forward three finance-related proposals, including the reimbursement of complete categories of self-care products by the private health insurances, the coverage of expenses for certain populations with restricted access to physicians and/or populations with low incomes by regional health agencies and/or local governments as well as tax-deductible non-reimbursed healthcare expenses.[36]

Additionally, the appropriate remuneration of pharmacies has been suggested by May and Bauer in order to incentivise pharmacies to provide self-care services as well as by Stippler et al. for Germany due to the anticipated additional investments required for the expansion of OTC medicines, including the need for more pharmacy staff and possible renovations of the pharmacy shop, such as the establishment of a consultation room.[37] Consultation rooms facilitate the administration of vaccines and personal discussions with patients; therefore, they are an enabling factor for the provision of self-care information in pharmacies. The idea of a private consultation area in pharmacies has been suggested in the literature and supported by the common findings in surveys carried out by Lebanova et al., Seiberth et al. and Villako et al. regarding the reluctance of patients to engage in discussions with pharmacists on minor

[32] European Commission (2017): Pilot project on the promotion of self-care systems in the European Union 2014-2017. PiSCE. European Union 2017.

[33] Stippler, A., Eckstein, N., Kroth, E. (2019): To switch or not to switch—first Germany-wide study from the perspective of pharmacists in the European environment. In: Journal of Public Health: From Theory to Practice. 29(1).

[34] Bauer, C., May, U. (2017): Potentials and Opportunities for OTC-Switches in Austria. Data and Findings for the Support of Decision-Making by Companies and Politicians. Rheinbreitbach 2017.

[35] Cf. Appendix I.

[36] AFIPA (2020): 2019 AFIPA Barometer of Self-Care Products: The Dynamics of Self-Care at a Standstill and an Absent Political Will.

[37] May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheitsstörungen – Nutzen und Potenziale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitätsmanagement. 22(S 01).

Stippler, A., Eckstein, N., Kroth, E. (2019): To switch or not to switch – first Germany-wide study from the perspective of pharmacists in the European environment. In: Journal of Public Health: From Theory to Practice. 29(1).

ailment issues or their unwillingness to ask pharmacists for advice on self-care medicines due to a lack of confidentiality.[38]

Moreover, the majority of publications emphasise the importance of creating and disseminating evidence-based information to inform citizens about self-care, including specific internet platforms, telephone hotlines and pamphlets. In addition to information activities for patients, continuous education and training are needed for healthcare professionals to strengthen their role and ability to advise patients on medicines. Such skills training and information activities are essential to ensure that all stakeholders are better informed about self-care as well as to increase the uptake of self-care.[39]

The responses received by AFIPA and Harris Interactive from their 2019 survey on the French population reveal that patients are interested in QR code products and applications, the appointment of a self-care advisor, telephone hotlines, web portals and an annual fee/coverage of OTC expenses (up to a certain amount) for self-care.[40] The idea of a self-care budget has also previously been presented by May and Bauer in 2018. These authors suggested that a defined budget, set by the health insurance companies, may provide insured individuals with the financial encouragement to purchase non-prescription medicines.[41] It has also been suggested that governments should integrate self-care into their policies or strategies. For example, IPU and IPHA recommend that the Irish government should centre their "Healthy Ireland" strategy around self-care and Banks has put forward the idea of an NHS policy on minor illnesses to support GP-issuing of prescription medicines for minor ailments only after self-care options have been exhausted.[42]

2.2.3 Summary of Evidence on Behaviour and Attitudes Towards Self-Care

A total of 36 publications were identified for category C and the majority of them are cross-sectional studies that aim to gain insight into consumer behaviour, attitudes and experiences with OTC medications and/or other approaches to self-care. In contrast to categories A and B, almost half of the publications in category C focus on self-care or OTC medicines in an Eastern European country, including Croatia, Estonia, Poland, Slovakia and Slovenia. The highest number of consumer surveys or cross-sectional studies were identified for the United Kingdom (5), followed by the Netherlands (4) and three studies were found for each of the following

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[38] Villako, P., Volmer, D., Raal, A. (2012): Factors influencing purchase of and counselling about prescription and OTC medicines at community pharmacies in Tallinn, Estonia. In: Acta Poloniae Phamaceutica - Drug Research. 69(2).

Lebanova, H., Balkansi, S., Naseva, E., Getov, I.N. (2020): What does self-medication counseling in Bulgarian community pharmacies look like - a field study. In: Pharmacia. 67(4).

Seiberth, J.M., Moritz, K., Vogel, C.F., Bertsche, T., Schiek, S. (2020): Public's perspectives on guideline-recommended self-medication consultations in German community pharmacies. In: Health and Social Care in the Community. 29(1).

[39] Cf. Appendix I.

[40] AFIPA (2020): Automédication: marché mature ou marché d'avenir? PowerPoint presentation. Retrieved from: https://www.afipa.org/wp-content/uploads/2019/07/Etude-AFIPA-HARRIS.pdf (12.10.2020).

[41] May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheitsstörungen – Nutzen und Potenziale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitätsmanagement. 22(S 01).

[42] Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.

IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

countries: France, Germany, Greece, Poland and Slovenia. These studies commonly aim to examine the prevalence of use, how self-care products are acquired, sources of advice, consumer behaviour and attitudes as well as consumer expectations towards community pharmacists in accordance with the topic of self-care.

2.2.3.1 Prevalence of Self-Care Behaviour

Thirteen studies questioned consumers on their self-care practices and orientation using questions that varied in wording and terminology to describe self-care. For example, some authors asked the respondents if they had used OTC medications or some form of self-medication in the past year, while others asked if they had visited a pharmacy to buy self-care products without a prescription or first contacting a physician. Apart from one study published in the year 2000 which found that only 17% of the Finnish population had used OTC products during the two days prior to the interview, the majority of the remaining studies gave respondents a timeframe of six months up to two years.[43] Gruchała et al. concluded that 60% to 90% of Polish citizens use OTC medicines.[44] This range is also reflected in the results of questionnaires that have been conducted in Belgium, France, Germany, Greece, Ireland and the Netherlands whereby a range between 51% and 94.9% of respondents have bought self-care medicines, used a non-prescription medicine or were found to be self-care oriented.[45]

2.2.3.2 Current Self-Care Behaviour

Although the Patiëntenfederatie Nederland as well as Van den Eynde and Verhoogen reported that 20% of respondents in the Netherlands and in Belgium purchased OTC medicines as an additional treatment for chronic conditions, OTC medicines are widely used solely for specific isolated and self-limiting complaints.[46] In Europe, OTC medicines are commonly used for the treatment of pain, common cold and cough. Individuals typically either practise self-care when symptoms emerge or as symptoms intensify, especially if they have previously treated their symptoms successfully or while they wait for a GP consultation. GPs are usually consulted when self-care is ineffective. Banks found that 52% of English respondents claimed to have tried self-care first and only consulted a GP if self-care was ineffective.[47] Similarly, 56.6% of Slovenians practising self-care visit their physician only when symptoms last for at least one week.[48] Although some individuals seek advice from GPs after attempting to self-treat minor ailments, others prefer not to discuss their self-care behaviour with their GP.

Across European countries, self-care medications are predominantly acquired from the pharmacy. In particular, Belgians do not agree with distribution channels for OTC medicines

[43] Shivo, S., Klaukka, T., Martikainen, J., Hemminki, E. (2000): Frequency of daily over-the-counter drug use and potential clinically significant over-the-counter prescription drug interactions in the Finnish adult population. In: European Journal of Clinical Pharmacology. 56(6-7).

[44] Gruchała, K., Zimmermann, A., Kawczak, P. (2016): Rx-to-OTC Switch and Double Registration Occurrence in Poland - an Illuminative Case Study. In: Acta Poloniae Phamaceutica - Drug Research. 73(1).

[45] Cf. Appendix I.

[46] Patiëntenfederatie Nederland (2020): Zelfzorg. Retrieved from: https://www.patientenfederatie.nl/downloads/monitor/670-patientenmonitor-zelfzorgmiddelen/file (15.11.2020).

[47] Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.

[48] Klemenc-Ketis, Z., Kersnik, J. (2011): The Effect of Demographic Characteristics on Self-Medication Patterns: A Cross-Sectional Nationwide Study from Slovenia. In: Collegium Antropologicum. 35(4).

outside the community pharmacy and will continue to support this distribution channel in the future.[49]

2.2.3.3 Sources of Advice on Self-Care

According to the data in this literature review, the advice of a pharmacist on self-care medication is highly sought after across European countries and often serves to compensate the patient's lack of confidence in their ability to practise self-care. Results from three studies revealed that among French, Belgian and Greek respondents, respectively 66%, 61% and 60% of them seek the pharmacist's advice to select the most appropriate product that best suits their health issue and personal profile.[50] In Croatia, Ireland and Germany, pharmacies are also the most common place for individuals to obtain information on OTC medicines as pharmacists are easily accessible, can openly discuss treatment options and can provide additional information on selected self-care medicines.[51]

Although self-care is widely supported in the UK, an online survey conducted by the Proprietary Association of Great Britain (PAGB, the consumer healthcare association) in 2016 revealed that some UK citizens feel entitled to visit their GP; thus, almost half of the respondents answered that they would not visit their local pharmacist as the first point of contact for advice about a minor ailment. Nevertheless, these respondents also admitted that they would reconsider the frequency of their visits to the GP if there was a direct financial consequence. However, some individuals believe that it is necessary to obtain their physician's advice for the purchase of OTC medication. [52]

To a certain extent, both GPs and pharmacists are commonly contacted for advice on OTC medicines in Europe overall. However, various studies have concluded that pharmacists are more accessible than alternative healthcare providers and are thus a common first point of contact about OTC medicines. For example, 59% of the Irish adult population visit a pharmacy at least once a month, while only 17% visit the GP at least once a month.[53] In Belgium, 61% first contact a pharmacist regarding OTC medicines, while 29% consult a physician.[54] Besides seeking advice from a healthcare professional, a number of alternative sources are used to

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[49] Simoens, S., Lobeau, M., Verbeke, K., van Aerschot, A. (2009): Patient experiences of over-the-counter medicine purchases in Flemish community pharmacies. In: Pharmacy World & Science. 31(4).

[50] Simoens, S., Lobeau, M., Verbeke, K., van Aerschot, A. (2009): Patient experiences of over-the-counter medicine purchases in Flemish community pharmacies. In: Pharmacy World & Science. 31(4).

Tsakanikas, A., Athanasiadis, A. (2018): Self-medication and self care awareness: Empirical evidence from Greece. PowerPoint presentation. Amsterdam 2018.

AFIPA (2020): Make selfcare products a lever for resilience and access to proximity care in France. AFIPA, Paris 2020.

[51] Jukić, V.M. (2007): Self-Medication in Croatia. Where are we today and what is the future? PowerPoint presentation. Pharmacon 2007, Dubrovnik. Retrieved from: https://www.slideshare.net/inemet/final-self-medication-in-croatia-du-26507 (24.08.2020).

IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

Eichenberg, C., Auersperg, F., Rusch, B.D., Brähler, E. (2015): Selbstmedikation: Eine bun-desdeutsche Repräsentativbefragung zu Motiven, Anlässen und Informationsquellen für den Konsum rezeptfreier Medikamente. [Self-Medication: A Nationwide Representative Survey on Motives, Reasons and Sources on Consuming Over-the-Counter Medication] In: Psycho-ther Psych Med. 65.

[52] PAGB (2016): Self Care Nation. Self care attitudes and behaviours in the UK. London 2016.

[53] IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

[54] Simoens, S., Lobeau, M., Verbeke, K., van Aerschot, A. (2009): Patient experiences of over-the-counter medicine purchases in Flemish community pharmacies. In: Pharmacy World & Science. 31(4).

provide supplementary and complementary information or sometimes even to substitute a healthcare professional's advice on self-care. Many Europeans search for information about self-care on the internet, read about self-care and OTC medicines from brochures available in the pharmacy and GP waiting rooms or search for information through the supplier or brand website of the OTC medication.

2.2.3.4 Consumer Expectations Towards Community Pharmacists

As partially conveyed in the previous paragraphs, pharmacists play an important role in ensuring the appropriate use of self-care medicines and are able to significantly influence an individual's decision to practise self-care. The majority of studies indicate that pharmacists are trusted in regard to their advice on OTC medicines. IPU and IPHA's study published in 2018 demonstrated that trust in the pharmacist was considered to be very important to 84% of patients when purchasing OTC medicines.[55] The degree of trust towards pharmacists differs across Europe with 56% of Estonians indicating that they trust the pharmacists as drug consultants, whereas 91.1% of Slovakians surveyed in 2017 considered pharmacists to be experts on drugs and trusted them.[56]

In terms of patient satisfaction, 90% or more of consumers surveyed in Greece and in Slovakia showed high satisfaction with the pharmacist's advice and services on OTC medicines.[57] More than 75% of Belgians expressed that pharmacists provide sufficient information on health conditions and the use of OTC medicines.[58] The lowest level of satisfaction was identified in Estonia, where 68% of survey participants were content with the services provided and only 60% with the drug information given by pharmacists.[59] Overall, both Eastern and Western European populations are satisfied with community pharmacy services, appreciate the pharmacist's recommendations for OTC medicines and feel that pharmacists provide sufficient information about the health condition in question and OTC medicines.

Additionally, a common theme that emerges among the studies identified is the patients' lack of confidence in their ability to practise self-care.[60] Due to a lack of confidence, patients often depend on their pharmacist to provide appropriate advice on OTC medicine and to confirm the

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[55] IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

[56] Villako, P., Volmer, D., Raal, A. (2012): Factors influencing purchase of and counselling about prescription and OTC medicines at community pharmacies in Tallinn, Estonia. In: Acta Poloniae Phamaceutica - Drug Research. 69(2).

Haramiova, Z., Kobliskova, Z., Soltysova, J. (2017): Purchase of prescription and OTC medicines in Slovakia: factors influencing patients' expectations and satisfaction. In: Brazilian Journal of Pharmaceutical Sciences. 53(1).

[57] Tsakanikas, A., Athanasiadis, A. (2018): Self-medication and self care awareness: Empirical evidence from Greece. PowerPoint presentation. Amsterdam 2018.

Haramiova, Z., Kobliskova, Z., Soltysova, J. (2017): Purchase of prescription and OTC medicines in Slovakia: factors influencing patients' expectations and satisfaction. In: Brazilian Journal of Pharmaceutical Sciences. 53(1).

[58] Simoens, S., Lobeau, M., Verbeke, K., van Aerschot, A. (2009): Patient experiences of over-the-counter medicine purchases in Flemish community pharmacies. In: Pharmacy World & Science. 31(4).

[59] Villako, P., Volmer, D., Raal, A. (2012): Factors influencing purchase of and counselling about prescription and OTC medicines at community pharmacies in Tallinn, Estonia. In: Acta Poloniae Phamaceutica - Drug Research. 69(2).

[60] AFIPA (2020): Automédication: marché mature ou marché d'avenir? PowerPoint Presentation. Retrieved from: https://www.afipa.org/wp-content/uploads/2019/07/Etude-AFIPA-HARRIS.pdf (12.10.2020).

BACHI (2018): Consumer Research OTC Products. PowerPoint presentation. BACHI 2018.

appropriateness of selected self-care medicines. Therefore, European patients commonly expect a pharmacist to offer professional advice on both prescription and OTC medicines, provide guidance on the selection of appropriate medicines and discuss any possible interactions and/or risks of adverse effects in accordance with the patient's personal profile and their chosen self-care product.[61]

2.2.3.5 Attitudes and Beliefs

Survey results from studies conducted in France and Germany show that individuals acknowledge the time-related benefits of self-care and believe that it enables faster access to the treatment of minor ailments. For example, most of the German population does not want to bother the physician over minor issues as they believe that some health problems are not severe enough to require a physician consultation and they prefer avoiding long waiting times. Additionally, Germans perceive the opening hours of physician clinics as a limiting factor to the timely treatment of acute health problems.[62] The French population appreciate that they do not have to wait for an appointment with the physician nor have to pay for a medical consultation.[63] Existing research has also revealed that some Europeans consider they will spend less in the long-term with self-care and acknowledge that self-care can help reduce the social pressure and costs of healthcare systems. Many also believe that self-care products are easy to find and purchase; however, survey results show that most citizens are not prepared to pay more for OTC products than for prescription medication.[64]

Despite the widely positive attitudes of consumers towards self-care, the general consensus is that self-care with OTC medicines can only be considered safe with the appropriate information, especially with advice from a healthcare professional. Therefore, some studies, including BACHI's consumer research in Belgium in 2018, have found that citizens tend to agree that OTC products should only be sold in pharmacies.[65] Many also believe that self-care should be restricted to certain diseases and patient populations. For instance, 61% of the French population stated that self-medication should be banned for patients with chronic diseases, the elderly and children.[66]

Pharmacists believe that they are capable of providing patients with appropriate advice on minor ailments and are willing to engage in discussions regarding self-care. However, the attitudes and beliefs of physicians and nurses towards the increased involvement of pharmacists in the delivery of primary care tend to be negative, especially if it concerns the extension of pharmacy services that are outside of the pharmacists' traditional role. In a 2010 survey, Banks found that "GPs, and to a lesser extent nurses seem to be less than

[61] Cf. Appendix I.

[62] Eichenberg, C., Auersperg, F., Rusch, B.D., Brähler, E. (2015): Selbstmedikation: Eine bun-desdeutsche Repräsentativbefragung zu Motiven, Anlässen und Informationsquellen für den Konsum rezeptfreier Medikamente. [Self-Medication: A Nationwide Representative Survey on Motives, Reasons and Sources on Consuming Over-the-Counter Medication] In: Psycho-ther Psych Med. 65.

[63] AFIPA (2020): Automédication: marché mature ou marché d'avenir? PowerPoint presentation. Retrieved from: https://www.afipa.org/wp-content/uploads/2019/07/Etude-AFIPA-HARRIS.pdf (12.10.2020)

[64] Cf. Appendix I.

[65] BACHI (2018): Consumer Research OTC Products. PowerPoint presentation. Leuven 2018.

[66] AFIPA (2020): Automédication: marché mature ou marché d'avenir? PowerPoint presentation. Retrieved from: https://www.afipa.org/wp-content/uploads/2019/07/Etude-AFIPA-HARRIS.pdf (12.10.2020).

wholehearted in their endorsement of the pharmacist's role".[67] Nevertheless, researchers believe that it is necessary for GPs and nurses to recommend their patients to discuss minor ailments with pharmacists as this may decrease patient reliance on physicians and thus reduce the number of unnecessary physician consultations, prescriptions and suboptimal self-care medicine choices made by patients in the pharmacy.[68]

Evidence shows that since the outbreak of COVID-19, there has been an increase in acceptance and positive attitudes towards self-care with both citizens and healthcare professionals more quickly embracing and practising self-care. A recent study carried out by KANTAR on behalf of Neprofarm, the Dutch association representing manufacturers and importers of branded OTC medicines, demonstrated that patients have become more self-reliant in 2020 in comparison to 2017 and GPs are positive about this development.[69] Approximately 95% of GPs surveyed indicated that patients are unsure about their minor ailment and come to the GP for a consultation seeking reassurance. Neprofarm views this as a significant opportunity for GPs to educate patients on the course of the health complaint and provide appropriate self-care advice. By doing so, GPs equip patients with the necessary knowledge and increase their self-reliance to recognise the health complaint in the future and resolve it on their own.

2.3 Relevant Research Gaps

This literature review has identified a lack of publications on the social and economic value of self-care in Europe. Although economic studies and detailed recommendations for self-care are limited, there are several publications on OTC/non-prescription medicines as well as consumer research on topics relating to self-care. In particular, questionnaires and surveys which examine consumer behaviour towards self-care demonstrate that consumers are increasingly willing to participate in the management of their own health. In addition to this, there is a heightened interest amongst key stakeholders to contain costs and distribute resources more efficiently in healthcare. This need to increase the effectiveness and efficiency of healthcare has been accelerated by the economic impact and strain on healthcare resources caused by the COVID-19 pandemic. Thus, a continual increase in research in the area of self-care is likely to be observed in the upcoming years.

2.3.1 Key Findings of the Systematic Literature Review

A very limited number of studies on cost savings associated with self-care in Europe are currently available. Apart from one study focusing on Croatia, no other publications on the economic and social impact of self-care, including switches, were identified for Eastern European countries (Table 5). However, almost half of the publications on the views of individuals and healthcare professionals on self-care originated from an Eastern European country. These cross-sectional studies on consumer behaviour and attitudes towards self-care

[67] Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.

[68] Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.

Villako, P., Volmer, D., Raal, A. (2012): Factors influencing purchase of and counselling about prescription and OTC medicines at community pharmacies in Tallinn, Estonia. In: Acta Poloniae Phamaceutica - Drug Research. 69(2).

IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

[69] KANTAR (2020): Zelzorgadvies door huisartsen. PowerPoint presentation.

or OTC medicines indicate an emerging interest to foster a self-care culture and increase the uptake of self-care in countries such as Croatia, Estonia, Poland, Slovakia and Slovenia. An important finding from these studies is the influential role of a patient's willingness to practise self-care on the uptake of self-care within a country. Nevertheless, a European-wide study for this key factor could not be identified.

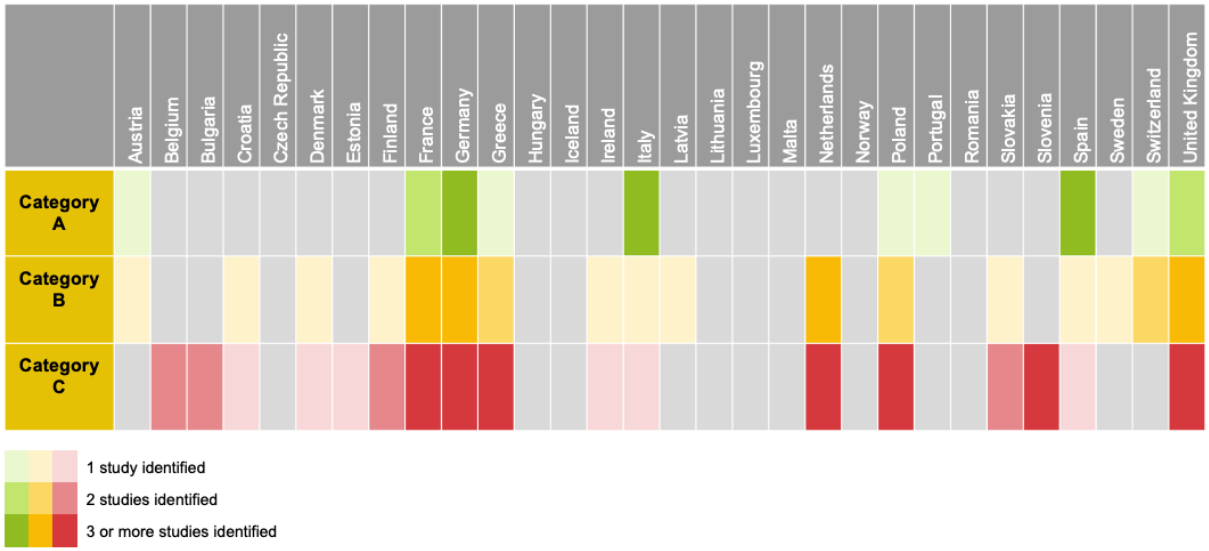

Table 5: Research gaps identified by systematic literature review

The majority of economic impact studies on self-care examine the potential savings that result from Rx-to-OTC switches, either across multiple indications or focusing on specific indications such as migraine and cardiovascular disease, and a few retrospective studies analyse the cost-effectiveness of existing self-care initiatives or measures. There is a clear lack of European-wide studies on the social and economic value of self-care as the studies identified commonly focus only on one country. For publications that have attempted to assess the impact of self-care across Europe, only about five to eight countries have been taken into consideration, often excluding Eastern European countries.

Publications in Europe commonly report reductions in physician visits and in the number of prescription medicines through Rx-to-OTC switches and self-care behaviour. As patients can directly obtain an appropriate treatment from the pharmacy without first visiting the physician, a large number of unnecessary physician consultations can be avoided. Patients also benefit from more timely access to required treatments due to avoided waiting times to obtain a physician appointment, waiting time in the physician's waiting room and travel times associated with a physician consultation.[70]

Although studies show that patients can significantly benefit from reduced time burden and productivity loss, some studies also show that a high proportion of European patients still visit their physician for conditions treatable with self-care.[71] This may be due to a lack of knowledge or confidence on how to appropriately handle minor ailment issues or a lack of awareness that pharmacists are able to consult on minor ailments and provide advice on self-care medicines. To reduce unnecessary physician consultations and prescriptions, patient education and the promotion of pharmacists as the first point of contact for patients in the case of minor ailments may be leading enablers.

[70] Cf. Appendix I.

[71] Cf. Appendix I.

Five key influencing factors for self-care among patients emerge from an analysis of the literature. These factors are summarised in Figure 1 and include accessibility, affordability, social influences, reinforcement and knowledge/skills.

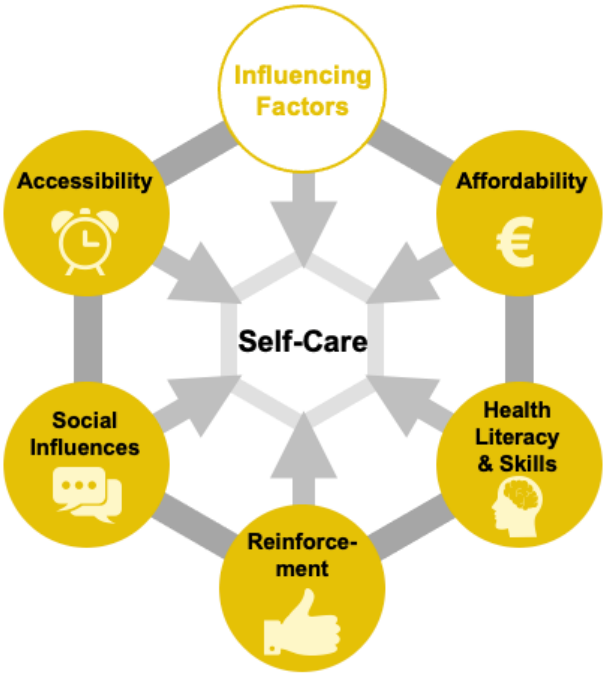

Figure 1: Factors influencing individual self-care practices

Accessibility is predominantly concerned with the time and ease with which patients can get advice on OTC medicines and/or minor ailments and access to available OTC medicines. The health economic studies identified in this literature review often take into consideration the time taken for a GP consultation and occasionally also patient travel time. Although researchers acknowledge the waiting time for patients to receive a GP appointment, this is not always included in economic calculations. Furthermore, surveys and questionnaires also include privacy for consultation and opening hours of the healthcare provider as important accessibility aspects of self-care. Patients and consumers often express their preference for longer opening hours of pharmacies and the lack of need to make an appointment when visiting a pharmacy for advice on minor ailments.

Affordability includes cost aspects such as the cost of a medication, the cost of a GP consultation as well as potential savings for the patient. Economic analyses always cover these cost aspects, while surveys and questionnaires on self-care often ask respondents the price that they are willing to pay for OTC medicines.

Health literacy and skills refer to the level of knowledge and awareness of individuals in regard to self-care as well as the level of patient confidence in pharmacist advice and their own decision-making. The literature highly regards knowledge as a significant enabling factor for reliable and successful self-care. In addition to the patient being educated on their minor ailment condition and on OTC medicines, experts highly recommend healthcare professional training in the area of self-care to strengthen their skills and effectively foster and support patients' self-care behaviour. Training for healthcare professionals is further supported through the results of surveys across Europe, which reveal that healthcare providers, especially pharmacists, are expected by patients/consumers to have the appropriate qualifications and experience.

Reinforcement is an influencing factor for self-care as it reassures patients about their decisions and encourages ongoing self-care behaviour if the patient's previous experience with OTC medicines and pharmacist advice has been positive. The literature consistently shows that patients are highly likely to follow the same treatment pathway, including the purchase of the same OTC product or engaging in a pharmacist consultation if they experience the same symptoms of a minor ailment and have successfully treated it using a self-care approach. Apart from positive previous experiences, the majority of surveys demonstrate that healthcare professionals play a significant role in confirming the patient's choice of OTC medicine and/or providing additional support through offering advice on the correct use of the medicine and treatment of minor ailments.

Social influence also plays a role in augmenting patients' self-care behaviour by increasing patient awareness through campaigns, especially via social media in addition to pamphlets, TV advertisements and self-care websites. As concluded by Ostermann et al.'s economic analyses on self-care initiatives and supported by the results of many primary studies on OTC medicines and self-treatment, self-care websites and hotlines are particularly cost-effective and successful initiatives which have a strong influence on patients' self-care behaviour.[72] On the contrary, the majority of surveys show that advertisements do not usually guide or promote self-care practices. The individual's social environment, including family, friends and colleagues, also influence their attitude and behaviour towards self-care.

2.4 Interim Conclusion Chapter 2

Conclusively, it can be stated that only a limited number of studies on the economic and social impact of self-care in Europe is currently available and the majority of these studies focus on Western or Southern European countries. However, almost half of the publications concerning behaviour and attitudes towards self-care were centred on Eastern European countries. The corresponding surveys and questionnaires on views towards self-care indicate an emerging interest to foster a self-care culture and increase the uptake of self-care in countries such as Croatia, Estonia, Poland, Slovakia and Slovenia. Overall, current evidence on the topic of self-care in Europe commonly reports reductions in physician visits and the number of prescription medicines through Rx-to-OTC switches and self-care behaviour.

Based on the results of the systematic literature review, it is evident that more research on the social and economic value of self-care in Europe is needed. Due to the limited number of existing national studies on the value of self-care in European countries, it is first necessary to collect data on each country before a thorough economic analysis can be carried out on a European level. The development of a database that covers information on an extensive list of selected parameters, such as the number of OTC medicines available and the number of practising GPs, would be ideal to cover information gaps and provide a reliable data basis. Further research on self-care across Europe should also examine the relationship between the uptake of self-care and specific measures or framework conditions that may influence this. Such research may be able to determine which countries are more progressive in terms of self-care and identify the measures or framework conditions that shape self-care practices.

The systematic literature review emphasises that further research should incorporate the knowledge of country experts to compare information and allow the discussion of various data

[72] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

points to ensure the relevance, quality and credibility of country-specific data. Therefore, the following chapters on the methodology for the health economic analysis and calculations describe methods used in this study to close the identified data gaps. These include among others comprehensive primary research on all European countries as well as data validation and quality checks with country experts.

3 Economic and Social Value of Self-Care in Europe

The following chapter focuses on answering research question A and thus examines the quantification of the economic and social value that the use of self-care products generates for individuals, health systems and society at large. This value is first determined for the status quo. For this purpose, this chapter aims to examine e.g. the number of minor ailment cases treated by patients themselves with OTC medicines every year in Europe. Moreover, given the prevalent health market environment in the European countries, the net savings achieved by the current practices of consumer self-care and self-medication are assessed.

The examination of the economic and social value of self-care in Europe in the status quo begins with a description of the role and contribution of self-care for healthcare systems and patients. This serves as a basis for the presentation of the health economic analyses and calculations which are one core component of this present study. In this section, the health economic model that was chosen to answer research question A is first introduced and explained. Both the derivation and the underlying methodology are discussed before the actual implementation of the model and the results are presented in detail.

3.1 Role and Contribution of Self-Care for Healthcare Systems and Consumers

In all European countries, the increasing scarcity of resources is evolving due to the demographic development and increasing medical options resulting from innovation. Based on the perception that self-care could remove pressure from the public healthcare system, its promotion is a promising option.

For many patients, the obvious alternative to self-care, even in cases of minor ailments, is to consult a GP (and less often a medical specialist). In comparison with other European countries, e.g. Denmark, the United Kingdom, France, the Netherlands or Sweden, patients in e.g. Austria and Germany are many times more likely to visit their physician.[73] Currently, in many countries, patients, as well as physicians, experience a substantial lack of time for patient care in daily medical practice.[74] This situation might even become more severe taking into account the emerging resource scarcity in primary medical care.

The evaluation of diverse existing population surveys revealed an annual rate of over 6.6 billion[75] minor ailments all over Europe, presenting themselves e.g. as common cold, mild headache or gastrointestinal disturbances and heartburn. The majority of these minor ailments are treated by the consumers themselves.[76]

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[73] Robert Koch-Institut (Hrsg) (2015) Gesundheit in Deutschland. Gesundheitsberichterstattung des Bundes. Gemeinsam getragen von RKI und Destatis. RKI, Berlin.

Köcher, R. (2013): MLP Gesundheitsreport 2012/13. Berlin, 23. Januar 2013. Retrieved from: http://www.mlp-ag.de/presse/gesundheitsreport/gesundheitsreport-2012-13/ (23.04.2019).

[74] May, U., Bauer, C. (2018): Pharmacy-based Self-care of Minor Ailments – A Health Economic Analysis Focused on the German Healthcare System. In: SelfCare Journal. 9(2).

McKee, S. (2018): GPs dealing with 'unsafe' work load. Retrieved from: http://www.pharmatimes.com/news/gps_ dealing_with_unsafe_work_load_1217707 (19.01.2018).

[75] According to literature and market research, an individual in Europe suffers on average from 13 minor ailments per year. This leads to a total of 6.61 billion minor ailment cases per year in Europe.

[76] May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

At least half of the above-mentioned physician consultations due to minor ailments are not primarily triggered by medical but mainly other reasons. This was shown in the results of diverse representative population surveys: patients needed a sick leave certificate or they wanted a prescription to save personal expenditures from the purchase of OTC medicines (OTC medicines restricted to pharmacies). In other cases, consumers decided against self-care due to a feeling of uncertainty or subjective information deficits. On the other hand, well-informed consumers often made their decision in favour of self-care. The reasons include time savings, convenience and especially the low-threshold access to the care and consulting services of pharmacies. It can be concluded from the evaluation of relevant studies (Chapter 2) that self-care and self-medication are safe and appropriate forms of therapy for minor ailments, provided that institutional framework conditions, medicines and advertising law as well as the information standards of consumers, are taken into account. Based on the current state of scientific knowledge, there is no difference in benefit regarding patient-relevant endpoints when comparing physician- and pharmacy-based self-care of minor ailments, as defined here. Hence, a benefits gap does not exist.[77] Against this background, it becomes evident that self-treatment makes a valuable contribution to the efficiency of modern healthcare systems, both from a care and a health economic perspective.

However, there is a lack of scientific research and health economic calculations showing the extent to which self-care, under the consumers' own responsibility and especially with active support through pharmacies, could mitigate this societal challenge in the current context of European healthcare systems.

3.2 Health Economic Analysis and Calculations

In the following sections, the development and implementation of the health economic model for calculating the social and economic effects of self-care are assessed. To this end, the principles of the model-theoretical approach are first explained (Chapter 3.2.1). In the next step, the decision-theoretical approach and a concrete decision tree for consumer behaviour in the case of minor ailments are introduced. This calculation model initially relates to the individual case. The methodological procedure for deriving aggregated data from this calculation model for defined groups of European countries and finally for Europe as a whole is described in Chapter 3.2.1.2. Subsequently, corresponding groups of countries are formed on the basis of defined socioeconomic parameters (Chapter 3.2.1.3) and finally, the corresponding calculations on the current importance of self-care in Europe are carried out (Chapter 3.2.1.4).

3.2.1 Health Economic Model

The health economic model calculation of this present report is centred on the finding that self-care can partially be substituted for treatment of minor ailments by physicians, and vice versa.

[77] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

May, U. (2002): Selbstmedikation in Deutschland: Eine ökonomische und gesundheitspolitische Analyse. BAH, Bonn 2002.

Wasem, J., May U. (2003): Medizinische Risiken versus ökonomische Chancen der gesundheitlichen Eigenverantwortung. In: Gesundheitsökonomie und Qualitätsmanagement. 8. Jahrgang. Nr. 1. February 2003. S. 31-38.

This finding was derived based on market research, i.e., corresponding empirical and demoscopic surveys, and has also been analysed and substantiated in numerous health economic studies (Chapter 2.2). As a result, both treatment paths are seen as alternatives by patients, at least for some cases of minor ailments. Taking this into account, it is reasonable to question the cost-benefit ratio of both treatment alternatives evaluated from different perspectives.

The model-theoretical approach essentially consists in first calculating and comparing the average effects derived from the direct, indirect and intangible costs for both paths related to the statistically representative individual case. In subsequent steps, the health-economically relevant effects of self-medication assumed to be the extent practised in Europe today will be determined using individual case calculations and multiplying them by the corresponding case numbers of minor ailments. In the following steps, these calculations are also applied in the case of a further substitution of physician treatment by self-medication (Chapter 4.3). The necessary data on time and monetary costs, as well as the number of cases, were derived from comprehensive research on all European countries considered in this study. In addition, data identified as relevant in the systematic literature review (Chapter 2) were used.

As in any economic model, certain premises and assumptions must be made both for the calculations of the status quo and, to a greater extent, for projections and future scenarios. These are introduced and explained in the relevant sections. Whenever such assumptions are made or calculations are performed, this has been done by taking into account the methodological standards of health economics. The criteria established by Michael Drummond et al. are internationally regarded as the "gold standard".[78] In addition, the basic principles of cost-effectiveness studies, which leading health economists in Germany have agreed upon in the so-called Hanover Consensus, are also taken into account.[79]

The necessity of making certain assumptions and starting from a number of basic premises inevitably arises from the questions posed in this study, which have certain "what if" elements, both in the case of the status quo analysis and the future-related perspective scenarios. With regard to the future scenarios, it is the hypothetical shift of a defined number of patients from a physician visit to self-care that is to be modelled. For the status quo calculations, it is the substitutability of physician treatment and self-care that is assumed for certain cases of minor ailments.

The assumption that self-care and physician treatment can to a certain extent be substituted for each other, which is fundamental to the model calculation, is scientifically very well justifiable.[80] This has been discussed in more detail in other sections of this study (Chapter 2).

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[78] Drummond et al. (2015): Methods for the Economic Evaluation of Health Care Programmes. Fourth Edition. Oxford, 2015.

[79] For an up-to-date overview of international pharmacoeconomic guidelines, see, for example: Rascati, K. L. (2014): Essentials of Pharmacoeconomics. 2nd Edition. Philadelphia 2014; ISPOR (2012): Pharmacoeconomic Guidelines Around The World. Retrieved from: https://tools.ispor.org/peguidelines/ (23.02.2021); Schulenburg et al. (2008): German Recommendations on Health Economic Evaluation: Third and Updated Version of the Hanover Consensus. In: Value in Health, 11(4). PP. 539-544.

[80] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

Wasem, J., May, U, (2000): Die Selbstmedikation im deutschen Gesundheitswesen unter Berücksichtigung gesundheitsökonomischer Aspekte: Konsequenzen für die Arzneimittel-Hersteller. OTC-Marketingmanagement.

Compared to similar studies in other countries, the data basis used in this project has been significantly improved, not least as a result of intensive primary research in the individual countries and on the basis of systematic literature research (Chapter 2). This made it possible to replace some very restrictive assumptions, which had to be made in previous projects of a comparable nature, with "real-life data".

Where assumptions had to be made in the model calculation, these were deliberately chosen to be restrictive and tested using a sensitivity analysis to ensure the validity and reliability of the findings obtained. The present study approach focuses on self-care for the treatment of minor ailments, especially as an alternative to a physician visit. Minor ailments are typically self-limiting, temporary impairments of well-being or health.[81] The patient is usually completely symptom-free after the minor ailment has subsided and, in particular, no long-term effects remain. Under this assumption, the health economic evaluation was reduced to the cost aspects. Accordingly, the instrument of a cost-minimisation or cost-comparison analysis, which is adequate in the case of an equality of benefits, was applied here. This approach is supported by currently published scientific findings on the comparison of benefits of physician treatment and self-care in cases of minor ailments.[82]

3.2.1.1 Decision Tree Model

A relatively well-defined and complete overview of the behavioural patterns and decision-making situations of people confronted with a minor ailment emerges from available market research studies and demoscopic surveys that have been conducted in numerous European countries.[83] This overview is presented in this section in the form of a decision tree model.

On the first level, a decision has to be made between "waiting" to get better or becoming active in the form of a visit to the physician or self-care. On the second decision level, the consumer's alternatives in the case of self-care and the physician's treatment options are presented. The latter has three basic options in the case of a consultation. First, the physician can prescribe a prescription-only (Rx) or over-the-counter (OTX) medicine on a corresponding prescription.[84] The second option includes all forms of prescription or drug recommendation that result in the patients having to pay for their own medication, regardless of their insurance status. These include prescriptions on a private prescription and verbal recommendations. The third option

May, U. (2002): Haushaltskonsolidierung durch Ausgabekürzungen: Restriktionen und Strategien. Dissertation. Universität Hohenheim. Peter Lang, Frankfurt am Main 2002.

[81] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015. P. 17.

[82] AESGP (2004): The Economic and Public Health Value of Self-Medication. AESGP, Brussels 2004.

Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

Pillay, N., Tisman, A., Kent, T., Gregson, J. (2010): The economic burden of minor ailments on the national health service (NHS) in the UK. In: SelfCare.

[83] BACHI (2018): Consumer Research OTC Products. PowerPoint presentation. Leuven 2018.

Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.

Harris Interactive (2020): Impact du Covid-19 sur les comportements des Français. PowerPoint presentation. AFIPA 2020.

[84] This option is only available for insured patients.

is for the physician to forego the use of medication, which is referred to here as “non-medication therapy”.[85]

The path with the greatest practical significance in the case of minor ailments is, according to the above-mentioned data, self-care, which in most cases is supported by pharmacies and is therefore predominantly accompanied by classic self-medication. Specifically, in relation to this option, which is the focus of the present study, a consultation with a physician is often seen as an alternative from the patient's point of view which in nine out of ten cases also results in the use of medicines and often also of OTC preparations.[86]

Based on the assumption of a typical and ordinary course of treatment, the possibility of potential complications or treatment failure is not explicitly presented in the decision tree. Implicitly, however, it is not excluded to such a degree as a return to the starting point and thus a new decision-making process (possibly with a different outcome) may occur. Consequently, the decision in favour of a certain therapy was equated with the (successful) endpoint of the decision tree.

On the other hand, with regard to real-life conditions, it must explicitly be taken into account that there may be intermediate changes from one path to another before a therapy path is successfully completed. In practice, this is to be expected in particular after an initial decision to "wait and see" *(Nihilism)*, the person affected may again be faced with the question of consulting a physician or treating themselves if the symptoms worsen. Analogously, those who initially wanted to take care of their health themselves by using home remedies may later switch e.g. to pharmacy-assisted self-care. Both constellations are referred to as "*Escalation*" in Figure 2 below. Another escalation of therapy, labelled "*Referral*" here, occurs when a patient receives advice at the pharmacy to see a physician and follows that advice. This is a course that is significant in everyday practice, as quantitatively proven on the basis of existing data, at least for individual countries e.g. Germany and Switzerland but seems equally plausible for other countries.[87]

[85] The probabilities or the frequency distribution with which certain options are chosen by the actors are expressed in the graph with the parameters p, q and w.

[86] Tsakanikas, A., Athanasiadis, A. (2018): Self-medication and self care awareness: Empirical evidence from Greece. PowerPoint presentation. Amsterdam 2018.

Eichenberg, C., Auersperg, F., Rusch, B.D., Brähler, E. (2015): Selbstmedikation: Eine bun-desdeutsche Repräsentativbefragung zu Motiven, Anlässen und Informationsquellen für den Konsum rezeptfreier Medikamente. [Self-Medication: A Nationwide Representative Survey on Motives, Reasons and Sources on Consuming Over-the-Counter Medication] In: Psycho-ther Psych Med. 65.

[87] Institut für Handelsforschung (2011): Apothekergestützte Selbstmedikation, Studie im Auftrag der Landesapothekerkammer Baden-Württemberg, Köln / Stuttgart 2011.

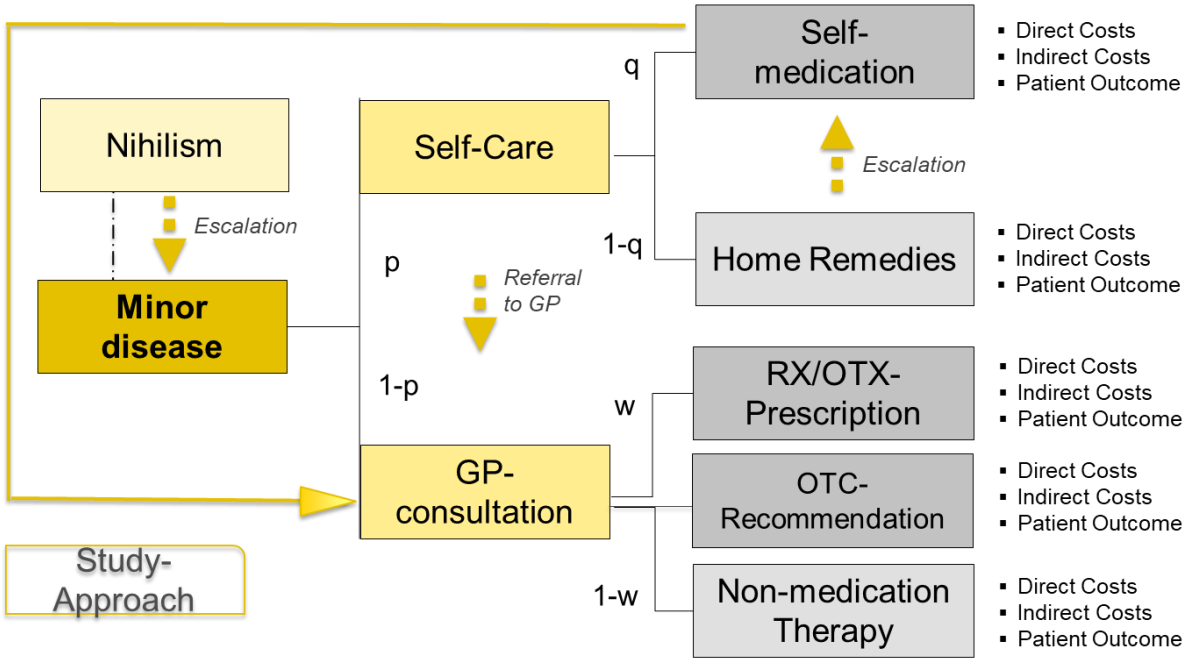

Figure 2: Decision tree in case of a minor ailment[88]

Expected values for the net benefit (or net cost) of the consumer or patient can be assigned to the endpoints of the decision tree shown above (at least in theory). By backward induction, the optimal treatment path from the patient's perspective can be inferred unambiguously at this abstract level. On the second decision level, this may apply analogously to the physician's optimal decision.

This theoretical view of decision behaviour can illustrate two aspects: first, only a maximum of two actors are involved in the entire decision-making process. These two actors (consumer/patient, physician) behave in a utility-maximising manner with respect to the cost and benefit effects relevant from their perspective. All other cost-influencing factors represent external effects that are not taken into account, regardless of their societal relevance. Second, the decision tree illustrates the levels at which steering instruments can be applied to influence the frequency distribution of the endpoints (p, q, w) in a desired direction (e.g. politically). At the first decision level, the expected benefit of self-care can be increased by improving the level of information. If patients then treat themselves, the improved level of knowledge also contributes to a higher probability of success of the self-treatment under real-life conditions. The probability of having to return to the starting point of the decision tree thus decreases. On the other hand, the consumer decision at the first decision level can also be influenced by monetary incentives that change the expected value of the costs of the alternative treatment paths.

If the physician decides on the second level of the decision tree, their choices can also be influenced by monetary incentives or legal restrictions. This, in turn, can have an impact on the consumer's decision at the first level, since the physician's behaviour is partly anticipated and taken into account by consumers according to corresponding experiences. For example,

[88] May, U., Bauer, C. (2018): Pharmacy-based Self-care of Minor Ailments – A Health Economic Analysis Focused on the German Healthcare System. In: SelfCare Journal. 9(2). May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheits-störungen – Nutzen und Potentiale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitätsmanagement 2017; 22: S12–S22. Georg Thieme Verlag KG Stuttgart, New York.

consumer surveys provide indications that the path of physician-assisted self-medication is classified as unsatisfying by some patients, as it is associated with high transaction costs (time and travel costs) and simultaneously does not lead to the anticipated savings in direct costs (medication costs).

This theoretical representation of the individual decision-making situation of patients and physicians also indicates what has been quantitatively and empirically proven previously. Namely, that there is a close substitutive relationship between GP consultations and self-care.[89]

3.2.1.2 Fundamental Approach and Steps of Calculation

The starting point of the methodological procedure for calculating the social and economic value of self-care is the individual case of a minor ailment. In accordance with the decision tree presented above, the individual concerned can either consult a physician or choose self-care if they wish to actively counteract this health disorder. The basic calculation model is designed in such a way that all relevant monetary costs as well as time costs, which occur statistically when choosing these two treatment paths in an average individual case, i.e. with a representative patient and the normal course of a minor ailment, can be recorded. These costs of the individual case can then also be assigned and reported separately from the perspectives of the individual actors.

In the second methodological step, this calculation model is filled with data. These are parameters that are used as European averages for all the countries under consideration. They are referred to here as basic parameters. Basic parameters usually relate to time categories, such as the time taken to reach a physician. Basic parameters can be used here as a European average for two reasons: first, these parameters are of secondary importance for the comparison of savings effects of self-care. Second, the differences between countries in basic parameters/time categories are not as large as for other parameters which are categorised as key parameters.

Key parameters are introduced in step 3. They concern the three monetary parameters that have the greatest influence on the savings that can be achieved through self-care in a country. Three monetary factors were identified as such key parameters: the cost per unit of time of physician work, the cost of lost work time and the cost difference of pharmaceuticals in the respective country. Countries that are very similar with regard to all three key parameters are grouped (Country Clusters). The Country Clusters formed in this way include countries in which the average savings achievable per treatment case through self-care are of a very similar magnitude.

By carrying out separate calculations for economically comparable Country Clusters, the different purchasing power parities within the European countries are implicitly taken into account, in particular the given North-South and West-East disparities (step 4).

In the final step, step 5, the social and economic effects of self-care are calculated at the aggregated level, i.e. for Europe. For this purpose, the monetary and temporal effects determined in step 3 for the individual clusters are summed up.

[89] The theoretical presentation of the decision situation was closely based on May / Bauer (2013).

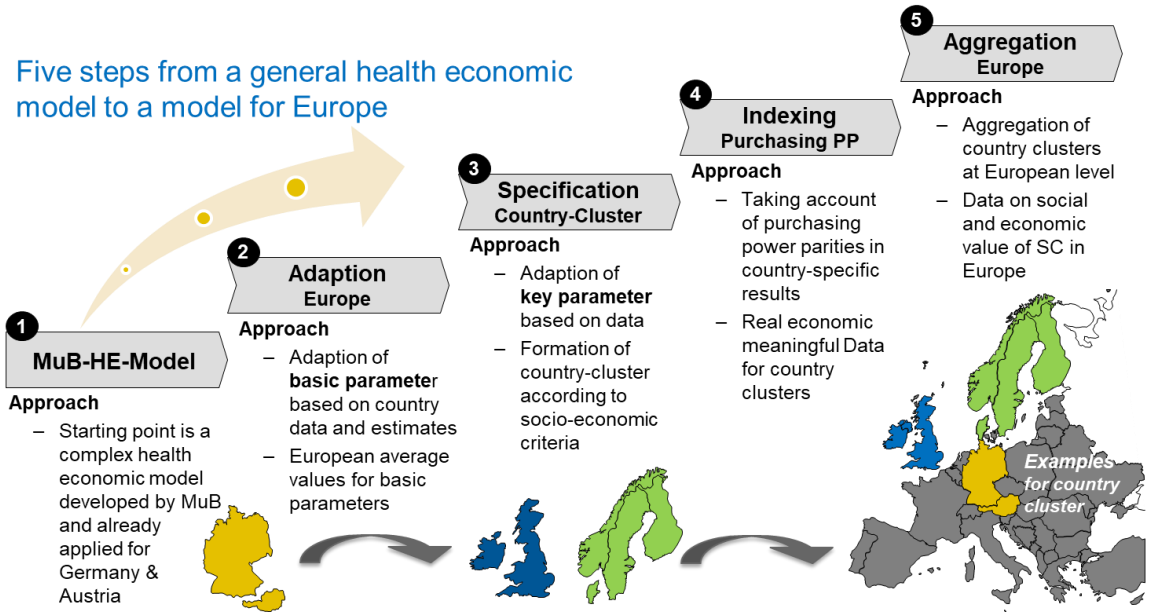

Figure 3: Methodical steps to calculate the social and economic value of self-care

3.2.1.3 European Data and Derivation of Country Cluster (CC)

To build the Country Clusters, which were conceptually introduced earlier on the basis of data available throughout Europe, three parameters were identified as essential for grouping comparable countries. These so-called key parameters are as follows:

- the cost of medical treatment per hour,
- the cost of an hour of working time lost (due to incapacity for work or a physician visit), and
- the difference between the cost of Rx and OTC medicines usually prescribed/obtained in the case of a minor ailment per package.

The corresponding calculations are based on data collected across Europe, e.g. from the European Commission, the OECD and the World Bank, as well as on market data from the moving annual total (MAT) June 2019 provided by IQVIA specifically for this project, which relate to medicines for the treatment of relevant minor ailments[90].

In a calculation process, cluster-specific average values were generated where appropriate and necessary. In addition to the above-mentioned key parameters, these include, for example, the number of GPs, of working hours as well as the income of GPs and average labour cost. Cluster-specific average values were supplemented by European average values in particular for the basic parameters. The latter were generated for the values that are comparable across Europe and did not influence the results of the key parameters. This mainly concerns time cost parameters (indirect costs) from different perspectives e.g. absence from work as well as time spent for a physician visit by the patient and by the physician.

[90] OTC data: IQVIA Consumer Health Global OTC Insights, Rx data: IQVIA Midas.

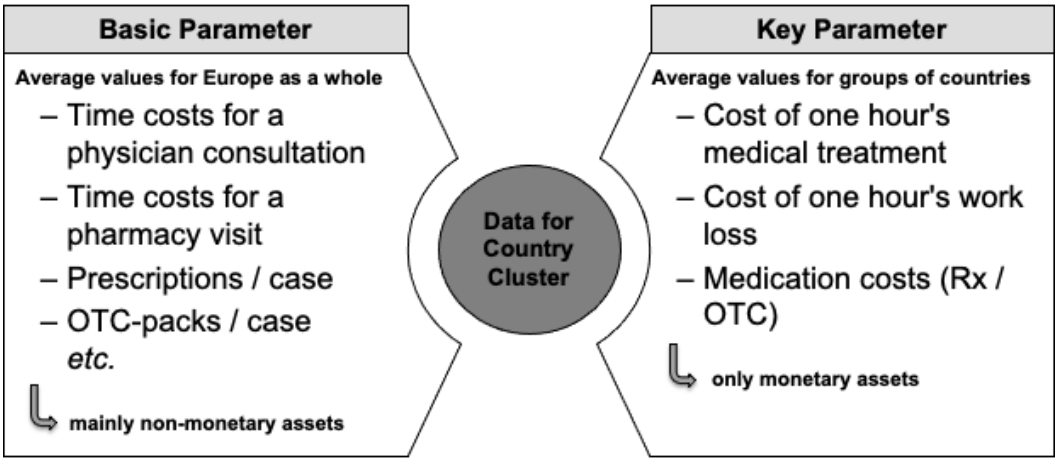

Figure 4: Basic and key parameters for Country Clustering

As previously illustrated, the countries can be divided into clusters based on the key parameters. While three categories (low, medium and high) were formed for the cost of a minute of treatment at the physician's practice and the cost of an hour of lost working time, the difference between the cost of Rx and OTC medicines per package was divided into low and high. The cut-off points between the categories were methodically set in two steps: first, the values were divided into three (or two in the case of the drug cost difference) similarly-sized groups in terms of the number of countries included. The dataset was then examined for significant differences between values that were closely grouped. The sections were set accordingly. Economic considerations, such as similarly high purchasing powers and the regional comparability of the countries also played a role. The following Figure 5 displays that theoretically 18 potential Country Clusters could emerge. The 30 investigated countries can be assigned to these potential clusters accordingly. It was assumed in advance that not all 18 clusters would be filled due to the structure and number of countries and the nature of the key parameters. The sections were set accordingly.

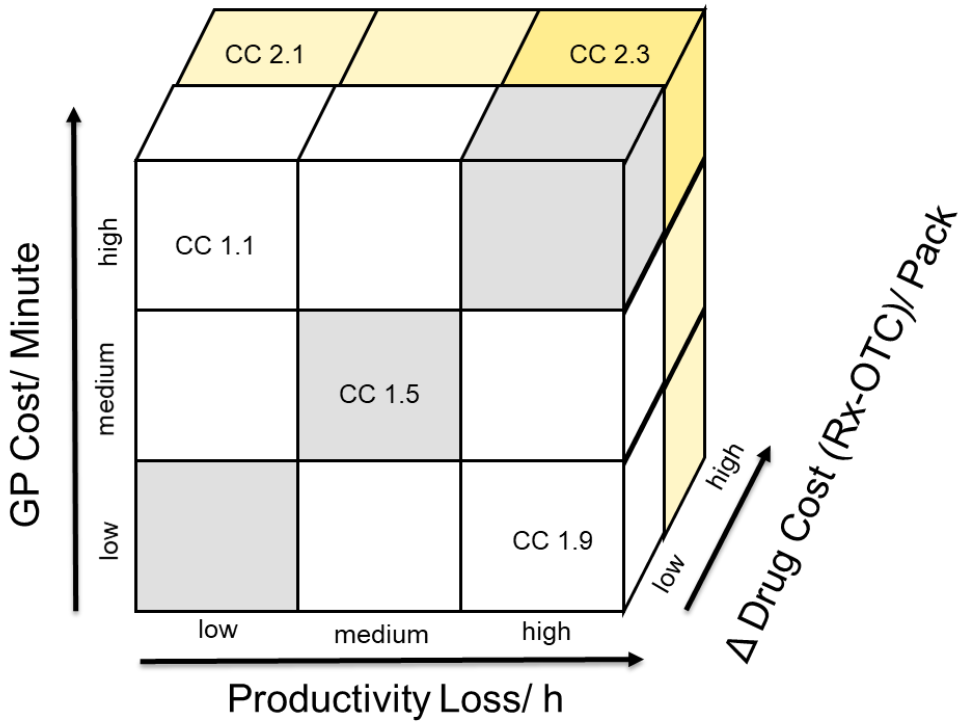

Figure 5: Theoretical approach Country Clustering

On the basis of the defined key parameters, it was possible to assign a minimum of one to a maximum of nine countries to a total of eleven clusters. These are shown in the table below. Table 6 reveals that Italy, Luxembourg, Belgium and Sweden are highly unique in the combination of their key parameters so that they are each represented in a cluster on their own. However, when interpreting the results of the calculations in the following chapters, it should be noted that, in order to maintain comparability, the basic parameters were always kept constant, i.e. they correspond to the European average. This also applies to Country Clusters that contain only one country.

Cluster	Countries	GP Cost / Min	Productivity Loss	Δ Drug Cost (Rx-OTC) / Pack
1	IT	High	Med	Low
2	LU	High	High	Low
3	AT	Med	Med	Low
	FR			
4	BE	Med	High	Low
5	CZ	Low	Low	Low
	HU			
	LV			
	PL			
	PT			
	RO			
	SK			
	CY			
	MT			
6	ES	Low	Med	Low
	SI			
7	FI	High	Med	High
	IE			
	UK			
8	NO	High	High	High
	CH			
	DK			
9	DE	Med	Med	High
	NL			
10	SE	Med	High	High
11	BG	Low	Low	High
	HR			
	EE			
	EL			
	LT			

Table 6: Overview Country Clusters based on key parameters

Figure 6 below depicts a two-dimensional presentation of the resulting cube including the eleven Country Clusters. The front and rear views are shown respectively. The front view can be seen at the top of the following Figure 6 and displays those Country Clusters that have low, medium or high GP cost per minute and productivity loss per hour. They have additionally been classified in the low category of the difference in drug cost per pack. The lower part of the figure in contrast shows the Country Clusters that have been assigned to the category of high difference in drug costs per pack. The following representation of the model is obtained by transferring the results presented above in Table 6 to the theoretical approach to Country Clustering in Figure 5.

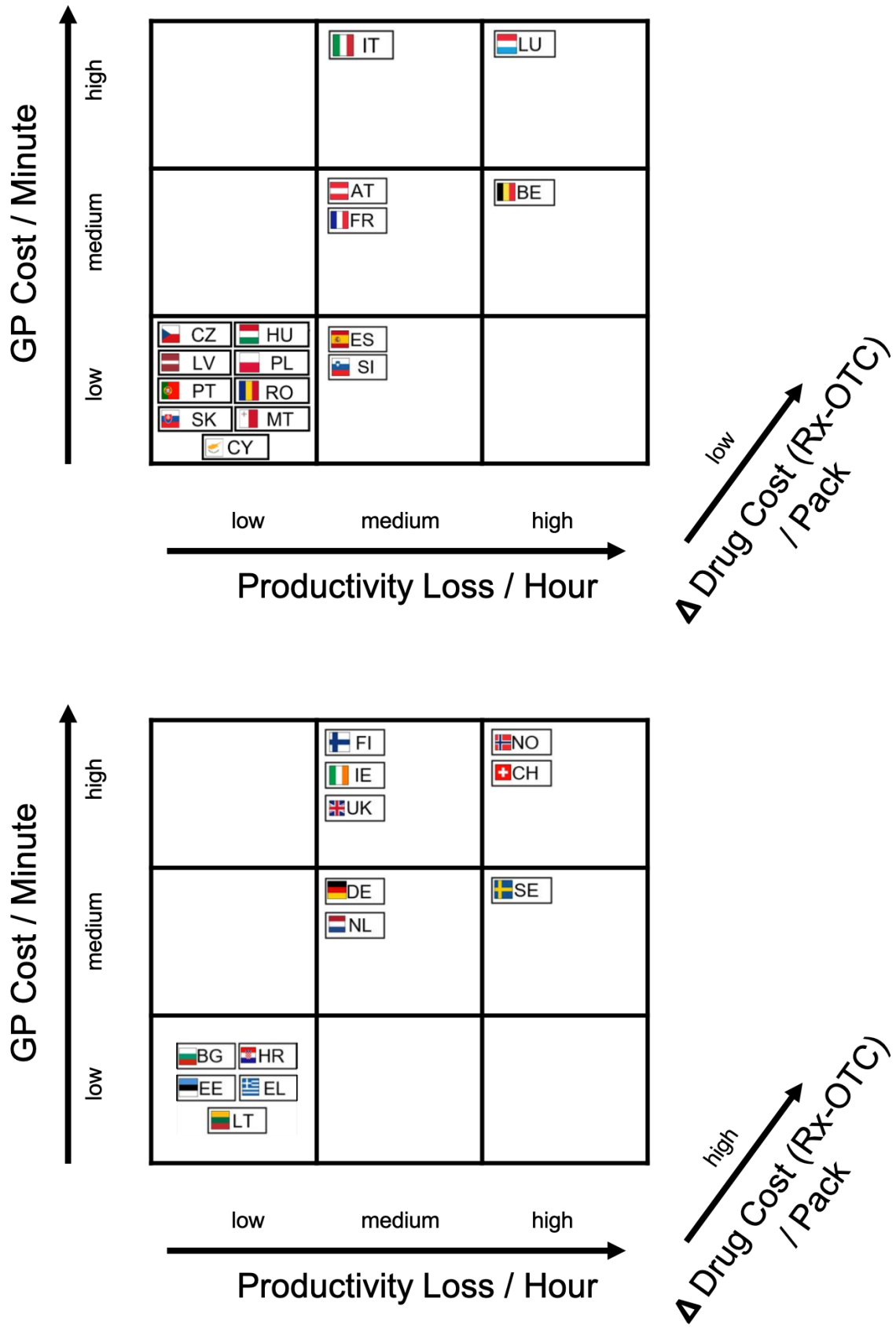

Figure 6: Eleven Country Clusters

The following map of Europe provides a further overview of the clusters that have been formed and the geographical location of the associated countries. It can be observed, for example, that the Eastern European countries of Latvia, Poland, the Czech Republic, Slovakia, Hungary, Romania and Cyprus have a high degree of overlap with regard to the characteristics (key parameters) defined above, so that they all form Country Cluster 5 together.

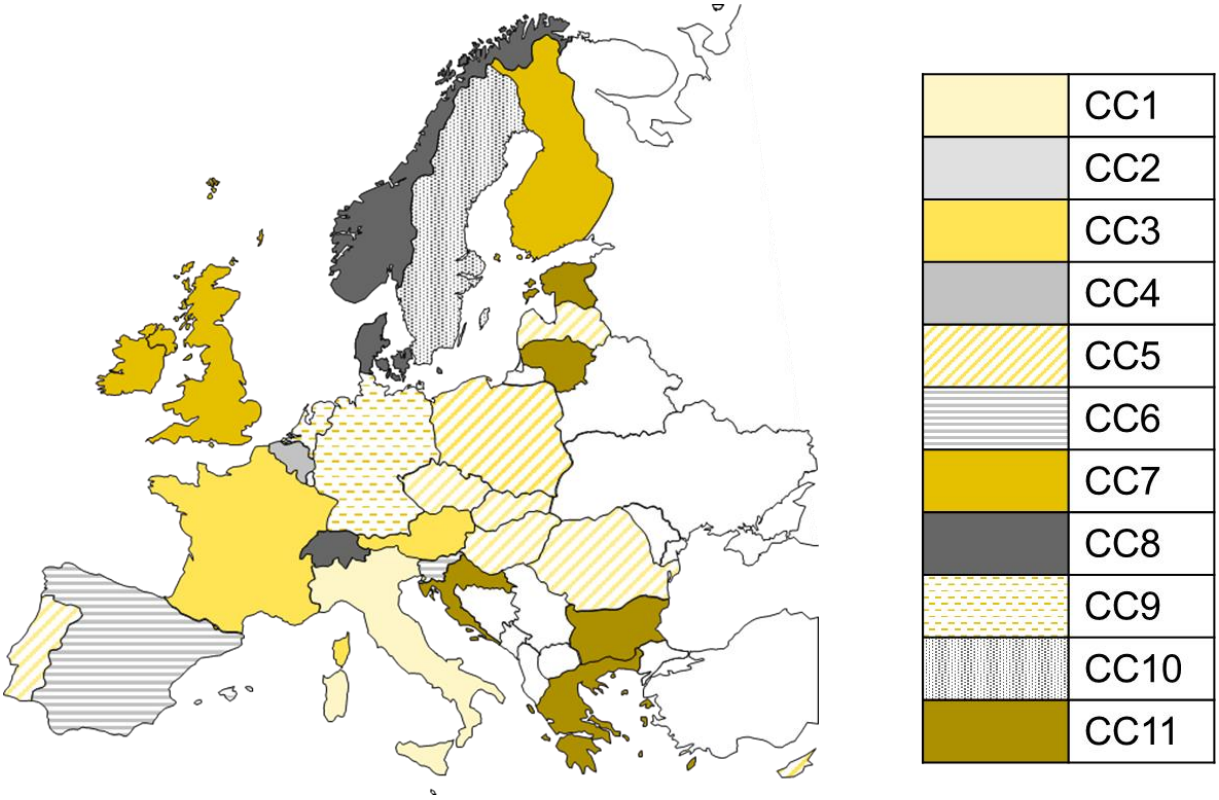

Figure 7: Geographically grouped Country Clusters

The following chapter gives an insight into the health economic calculations which are carried out on a cluster-specific level. This includes an explanation of the used data and calculations as well as cluster-specific and Europe-related results.

3.2.1.4 Health Economic Calculation

The health economic model calculation of this study consists of a large number of individual basic data. In order to strengthen the relevance of this data, it is linked by means of appropriate and target-oriented calculations. For the clustering process itself, the data used was mainly derived from databases provided by e.g. the European Commission, the AESGP, the WHO and other official organisations.[91] These usually give an overview of almost all countries considered in this study. In single cases where data or information was not provided for individual countries, country-specific databases were used. In addition, national experts were asked for support in finding or providing certain data. Also, data provided by IQVIA for the purpose of this study was used.[92] As the current COVID-19 pandemic is assumed to influence data from 2020, MAT June 2019 values were used.

The results are directly relevant figures or parameters, which become meaningful for the health economic calculations when mathematically linked to other basic data or interim results. Thus,

[91] See Appendix II for database of individual country-specific data and references used.

[92] OTC data: IQVIA Consumer Health Global OTC Insights, Rx data: IQVIA Midas.

a complex arithmetic system was created, which was processed with the programs Microsoft® Excel and IBM® SPSS Statistics. The entire model calculation is presented and traceable using appropriately programmed and linked tables. Since the tables in electronic form are summarised in Appendices II and III of the present study, the following text will not include a detailed presentation of the calculations for reasons of reader-friendliness, but rather a short description of the thought process and the essential steps. If the basic data or their arithmetical linkage show leeway or uncertainties, this is discussed at the appropriate place and the chosen procedure is justified.

The calculation of the data aimed at an aggregated European level is carried out in three steps. First, the economic effects of an individual minor ailment treatment case are calculated separately for each Country Cluster (a.). In the second step (b.), the corresponding individual costs are aggregated based on the specific case numbers in the countries of each cluster. Finally, the results of the individual Country Clusters are extrapolated to obtain results and statements for Europe (the 30 countries considered in this study) as a whole.

a. Individual Cases in Country Clusters

In the first step of the health economic model calculation, the economic effects of a single case of a minor ailment treated by self-medication are compared with the cost of a physician visit in the same case. Both are done at the level of the individual Country Clusters. In both cases, direct cost (medical cost), indirect cost (economic cost) and intangible cost and benefits (e.g. leisure time gained) are considered.[93] These types of costs are recorded in monetary and, if necessary, real units (time, quantity). On the basis of the calculated costs and effects, an allocation is also made to the perspectives of the patient, the national healthcare systems and the national economy. This reveals at which level the actors are affected and the amount of the individual cost types that have to be borne. Implicitly, this perspective-related analysis also demonstrates how the individual patients are economically affected by a change between physician consultations and self-medication and which incentive structures are therefore given for the individual decision behaviour.

The calculations are based on the respective data on resource consumption in the case of self-medication and in the case of a physician consultation. This data is found directly or derived indirectly from the targeted country-specific research, as well as the results of the systematic literature review (Chapter 2). Selected market data on turnover and sales of Rx and OTC markets in all European countries were supplied on the basis of a corresponding query by the market research institute IQVIA.[94] The health economic model developed by the authors is fed with data from the three sources mentioned above.

In the health economic model calculation, the real-life conditions are represented as simplified as possible and as differentiated as necessary. In connection with those cost types that were previously classified as key parameters, this means, among other things, the following:

- **Cost of physician consultations:** The calculations are based on consultations by GPs for each minor ailment case. It is taken into account that, in reality, there is occasionally more than one physician contact in such a case. The physician's time used

[93] Intangible costs and effects are also important in this context. By their nature, these cannot be measured or valued, but are an important factor for consumers in particular when deciding for or against self-treatment. Such factors, which include, for example, patients' lost leisure time or a shortened pain episode, are addressed in the context of the presentation of results. This approach corresponds to an economic view based on the so-called opportunity cost approach.

[94] OTC data: IQVIA Consumer Health Global OTC Insights, Rx data: IQVIA Midas.

is composed of the actual patient contact, an administrative time proportionally attributable per case and friction costs between the individual patient contacts. The monetary valuation of the physician's time is based on the average fee value of a minute of physician time in the respective national healthcare system.[95] In this way, the actual value of resource consumption, measured against specific benchmarks of the respective country or healthcare system, is captured.

- **Cost of prescribed medicines:** The prescription quantity and the average cost of prescribed medicines in the case of a physician consultation are calculated based on IQVIA data using a shopping basket especially created for this purpose.[96] In the shopping basket, selected indication groups are considered according to the Anatomical Therapeutic Chemical (ATC) classification. ATC codes relevant for prescription in the case of minor ailments are taken into account. The basket is calculated in each case on the basis of the national price level per country. The prescription costs per Country Cluster are calculated as a weighted average of the prescription costs of the countries in the relevant cluster. Price discounts granted to payers due to legal regulations are taken into account in a general discount.

- **Cost of OTC medicines:** The average prices of OTC preparations in each country are calculated using IQVIA data on turnover and sales from all European countries.[97] This value corresponds to the study approach, which is based on a statistically representative case in self-medication across all indications. The average cost of self-medication in a Country Cluster is calculated as a weighted average of the costs of the countries in the considered cluster. In line with actual consumer behaviour, the calculation of self-medication cost per case of a minor ailment takes into account that on average less than one OTC pack is used per treatment case (0.6 packs). With regard to consumer travel costs, it is also taken into account that the number of OTC preparations purchased during a representative pharmacy visit is on average higher than one pack. This means that separate time and travel costs are not associated with each individual OTC pack.

- **Cost of lost working hours:** Work absences and productivity losses related to minor ailments initially occur when employed individuals visit a physician's practice during their working hours. Furthermore, the physician visit may result in clinically unnecessary sick leave with corresponding days of lost working time for the patient. The time lost directly due to physician visits is taken into account based on the proportion of the employed working population and the proportion of those physician visits that take place during working hours. On the contrary, physician visits taking place during leisure time result in (private) time costs for the patient but not in productivity losses. The number of avoidable sick leave days is taken into account using a conservative assumption based on expert estimations from individual countries and including the average number of sick leave days in the countries of the respective Country Cluster. The monetary assessment of productivity losses due to physician

[95] See Appendix II for database of individual country-specific data and references used.

[96] Rx data: IQVIA Midas.

[97] OTC data: IQVIA Consumer Health Global OTC Insights.

visits and sick leave is based on public data on work absence cost in the individual countries.

Further data, underlying assumptions and calculation steps are displayed in the following tables and in the complete model calculation, which is attached in Appendices II and III.

As previously mentioned, in addition to the costs of the consultation itself, a visit to a physician usually incurs costs for the prescription of Rx medicines. Furthermore, it is not uncommon for OTC medicines to be recommended by a physician. Although these can be prescribed in individual countries, reimbursement does not usually take place throughout Europe. However, the OTC costs incurred are lower in the case of a physician visit because it is only used in addition to the potentially prescribed medicine(s). In concrete terms, surveys have shown that around one-third of patients buy an OTC product as an additional product and not as a substitute for prescription-only medicine. Accordingly, the value of 30% is included in the calculations. Prescriptions, however, are more frequent during a physician consultation, namely in 80% of cases.[98] As also explained above, the average medication costs vary according to each country, which is why weighted averages were formed within the clusters.

If, in contrast, a patient chooses self-medication instead of a visit to the physician, the references and, if applicable, the assumptions derived therefrom change with regard to the number of OTC packs purchased and the number of cases of minor ailments that can be treated with one pack. Thus, on average, it can be assumed that 0.6 OTC packs are consumed per treatment case. Costs for physician treatment and Rx medicines are omitted due to the choice of treatment path.

The concrete results of the direct costs for the treatment of a minor ailment case per Country Cluster are compared in the following tables. Of particular relevance is the difference between the cost of a physician visit and self-medication, as it represents the potential savings in direct costs per minor ailment case.

Clusters		CC1:HML	CC2: HHL	CC3: MML	CC4: MHL
Countries		IT	LU	AT, FR	BE
	Medication Cost OTC	2.70	2.78	1.71	3.14
	Medication Cost Rx	8.08	7.50	4.47	8.84
	Treatment Cost	22.79	37.02	18.24	17.80
	Total Direct Cost Physician Treatment	**33.57**	**47.30**	**24.42**	**29.78**
	Medication Cost OTC	5.69	5.86	3.59	6.60
	Medication Cost Rx	0.00	0.00	0.00	0.00
	Treatment Cost	0.00	0.00	0.00	0.00
	Total Direct Cost Pharmacy Treatment	**5.69**	**5.86**	**3.59**	**6.60**
Δ Overall Cost Difference (EUR)		**-27.88**	**-41.44**	**-20.83**	**-23.18**

Table 7: Direct medical cost for a single minor ailment case (EUR) – CC1 to CC4

[98] May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheits-störungen – Nutzen und Potentiale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitätsmanagement 2017; 22: S12–S22. Georg Thieme Verlag KG Stuttgart, New York.

Clusters		CC5: LLL	CC6: LML	CC7: HMH	CC8: HHH
Countries		CZ, HU, LV, PL, PT, RO, SK, CY, MT	ES, SI	FI, IE, UK	NO, CH, DK
	Medication Cost OTC	1.28	2.36	2.16	3.14
	Medication Cost Rx	3.94	6.11	9.94	10.82
	Treatment Cost	9.29	10.88	22.76	27.69
	Total Direct Cost Physician Treatment	**14.51**	**19.35**	**34.86**	**41.65**
	Medication Cost OTC	2.70	4.97	4.55	6.61
	Medication Cost Rx	0.00	0.00	0.00	0.00
	Treatment Cost	0.00	0.00	00.00	0.00
	Total Direct Cost Pharmacy Treatment	**2.70**	**4.97**	**4.55**	**6.61**
Δ Overall Cost Difference (EUR)		**-11.81**	**-14.38**	**-30.31**	**-35.04**

Table 8: Direct medical cost for a single minor ailment case (EUR) – CC5 to CC8

Clusters		CC9: MMH	CC10: MHH	CC11: LLH
Countries		DE, NL	SE	BG, HR, EE, EL, LT
	Medication Cost OTC	2.60	1.44	1.20
	Medication Cost Rx	11.85	9.81	4.90
	Treatment Cost	20.75	19.00	9.71
	Total Direct Cost Physician Treatment	**35.20**	**30.25**	**15.81**
	Medication Cost OTC	5.46	3.04	2.53
	Medication Cost Rx	0.00	0.00	0.00
	Treatment Cost	0.00	0.00	0.00
	Total Direct Cost Pharmacy Treatment	**5.46**	**3.04**	**2.53**
Δ Overall Cost Difference (EUR)		**-29.74**	**-27.21**	**-13.28**

Table 9: Direct medical cost for a single minor ailment case (EUR) – CC9 to CC11

For all Country Clusters, it can be seen that the total direct costs for choosing a physician visit are significantly higher than those for choosing the treatment of a minor ailment through self-medication. Thus, depending on the cluster, the total costs for a physician treatment range from EUR 14.51 (CC5) to EUR 47.30 (CC2). The direct costs for treatment by self-medication range from EUR 2.53 (CC11) to EUR 6.61 (CC8). The difference between the two types of treatment is between EUR 41.44 (CC2) and EUR 11.81 (CC5). As mentioned above, these amounts also represent the potential savings in direct costs. A comparative overview of this saving potential across the Country Clusters is provided in the following Figure 8.

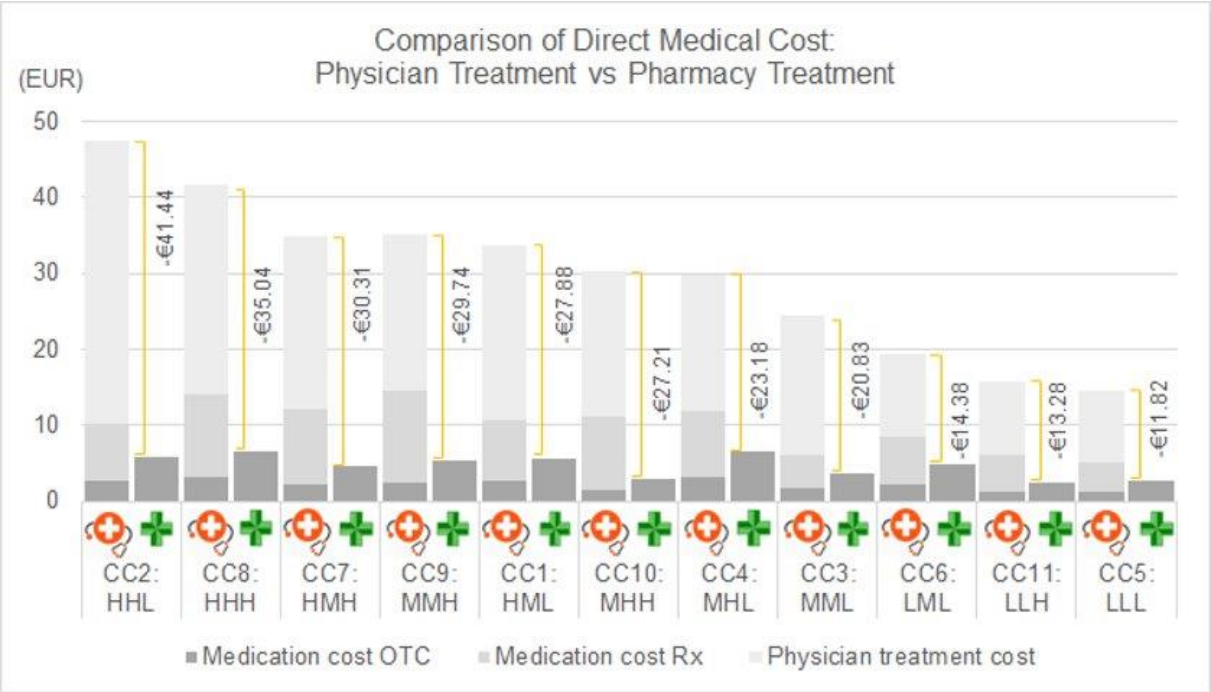

Figure 8: Comparison of direct medical cost of physician and pharmacy treatment among Country Clusters

Besides direct costs, indirect and intangible costs are also of interest in the context of an examination of saving potentials by self-care. All cost types are included in the following tables which display them from certain perspectives, namely patient, physician, national healthcare system/health insurance and national economy. The values display the cost difference between the physician treatment and the self-care pathways. The calculation method of direct and indirect monetary costs is analogous to the calculation of direct costs explained in the previous chapter. Again, cluster-specific averages were built where possible and appropriate and completed by European average values where necessary. This was, for example, necessary for the patient contribution to prescription-only medication cost. This may lead to the finding that individual values slightly deviate from the values in single countries or clusters containing only one country. This step is explained in detail below and was necessary to build a common and comparable basis for all 30 countries considered in this study.

Here, costs are allocated to the stakeholders who actually incur the costs. Indirect costs occur as the time cost of physicians and absences from work affecting the national economy. The time cost of patients is valued as an intangible cost as their personal leisure time is affected.

Due to a lack of data for indirect and intangible time costs from all countries, European averages are formed instead of cluster-specific averages. These are based on literature references from single countries and extrapolated to a European level under consideration of the input of national experts. The time cost for patients includes their travel and waiting times for either a combined physician and pharmacy visit or a pharmacy visit only. Physicians' time cost refers to average treatment times plus time spent on administrative tasks. From the national economy perspective, time spent at a physician's practice during working time, absences with a sick leave certificate, and the corresponding work losses are of relevance. To increase the transparency of the values which are European averages, these values have been written in italics.

For interpreting the cost differences between physician treatment and self-care in the tables below, a positive figure indicates that the cost for the self-care pathway is higher than for the physician treatment pathway. As opposed to that, negative figures reflect the savings

realisable by self-care per minor ailment case compared to physician treatment. Concerning the national healthcare system perspective, an average discount was applied in order to account for potential rebates in the prescription medicine market.

Clusters	CC1: HML	CC2: HHL	CC3: MML	CC4: MHL
Countries	IT	LU	AT, FR	BE
Patient Perspective				
Medication Cost OTC (EUR)	2.99	3.08	1.89	3.47
Medication Cost Rx (Patient Contribution) (EUR)	*-1.50*	*-1.50*	*-1.50*	*-1.50*
Patient contribution per physician visit under SHI coverage (EUR)	0.00	-9.40	-7.51	-5.40
Total Monetary Cost (EUR)	**1.49**	**-7.82**	**-7.12**	**-3.43**
Time Cost Patient (min)	*-106.07*	*-106.07*	*-106.07*	*-106.07*
Physician Perspective				
Time Cost Physician (min)	*-11.16*	*-11.16*	*-11.16*	*-11.16*
National Healthcare System Perspective				
Treatment Cost Physician (EUR)	-22.79	-27.62	-10.73	-12.40
Medication Cost Rx (EUR)	-6.08	-5.55	-2.82	-6.76
Total Monetary Cost (EUR)	**-28.87**	**-33.17**	**-13.55**	**-19.16**
National Economy Perspective				
Absence from work due to sick leave (EUR)	-5.18	-7.83	-6.76	-7.57
Treatment-related work loss (EUR)	-4.18	-6.32	-5.46	-6.11
Total Monetary Cost (EUR)	**-9.35**	**-14.14**	**-12.22**	**-13.68**
Absence from work due to sick leave (min)	*-12.00*	*-12.00*	*-12.00*	*-12.00*
Treatment-related work loss (min)	*-9.68*	*-9.68*	*-9.68*	*-9.68*
Total Time Cost (min)	***-21.68***	***-21.68***	***-21.68***	***-21.68***

Table 10: Perspective related cost difference between physician treatment and self-care for a single minor ailment case – CC1 to CC4

Clusters	CC5: LLL	CC6: LML	CC7: HMH	CC8: HHH
Countries	CZ, HU, LV, PL, PT, RO, SK, CY, MT	ES, SI	FI, IE, UK	NO, CH, DK
Patient Perspective				
Medication Cost OTC (EUR)	1.42	2.61	2.39	3.47
Medication Cost Rx (Patient Contribution) (EUR)	*-1.50*	*-1.50*	*-1.50*	*-1.50*
Patient contribution per physician visit under SHI coverage (EUR)	-0.63	0.00	-3.57	-25.27
Total Monetary Cost (EUR)	**-0.71**	**1.11**	**-2.69**	**-23.30**
Time Cost Patient (min)	*-106.07*	*-106.07*	*-106.07*	*-106.07*
Physician Perspective				
Time Cost Physician (min)	*-11.16*	*-11.16*	*-11.16*	*-11.16*
National Healthcare System Perspective				
Treatment Cost Physician (EUR)	-8.67	-10.88	-19.19	-2.41
Medication Cost Rx (EUR)	-2.35	-4.30	-7.75	-8.53
Total Monetary Cost (EUR)	**-11.02**	**-15.18**	**-26.94**	**-10.95**
National Economy Perspective				
Absence from work due to sick leave (EUR)	-2.38	-3.92	-5.78	-8.60
Treatment-related work loss (EUR)	-1.92	-3.16	-4.67	-6.94
Total Monetary Cost (EUR)	**-4.31**	**-7.08**	**-10.45**	**-15.53**
Absence from work due to sick leave (min)	*-12.00*	*-12.00*	*-12.00*	*-12.00*
Treatment-related work loss (min)	*-9.68*	*-9.68*	*-9.68*	*-9.68*
Total Time Cost (min)	***-21.68***	***-21.68***	***-21.68***	***-21.68***

Table 11: Perspective related cost difference between physician treatment and self-care for a single minor ailment case – CC5 to CC8

Clusters	CC9: MMH	CC10: MHH	CC11: LLH
Countries	DE, NL	SE	BG, HR, EE, EL, LT
Patient Perspective			
Medication Cost OTC (EUR)	2.87	1.59	1.33
Medication Cost Rx (Patient Contribution) (EUR)	*-1.50*	*-1.50*	*-1.50*
Patient contribution per physician visit under SHI coverage (EUR)	0.00	-14.71	-1.64
Total Monetary Cost (EUR)	**1.37**	**-14.62**	**-1.81**
Time Cost Patient (min)	*-106.07*	*-106.07*	*-106.07*
Physician Perspective			
Time Cost Physician (min)	*-11.16*	*-11.16*	*-11.16*
National Healthcare System Perspective			
Treatment Cost Physician (EUR)	-20.75	-4.29	-8.07
Medication Cost Rx (EUR)	-9.46	-7.63	-3.21
Total Monetary Cost (EUR)	**-30.22**	**-11.91**	**-11.28**
National Economy Perspective			
Absence from work due to sick leave (EUR)	-5.81	-7.10	-2.26
Treatment-related work loss (EUR)	-4.69	-5.73	-1.82
Total Monetary Cost (EUR)	**-10.49**	**-12.83**	**-4.08**
Absence from work due to sick leave (min)	*-12.00*	*-12.00*	*-12.00*
Treatment-related work loss (min)	*-9.68*	*-9.68*	*-9.68*
Total Time Cost (min)	***-21.68***	***-21.68***	***-21.68***

Table 12: Perspective related cost difference between physician treatment and self-care for a single minor ailment case – CC9 to CC11

Although the total monetary cost for self-care is slightly higher for patients (EUR 1.11 – 1.49) in three clusters compared to a physician visit, this is offset by time savings from the patients' perspective of, on average, more than one and a half hours (106 minutes). Nevertheless, in the eight remaining clusters, patients save fairly considerable amounts of money (EUR 0.71 – 23.30) in addition to this amount of time if they decide to self-medicate. For physicians, it is obvious that they save time per patient for each patient that is not treated by them as this saved time can be allocated to more severe cases that require a physician treatment or can bring a personal relief of time pressure and fewer working hours. This is of particular interest as research shows that physician resources are scarce all over Europe. Due to the nationally extremely different remuneration systems for physicians, it is impossible to point out certain influences on their income by treating fewer patients. This is the reason why the physician cost was considered as income per minute/hour of working time that is based on average income and working time. From the health insurance perspective, money for physician visits and Rx medication costs is saved throughout all clusters by practising self-care (EUR 10.95 – 33.17). Likewise, the national economy has a lower work loss in all clusters which is reflected in monetary (EUR 4.08 – 15.53) and time effects (European average 21.68 minutes). Overall, looking at the existing monetary and time effects in individual cases of minor ailments already

raises the prospect that they have a significant impact on the cluster-specific healthcare systems at the aggregated level. This takes into account the number of cases already treated by self-medication, i.e. the status quo, as the next chapter will reveal.

b. Aggregation in Country Clusters

In this calculation step, the economic effects associated with the practice of self-medication in a single case of a minor ailment are calculated separately for each of the groups of European countries (Country Clusters) defined above over a time horizon of one year. Therefore, the monetary and time effects per case are multiplied by the overall minor ailment cases per cluster. The difference between the treatment by a physician and by carrying out self-care is shown again. The results, therefore, provide information on the amount of resource consumption (monetary/temporal) that can already be avoided in the status quo as the difference between physician treatment and self-medication cost p.a. They are displayed as direct, indirect and intangible costs.

Clusters	CC1: HML	CC2: HHL	CC3: MML	CC4: MHL
Countries	IT	LU	AT, FR	BE
Direct Cost				
Medication Cost OTC (EUR)	258,501,887.38	2,778,283.13	310,001,946.13	83,195,448.31
Medication Cost Rx (EUR)	-699,384,482.52	-6,768,168.38	-734,796,366.74	-212,256,504.67
Treatment Cost Physician (EUR)	-1,971,406,054.67	-33,424,740.79	-2,996,287,151.42	-427,237,938.66
Indirect Cost				
Time Cost Physician (min)	-965,693,990.16	-10,079,576.72	-1,834,281,235.63	-267,919,600.00
Treatment-related work loss (EUR)	-361,273,615.01	-5,702,228.43	-896,780,211.76	-146,608,934.85
Treatment-related work loss (min)	-837,663,078.61	-8,743,234.77	-1,591,093,744.53	-232,399,040.73
Absence from work due to sick leave (EUR)	-447,699,828.38	-7,066,352.43	-1,111,313,780.52	-181,681,673.51
Absence from work due to sick leave (min)	-1,038,054,264.00	-10,834,848.00	-1,971,725,492.16	-287,995,044.00
Intangible Cost				
Time cost patient (min)	-9,175,602,941.58	-95,771,740.10	-17,428,539,964.90	-2,545,655,140.13

Table 13: Aggregated cost differences physician treatment vs. self-care per Country Cluster – CC1 to CC4

Clusters	CC5: LLL	CC6: LML	CC7: HMH	CC8: HHH
Countries	CZ, HU, LV, PL, PT, RO, SK, CY, MT	ES, SI	FI, IE, UK	NO, CH, DK
Direct Cost				
Medication Cost OTC (EUR)	437,692,716.64	150,860,317.78	390,427,236.62	135,192,617.35
Medication Cost Rx (EUR)	-1,216,397,471.24	-353,343,155.29	-1,626,290,941.88	-421,600,407.24
Treatment Cost Physician (EUR)	-2,866,470,823.03	-629,042,293.95	-3,724,602,228.93	-1,079,146,977.00
Indirect Cost				
Time Cost Physician (min)	-3,443,018,215.09	-645,377,849.09	-1,826,526,923.32	-435,146,065.51
Treatment-related work loss (EUR)	-593,015,981.36	-182,895,959.99	-763,616,720.17	-270,367,698.82
Treatment-related work loss (min)	-2,986,545,704.07	-559,814,186.94	-1,584,367,492.54	-377,454,759.57
Absence from work due to sick leave (EUR)	-734,881,104.11	-226,649,515.76	-946,294,056.27	-335,046,810.32
Absence from work due to sick leave (min)	-3,701,006,504.78	-693,736,561.44	-1,963,390,142.62	-467,751,931.11
Intangible Cost				
Time cost patient (min)	-32,714,056,817.47	-6,132,098,729.89	-17,354,861,872.72	-4,134,568,050.92

Table 14: Aggregated cost differences physician treatment vs. self-care per Country Cluster – CC5 to CC8

Clusters	CC9: MMH	CC10: MHH	CC11: LLH
Countries	DE, NL	SE	BG, HR, EE, EL, LT
Direct Cost			
Medication Cost OTC (EUR)	752,294,670.43	21,252,549.72	91,732,295.81
Medication Cost Rx (EUR)	-3,107,634,789.44	-130,695,150.50	-338,330,696.85
Treatment Cost Physician (EUR)	-5,443,033,337.14	-253,131,722.32	-669,663,082.13
Indirect Cost			
Time Cost Physician (min)	-2,928,098,264.00	-148,757,795.58	-770,178,976.77
Treatment-related work loss (EUR)	-1,228,885,097.18	-76,324,563.26	-125,750,124.64
Treatment-related work loss (min)	-2,539,893,414.76	-129,035,609.91	-668,069,284.20
Absence from work due to sick leave (EUR)	-1,522,866,946.95	-94,583,419.48	-155,832,883.67
Absence from work due to sick leave (min)	-3,147,503,162.83	-159,904,344.00	-827,889,144.00
Intangible Cost			
Time cost patient (min)	-27,821,512,112.71	-1,413,431,667.36	-7,317,904,591.73

Table 15: Aggregated cost differences physician treatment vs. self-care per Country Cluster – CC9 to CC11

Again, a positive figure indicates that costs for OTC medication are higher if they are bought in the scope of self-care instead of physician treatment. This is caused by a higher number of OTC packs bought per case when they are the only medication bought in contrast to a case where OTCs are bought as a supplement to a prescription medicine which can only be obtained through a physician visit. This was pointed out above in the context of cost comparison of an individual minor ailment case. For all other costs, the negative figures indicate that self-care leads to significant savings in monetary and time aspects.

c. Aggregation on a European Level

The final step in the calculation is to accumulate the economic effects that currently arise from self-medication in the individual Country Clusters. This is done to determine the effects of self-medication in an aggregated form for the entire 30 European countries considered in this study. The monetary cost shown for the European countries as a whole is expressed in nominal terms. The intermediate step of the cluster-specific calculations ensures that the data calculated for Europe as a whole also adequately take into account the economic and socioeconomic differences that exist in the individual countries and groups of countries (Country Clusters).

Cost Savings in the Status Quo Scenario		
	Number of MAs treated by SM per year	**1,189,149,286.58**
Direct Cost	Total medication cost (EUR)	-6,213,568,165.45
	Treatment cost physician (EUR)	-20,093,446,350.04
Indirect Cost	Time cost physician (min)	-13,275,078,491.87
	Treatment-related work loss (EUR)	-4,651,221,135.47
	Treatment-related work loss (min)	-11,515,079,550.63
	Absence from work due to sick leave (EUR)	-5,763,916,371.40
	Absence from work due to sick leave (min)	-14,269,791,438.94
Intangible Cost	Time cost patient (min)	-126,134,003,629.51

Table 16: Cost savings in the status quo – Europe total

Overall, in the European countries considered in this study, almost 1.19 billion minor ailments are treated by self-medication per year.[99] For all types of costs, it becomes evident that self-care significantly saves time and money compared to physician treatment.

[99] This figure is based on the authors' evaluation of corresponding population surveys. According to this, about 13 minor ailment cases occur per capita per year. The share of minor ailments treated by self-medication can be calculated based on the number of self-care packs and the average number of self-care packs used per minor ailment case (May, U., Bauer, C (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016).

3.2.2 Effects of Self-Care from the different Stakeholders' Perspectives

It can be concluded from the presented data that self-care reduces the burden on European healthcare systems and national economies. However, more far-reaching perspective-related analyses show that these easing effects are unevenly distributed among stakeholders and participants in the systems and that they partly only take effect in the long run.

Immediate and short-term effects are distinctly comprised of reduced time costs for consumers and physicians. The budgetary impact on the healthcare systems is complex. In the following sections, some general conclusions are drawn from the perspectives of the above-mentioned actors.

Cost Savings from Different Perspectives		
	Number of MAs treated by SM per year	**1,189,149,286.58**
Patient Perspective	Total medication cost (EUR)	850,206,039.43
	Patient contribution per physician visit (EUR)	-3,444,947,335.01
	Time cost patient (min)	-126,134,003,629.51
Physician Perspective	Time cost physician (min)	-13,275,078,491.87
National Healthcare System Perspective	Treatment cost physician (EUR)	-16,648,499,015.03
	Medication cost Rx (EUR)	-6,535,769,177.40
	Total cost savings	**-23,184,268,192.43**
National Economy Perspective	Absence from work due to sick leave (EUR)	-5,763,916,371.40
	Treatment-related work loss (EUR)	-4,651,221,135.47
	Total cost savings	-10,415,137,506.87
	Absence from work due to sick leave (min)	-14,269,791,438.94
	Treatment-related work loss (min)	-11,515,079,550.63

Table 17: Cost savings from different stakeholder perspectives – Europe total

Table 17 provides an overview of the aggregated effects in monetary and temporal dimensions that result from the fact that self-care takes place in Europe in the form and frequency currently practised (1.2 billion cases per year). In the following sections, these effects are described, interpreted and classified in terms of their significance.

3.2.2.1 Consumers and Patients

According to the calculations in this study, an average self-care case that the consumer encounters with OTC medicines from the pharmacy costs between EUR 2.53 and EUR 6.61, depending on the Country Cluster considered. If the consumer becomes a patient by visiting the physician, they incur average costs of between EUR 3.41 and EUR 29.91, which include the costs of medicines to be paid by the patient and statutory co-payments. Depending on the Country Cluster, an average self-care case either costs the patient between EUR 1.11 and EUR 1.49 more than a corresponding case of medical treatment would cost them personally or it even saves them EUR 0.71 to EUR 23.30. In each case, these cluster-dependent additional costs or savings are accompanied by a considerably higher time cost factor for the

Furthermore, this is also compatible with a WSMI study, according to which 90% of all people have (at least) one minor ailment every month (WSMI (n.d.): Responsible Self-Care and Self-Medication: A Worldwide Review of Consumer Surveys. Ferney-Voltaire: WSMI).

patient receiving medical treatment. Based on travel times, waiting times as well as treatment and consultation times, it was calculated that a medical treatment case takes the patient a total of 114.76 minutes on average, including the pharmacy visit that may be necessary to obtain a prescription-only medicine. This compares with a time requirement of only 8.68 minutes for self-care.[100] The previous results can be summarised as follows: choosing self-medication over a physician visit in the case of a minor ailment saves the individual patient on average EUR 2.18 and 106 minutes.

Approximately 22 minutes[101] per physician treatment case take place during working hours and are thus relevant from an economic perspective (see below). However, the majority represents lost leisure time and corresponds to an intangible cost factor which, as corresponding surveys in many European countries demonstrate, is of considerable significance to patients.

In the above-mentioned financial comparison at the level of the individual consumer or patient, it has not yet been taken into account that the expenses of the national healthcare systems arising from medical treatment must ultimately be borne by consumers, i.e. the subgroup of taxpayers or contributors, via financing through taxes or insurance contributions. The authors of the present report have repeatedly shown in previous studies that taking this effect into account will produce an end result that corresponds to a significant financial relief for the average consumer and insured person. This financial relief is achieved as a result of self-care, despite the OTC costs that have to be borne by the patient.[102] The basis of these calculations is directly transferable to this present study.

On an aggregated level, the figures mentioned above for individual cases show that European consumers are initially charged with EUR 2.63 billion per year through self-care with OTC medicines to the extent practised today. However, this must be contrasted with the fact that at the same time expenditure for Rx medicines amounting to EUR 1.78 billion and costs for physician visits amounting to EUR 3.44 billion are saved on the part of the patients through self-medication and thus foregoing a visit to the physician. In total, EUR 2.59 billion can be saved annually by choosing to treat minor ailments through self-medication. The corresponding time saved by these self-care cases amounts to around 126 billion minutes or around 2.1 billion hours per year. With regard to the evaluation of the additional financial burden as well as the return of resources via the financing of the healthcare systems previously mentioned, the explanations on the socio-political requirements for self-care should be given here. In Chapter 4.1.2, it was explained that possibly undesirable distributive effects ("de-solidarisation") can be completely separated from questions of efficient care and shaped according to socio-political objectives and values.

One effect that is of great collective importance for consumers and patients is that the self-care practised in society frees up a considerable amount of medical capacity for alternative uses. In the status quo, this amounts to 221 million physician hours per year. Under the given

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[100] In calculating this value, the proportion of cases was taken into account in which consumers practice self-care from their medicines cabinet at home and thus do not incur new travel, waiting and consultation times at the pharmacy.

[101] The estimation of 22 minutes is based on the finding that a certain proportion of the full-time employed population visits the physician during working time. (References: BAH (2015a); Pellisé & Serra (2015); AESGP (2004)).

[102] May, U. (2002): Selbstmedikation in Deutschland: Eine ökonomische und gesundheitspolitische Analyse. BAH, Bonn 2002.

May, U., Bauer, C. (2013): Der gesundheitsökonomische Stellenwert von OTC-Präparaten in Österreich. Vienna 2013.

conditions of scarcity and capacity shortages, this results in immediate medical benefits for those patients who urgently need a physician. Moreover, the transaction costs for patients who see a physician, particularly those arising from waiting times, are reduced.

Beyond the quantifiable and assessable aspects, consideration of the intangible effects of a somatic, mental, psychological and social nature predominantly promote a positive balance of benefits of self-medication from the patient's point of view. This is particularly true if self-care can be chosen as a voluntary alternative to physician therapy and the premise also applies that both treatment paths have an equivalent medical benefit and risk potential for the defined range of minor ailments.

With regard to the approval of self-medication practised through purchasing decisions and documented by demoscopic results, it can initially be concluded in an undifferentiated manner that the use of corresponding preparations makes a positive contribution to the quality of life of the average consumer and thus generates an intangible benefit. Voluntary decisions of rational individuals, in particular high repurchase rates and high satisfaction with the purchase decisions, can hardly be interpreted otherwise. Studies conducted in different countries show that consumers attribute a high level of benefit and efficacy to the OTC preparations they buy.[103]

Although these study results highlight the positive effect of self-medication on health-related quality of life, more specific consideration of the beneficial factors of self-treatment is possible. Specifically, these are somatic, mental, psychological and social factors. A detailed analysis of the first three categories would go beyond the thematic scope of this study. Thus, reference is made to the authors' comments elsewhere.[104] However, the socioeconomic focus of this report argues for naming the social factors here in the context of self-treatment:

First and foremost, the frequently cited strengthening of the individual autonomy of the responsible consumer should be mentioned here. In the field of healthcare, self-care implies independence, self-determination and freedom. Most people in Europe attribute a high value to these aspects. Self-care and self-medication facilitate and accelerate access to treatment for ailments and thus create a valuable additional benefit for the patient. It should be emphasised that self-care is just one option in most countries, and does not take away the consumer's freedom to see a physician. Also, the recommendations for action at the end of this report do not seek to constrain this freedom.

Another intangible, i.e. literally invaluable, benefit of self-care is the gain in leisure time or, otherwise, the loss of leisure time (due to a visit to the physician). In a series of consumer

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[103] BACHI (2018): Consumer Research OTC Products. PowerPoint Presentation. Leuven 2018.

May, U., Bauer, C. (2018): Pharmacy-based Self-care of Minor Ailments – A Health Economic Analysis Focused on the German Healthcare System. In: SelfCare Journal. 9(2). Thielmann, A., Gerasimovska-Kitanovska, B., Koskela, T.H., Mevsim, V., Weltermann, B. (2018): Self-care for common colds: A European multicenter survey on the role of subjective discomfort and knowledge about the self-limited course – The COCO study. In: PLoS One. 13(4).

Tsakanikas, A. & Athanasiadis, A. (2018): Self-medication and self care awareness: Empirical evidence from Greece. PowerPoint presentation. Amsterdam, 2018.

Bauer, C., May, U. (2017): Potentials and Opportunities for OTC-Switches in Austria. Data and Findings for the Support of Decision-Making by Companies and Politicians. Rheinbreitbach, 2017.

[104] May, U., Bauer, C. (2013): Der gesundheitsökonomische Stellenwert von OTC-Präparaten in Österreich. Wien 2013.
May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

surveys conducted in various European countries, this aspect was cited as one of the most important benefits of self-medication.[105] The measurement of this time gained is analogous to the measurement of time spent in the context of indirect costs. The evaluation of lost leisure time, on the other hand, can hardly be objectified and must therefore be classified as intangible. The same is true for the comfort or the avoided inconvenience due to self-care. Other associated effects attributed to self-care is that self-responsibility increases health awareness, consumer satisfaction and general patient participation.[106] This would also be an intangible benefit.

3.2.2.2 Healthcare System

When a patient with a minor ailment consults a physician instead of treating themselves, the average net prescription cost to the public healthcare system, after deducting rebates and co-payments, is EUR 10.64. This does not include other services that may have been initiated by a physician (e.g., physiotherapy, massages). Aggregated on this basis, self-care currently saves European healthcare systems EUR 6.5 billion (net) in drug costs annually. From the healthcare system perspective, the total cost savings by self-care correspond to approximately 6% of Europe's total expenditure in the ambulatory sector and 11% of the total retail pharmaceutical expenditure in the EU. In future, further prescription costs could be saved through more self-care (Chapter 4.3.3).

In terms of drug costs and other physician-initiated services, incentives to promote self-care are therefore directly present both at the level of individual payers and of state healthcare systems (e.g., in the United Kingdom and Italy) as a whole.

While the effects of increased self-care or self-medication on public pharmaceutical budgets can therefore be relatively transparently derived, the assessment of the effects of reduced physician contacts on the expenditures of healthcare systems for outpatient physician remuneration is much more complex.[107] Nevertheless, for Europe as a whole, self-care currently releases physician resources (physician hours) worth EUR 16.6 billion per year.

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[105] Harris Interactive (2020): Impact du Covid-19 sur les comportements des Français. PowerPoint presentation.

AFIPA (2020): Make selfcare products a lever for resilience and access to proximity care in France. AFIPA, Paris 2020.

Tsakanikas, A. & Athanasiadis, A. (2018): Self-medication and self care awareness: Empirical evidence from Greece. PowerPoint presentation. Amsterdam, 2018.

Pellisé, L., Serra, M. (2015): The economic impact of an hypothetical Rx-to-OTC switch in Spain. ISPOR 18th Annual European Congress. PowerPoint presentation. Milan, 2015.

[106] Reibnitz, C. v., Litz, D.: Konsumentenstärkung im Gesundheitswesen: Ein großer Schritt zu mehr Demokratie und Effizienz. In: Pharmazeutische Zeitung. 144. Jhrg. Nr. 7. Eschborn 1999. 15-16. May, U., Oberender, P. (2000): The regulatory environment of the German OTC-market with regard to individual and social aspects. London 2000. 5-7. Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

[107] Overall, it can be stated that a change in the utilisation behaviour of the insured population due to increased self-care and self-medication will be reflected in the remuneration systems of all countries, at least in the long term. It should also be noted that the underlying perspective and the time horizon play a role in whether a change in resource allocation is seen as a saving or not. While it is always advantageous from the perspective of society or the economy as a whole to avoid unnecessary resource consumption, even in the short term, this may sometimes be irrelevant from the perspective of fiscal cost units or may only have an impact in the medium to long term, after certain adjustment processes have been completed and budgets have been adjusted (for example, see: Krauth et al. (2005)).

The figure below illustrates that without the current relief effect of self-care, approximately 120,000 additional physicians would be needed in Europe. Alternatively, this fact can also be expressed in the fact that without self-care, each GP in Europe would have to work an average of 2.4 hours longer per day.

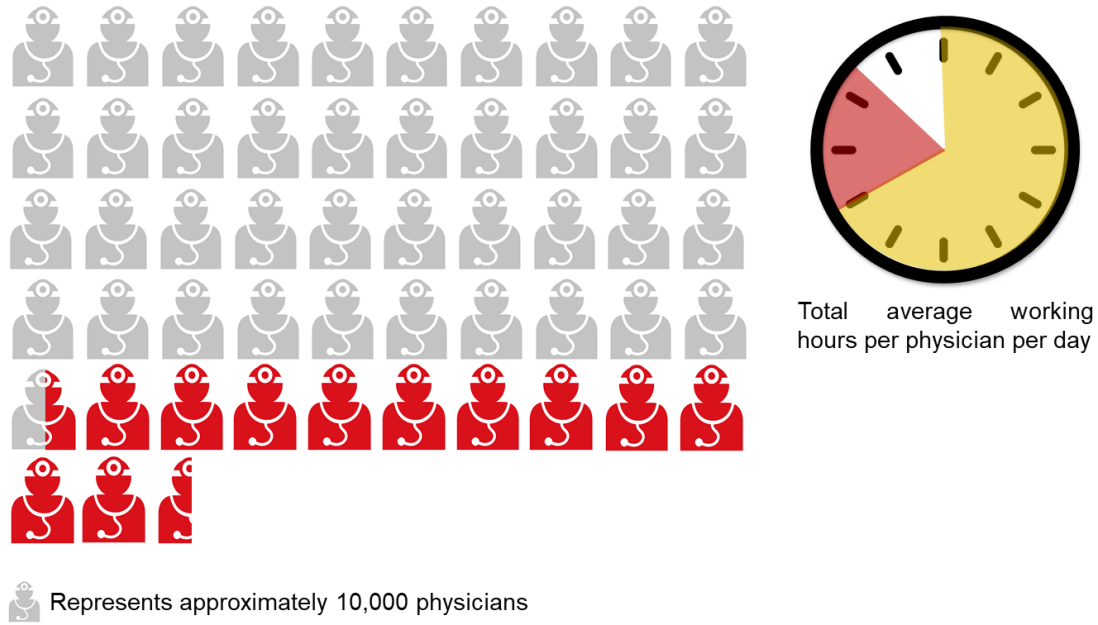

Figure 9: Status quo number of physicians and physician working hours per day in Europe

All of the above figures refer to a European perspective. As the analysis based on Country Clusters shows, the specific savings effects for cost bearers in the respective national healthcare systems are strongly dependent on their design, in particular on the given pricing and remuneration systems as well as the self-payment regulations for patients. High patient co-payments reduce the savings potential of self-care, while low co-payments tend to increase the savings of payers through self-care.

3.2.2.3 National Economies and Society

From an economic point of view and from the perspective of private and public employers, it is important to note that every minor ailment that is treated by consumers themselves under their own responsibility saves the European economy a loss of productivity worth EUR 14.14 (Figure 10). In total, self-treatment on the scale practised today avoids 210,051 days of incapacity for work per year. The latter is worth around EUR 5.8 billion as a result of reduced visits to physicians during working hours. According to a conservative estimate, this could be supplemented by reduced sick leave and sickness-related absences from work amounting to around 149,000 days of incapacity for work with a value of around EUR 4.7 billion per year. In the case of the example calculation, this results in economic effects and thus effects on the employer from the avoidance of 359,000 days of incapacity for work and a productivity loss of EUR 10.4 billion.

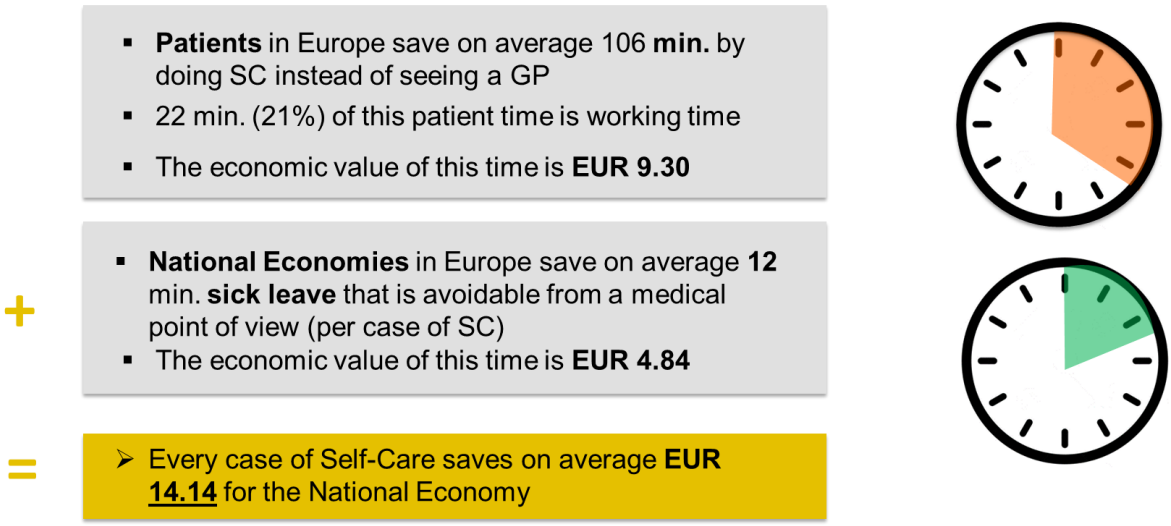

Figure 10: Summary of savings through self-care from different perspectives

However, even minor ailments that occur temporarily and abruptly without leading to absence from work can reduce the individual's performance at work and thus reduce productivity as a whole. In view of the high number of such cases, aggregated across sectors and companies, this also leads to economic costs due to productivity losses and welfare losses. These cases of minor ailments can often be treated using self-care measures so that the affected individual's ability to work can be restored. Especially in the cases mentioned here, where individuals suffer from minor ailments to a degree that they are not hindered to work but their performance is impaired due to the minor ailment, a sufficiently fast remedy can often only be ensured within the framework of immediate availability of OTC preparations and low-threshold access to pharmacy-supported self-care. In these cases, self-care can contribute to economic cost advantages compared to medical treatment of the corresponding cases.

Furthermore, from an economic point of view, attention should also be drawn to competition policy and labour market policy aspects, as well as to the possible increase in employers' contributions to health insurance, i.e. non-wage labour costs. With regard to the supply of non-prescription medicines, the contribution rate effect primarily reflects the net effect of the change in direct costs in the pharmaceutical sector and in physician remuneration. With the above-mentioned magnitude, self-care makes a significant contribution to the financial relief of the national healthcare systems and consequently also contributes to macroeconomically desirable stability as well as a limitation of the social quota overall in Europe.[108]

[108] Whether there will actually be a reduction in the contribution rate ultimately depends on political requirements. The fact is, however, that the aim is to achieve specific effects that reduce the burden on the contribution rate. The following scenarios may be equivalent in terms of welfare economics, i.e. with a view to efficient resource allocation: 1. reduction of the contribution rate, 2. avoidance of an increase in the contribution rate, 3. avoidance of otherwise necessary cuts in care (e.g. introduction or increase of co-payments).

3.3 Discussion and Outlook

The data presented in this research project indicate actual saving effects and future economic potentials (Chapter 4.3) through self-care in Europe. In order to be able to realise these calculations within the given project framework and to avoid separate calculations for every country considered, Country Clusters were formed for the health economic model calculations. Detailed quantitative statements on individual countries are not possible on this basis. Since the basic parameters were calculated using European averages and key parameters were averaged within the clusters, the accuracy of the results is limited to a certain degree. The validity and robustness of the results obtained and the validity of the conclusions based on them are not called into question by this approach.

The calculated effects of current self-care practices quantify to what extent physician treatments are replaced by self-care with non-prescription medicines. It has not yet been considered whether self-care without medicines, e.g. with home remedies, may also be successful and help to avoid physician consultations.

This present study is based on a scenario under which self-care is taken as a substitute for medical therapy. Physician consultations and prescribed medicines are replaced by measures under the personal responsibility of the consumers and using pharmacy-based purchases of non-prescription medicines. A second basic scenario, which goes beyond the scope of our study, should become the subject for future research. This scenario should examine the (health) economic impact that enhanced (pharmacy-based) self-care could have in comparison with simple measures without the support of healthcare professionals and without the use of pharmacy products.

The health economic form of analysis chosen for this study is a cost-minimisation analysis. This approach, which operates without an explicit comparison of benefits, is thoroughly justified based on the state of scientific knowledge. Despite this, a future research project contingent on prospective studies under “real-life conditions” might produce an additional gain of knowledge in this regard. Finally, these kinds of studies might also provide product- and indication-specific results concerning the costs and benefits of physician treatment and self-care as therapy pathways. The calculations in this study are not indication-specific. This restricts the validity of the outcome to an average case of self-care. Analyses for single indications which have already been performed with the aid of other methods can also be conducted with the approach described here.[109]

Statements concerning savings for the health systems and the national economies do not necessarily mean that self-care can actually reduce expenditures or nominally lower certain budgets. Real monetary or cash-flow changes should not be expected. Savings for the welfare economy and national economy are moreover achieved by freeing up scarce resources, which can then be used for other alternative applications. This freeing up of resources must be deemed economically equivalent to an induced cash flow. The capacities freed up by self-care would have to be additionally funded or, otherwise, result in unavailability for patients. An increase of capacities and budgets (which would actually bind financial resources) can be avoided. Due to self-care, physicians nowadays can focus more on treatment cases which go beyond minor ailments. Furthermore, the underlying perspective and the time horizon impact

[109] Göbel, H., Braun, J., Petersen-Braun, M., Gessner, U. (2015): Pharmakoökonomischer Nutzen der Selbstmedikation in Deutschland – Empirische Untersuchung am Beispiel von Migräne und Kopfschmerzen. In: Gesundheitsökonomie & Qualitätsmanagement. 21(1).

Bauer C, May U. (2014): Hoch geschätzt und doch unterschätzt. Naturheilmittel aus Verbrauchersicht. In: DAZ vom 04.09.2014,154. Jahrgang, Nr. 36, pp78–82.

on the question of whether an altered allocation of resources is perceived as a saving or not. From a macrosocial or macroeconomic perspective, unnecessary use of resources should always be avoided in the short term. However, from a fiscal perspective of the European States or healthcare systems, this may be irrelevant or take effect only in the mid or longterm, after certain adaptation processes have been completed and budgets have been adjusted.

3.4 Interim Conclusion Chapter 3

Presently, around 1.2 billion cases of minor ailments are treated by patients themselves with over-the-counter medicines every year in Europe. Given the prevalent health market environment in the European countries, current practices of consumer self-care and self-medication produce a net saving of EUR 23.3 billion p.a. in expenses for medical services and products. These costs would otherwise be incurred by the national healthcare systems. A further EUR 10.41 billion of expenditure is avoided due to time gained from saved physician's visits and the lowered sick leave-associated losses of work productivity and man-hours. Statistically speaking, each euro spent by European consumers on self-medication translates to a net saving equivalent to EUR 6.70 of otherwise required economic resources for the healthcare systems and the national economies. This consists of savings of EUR 4.60 for the healthcare systems and EUR 2.10 for the national economies. Regarding a single case, self-care saves an average of EUR 14.14 for the national economy and 1.5 hours of patients' time. While patients gain time, they additionally save EUR 2.18 in each case of self-care compared to a visit to the physician.

Healthcare professionals and consumers alike gain substantial benefits in terms of time spent and appointments allocated to the examination and treatment of minor ailments, thus freeing up these finite resources for more urgent or complex medical cases. If self-medication were not available, about 120,000 more physicians would be required in Europe or, alternatively, each physician would have to work 2.4 hours longer per day. A targeted approach promoting an expanded self-care approach by consumers may lead to significant future gains for the efficiency of healthcare systems.

As expected, direct and indirect costs per minor ailment case vary widely between the European countries. Accordingly, direct medical cost saved by treating minor ailment cases with self-medication instead of visiting a physician differs in Europe.

4 Economic and Social Value of More Self-Care

The preceding analysis has revealed that the economic and social value of self-care in Europe achieves significant savings in monetary and time terms in the status quo. The following chapter moves away from an examination of the current situation and consequently proceeds to a consideration of the future potential of self-care in Europe. The aim is to investigate the situation in the European countries under consideration when more self-care is practised and to assess whether the effects investigated for the status quo can be further increased by promoting self-care. After research question A was successfully answered in Chapter 3, the following sections are intended to answer research question B. For this purpose, firstly, the possible extent of enhancing self-care is assessed as well as certain limits for this expansion. Secondly, factors determining the growth of self-care are identified. The chapter concludes by linking the before introduced calculations in the status quo (Chapter 3) to potential future scenarios. The overall objective of the examination of these future scenarios is to examine resources that could be released through the enhancement of self-care for society.

4.1 Potentials and Limits of Increased Self-Medication from a Health Economic and Socioeconomic Perspective

Self-care of minor ailments, as practised in European countries today, releases considerable economic and efficiency reserves for society, the healthcare systems and the patients. If self-care is extended to areas and cases where its chances of success become smaller and the risks larger, the cost advantage begins to diminish and at a certain point turns into its opposite. The exact break-even point at which this "change of direction" occurs, in economic terms the point at which the condition below applies, could be seen as the justifiable limit of self-care from the point of view of a puristic health economic theory.

Condition: Marginal benefit of additional self-care = 0

This theoretical consideration concerning the limit of self-care will only be relevant to a certain extent for the practice-related question of actually promoting self-care. In practice, it is rather the question of whether and to what extent consumers or patients are willing to recognise a health disorder themselves, treat it correctly and bear the cost for it themselves. On the other hand, whether they are subjectively and objectively able to do so is decisive. Since every self-care case always requires an individual decision and initiative on the part of the consumer concerned, the factual limits of self-care arise at this point.

With regard to people's willingness to pay and take risks, these factual limits can be shifted to a certain extent by institutional, legal and, in particular, financial framework conditions. If the ability to pay becomes a decision-making criterion due to the exclusion of services from reimbursement or due to financial hurdles in the utilisation of services (e.g. "practice fee"), personal responsibility for health can come up against the limits of its social compatibility. From a socio-political point of view, this also results in requirements for the development of framework conditions.

The socio-political implications, a purely medical perspective and its relationship to a health economic or pharmacoeconomic perspective are explained and discussed below.

4.1.1 Pharmacoeconomics and Clinical Limits of Self-Care

The risks that may be associated with an expansion of self-care are, by their very nature, the same as those that apply to existing self-care. It is obvious, however, that these risks could increase if the scope of self-care were to go significantly beyond what is practised today. The limits of self-care are of course exceeded at the latest when self-diagnosis is not possible and/or e.g. a prescription for prescription-only medicines and/or close monitoring of the condition is required. In this case, seeking self-care could worsen the health or the healing chances of the patient and would not be justifiable as a responsible treatment choice.

In general, non-existence of risks, either direct or indirect, when used correctly and/or if utilised without medical supervision, is among the criteria for the status of non-prescription medicine according to the legal framework in the EU.[110] These criteria limit the status of non-prescription treatment to self-diagnosable and self-monitored conditions. Also, in the case of reclassification, national medicines agencies or the EMA re-examine the risks and benefits of a medicine in the self-care context.[111] Moreover, the respective pharmaceutical form, dosage and package size with regard to the suitability for self-care are also examined and they will often differ from prescription-only medicine in order to minimise risk.[112] Last but not least, the question of whether the patient can correctly recognise the symptoms and whether the patient can self-administer the medicine plays a role. If there is a risk that an incorrect self-diagnosis and thus, an incorrect self-care action can lead to a worsening of the actual disease, this will often result in a negative opinion regarding a marketing authorisation application.[113] If, in practice, a risk emerges which cannot be effectively addressed by risk mitigation measures, a re-switch, i.e. the reclassification from non-prescription to prescription-only status, will be carried out by a medicine regulator.

Only areas of application and groups of preparations that meet the basic requirements of self-diagnosis and substances that meet all the criteria for non-prescription status are discussed in the context of the present study. The fact that a prudent further development of self-care within these defined limits could be clinically questionable is not supported by scientifically applicable findings and can therefore be disregarded at this point. However, it must be noted that with increasing access to diagnostic tools, for example symptom checkers, in vitro diagnostic tests, etc. there is a possibility that the number of self-treatable indications will significantly increase in the future.

This does not mean that there are no risks associated with self-care in the predestined indications and that these risks could increase with further self-care cases. However, these

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[110] Directive 2001/83/ EC article 72 (as amended) https://ec.europa.eu/health/sites/health/files/files/eudralex/vol-1/dir_2001_83_consol_2012/dir_2001_83_cons_2012_en.pdf

[111] Directive 2001/83/EC Article 74 and a guideline for changing the classification for the supply of a medicinal product for human use

[112] EMA (2015): Good practice guide on risk minimisation and prevention of medication errors https://www.ema.europa.eu/en/documents/regulatory-procedural-guideline/draft-good-practice-guide-risk-minimisation-prevention-medication-errors_en.pdf (05.02.2021).

[113] Kroth, E. (2014): Chance OTC-Switch: Die Entlassung von Arzneimitteln aus der Verschreibungspflicht. In: Deutsche Apotheker Zeitung, 48 / 2014. Retrieved from: https://www.deutsche-apotheker-zeitung.de/daz-az/2014/daz-48-2014/chance-otc-switch (21.07.2020).
Kroth, E. (2015): Neue Indikationen für die Selbstmedikation. Interview mit apotheke adhoc vom 05.08.2015. Retrieved from: http://www.apotheke-adhoc.de/nachrichten/pharmazie/nachricht-detail-pharmazie/otc-switch-selbstmedikation-apotheke-pharma-bfarm-bah/?tx_ttnews%5BsView-Pointer%5D=4 (21.07.2020).

are risks that can be associated with any course of health condition and with treatment and therefore cannot be attributed specifically to self-care. Physicians also partly recognise the advantage of OTC medicines. One of these reasons, among others, is because they generally have interactions in their areas of application that are not as serious as those for prescription-only alternatives and, if any, interactions are addressed through risk mitigation measures such as package labelling, pack size, etc.[114]

When discussing and weighing the clinical risks and limits of self-care, it should also be taken into account that the danger of misdiagnosis, non-recognition and thus delay of illnesses can not only go hand in hand with increased self-care, but is also intensified when health systems are overburdened and, for example, physicians are forced to diagnose and treat important cases under de facto already high time pressure. The fact that this situation is already a reality in many medical practices has been pointed out internationally in various studies ever since the controversy on this problem ("To err is human") was initiated in the USA about 20 years ago.[115]

The population in Europe is also concerned about this issue: a corresponding survey in the European Union showed that 78% of EU citizens consider medical errors to be a significant problem. Around half of Europeans share the concern that they could also be affected by such a mistake in clinical practice.[116] This is not without reason, as data from Germany, for example, show: according to an evaluation of 90 studies by the Institute for Patient Safety at the University of Bonn, up to 680,000 serious medical mistakes occur in their practice every year. Around 17,500 patients die as a result. A review of eleven studies with partly different definitions of events and methods of data collection calculated a rate of 5 to 80 events per 100,000 consultations in which patients were harmed or could have been harmed.[117] On an international level, in an Australian study, 86 representatively selected general practitioners were asked to anonymously report critical events in their practice for 12 months. This showed a reporting rate of approximately two events per 1,000 consultations per year.[118] The lack of time is one of the reasons most often cited in professional circles for the fact that there is a corresponding error rate, especially in diagnosing.[119] A particularly high lack of time occurs in the practices of GPs at peak times of the cold and flu season and thus in connection with consultation occasions where more self-care would be conceivable.

Finally, from a fundamental pharmacoeconomic point of view, it remains to be determined that possibly conceivable risks of self-care, even where they might have been proven to occur and statistically exceed the level of risk of treatment by a physician in corresponding cases, must be weighed up against the cost savings that can be achieved. Such cost-benefit considerations

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[114] IGEPHA (2015): Die Rolle des Arztes in der Self Care. In: QUINTESSENCE Das Medium zum Thema Self Care Ausgabe 3/2015.

[115] Kohn, L.T., Corrigan, J.M., Donaldson, M.S. (eds.); Committee on Quality in Health Care; Institute of Medicine: To err is human (1999): Building a safer health system. Washington: National Academy Press, 1999.

[116] European Commission (2006): Medical Errors, Eurobarometer 64.3 (Nov-Dec 2005), Brussels 2006.

[117] Sandars, J., Esmail, A. (2003): The frequency and nature of medical error in primary care: understanding the diversity across studies. In: Family Practice. 20(3).

[118] Makeham, M.A.B., Kidd, M.R., Saltman, D.C., et al. (2006): The threats to Australian patient safety (TAPS) study: incidence of reported errors in general practices. In: The Medical Journal of Australia. 185(2).

[119] Albers, R., Gottschling, C., Mayer, K. M., Meiners, M. Reinhard, J. (2013): Albtraum Fehldiagnose. In: FOCUS Magazin Nr. 8 (2013). Retrieved from: http://www.focus.de/digital/multimedia/titel-albtraum-fehldiagnose_aid_921147.html. (04.02.2021).

have long been common practice throughout Europe in all areas of healthcare, especially in the provision of medicines, and are indispensable under the given conditions of resource scarcity. However, both under the claim of global efficiency with regard to the use of resources in the healthcare system and from a medical ethics point of view, it is necessary to explicitly save resources where they can be "bought" with the lowest level of proven health risks.[120] Given the potential savings and savings ratios calculated in Chapter 3.2 of the present study, and with reference to the low evidence or the partly hypothetical character of medical risks of self-care, their limit has not yet been reached according to the available state of evidence in the European countries.

4.1.2 Pharmacoeconomics and Socio-Political Limits of Self-Care

The question of the relevance of self-care and its promotion is perceived critically at the political level, partly also in the context of socio-political aspects and cultural circumstances.[121] Depending on the political perspective, the concept of self-care may be perceived to conflict with the goals of social equity and, more specifically, solidarity in the financing of public healthcare systems. This is simply because self-care products are usually paid for by patients themselves rather than reimbursed by the national healthcare system. A closer analysis, however, shows that the efficiency gained from self-care can be systematically separated from such equity and redistribution issues. This becomes evident through the following conceptual findings:

1. The decision to practise self-care by using non-prescription medicines is always based on a voluntary decision (also based on financial considerations) of the person affected by a health condition. This means that the option to consult a physician in a case of a health disorder is always given. Negative incentives or hurdles diminishing the latter are to be avoided in any case.

2. Health and social policies bear the ability to counteract conditions or developments that are considered unfair. This can be achieved by legal, institutional and financial means.

3. The decision on the reimbursement of (OTC) medicines is always linked to a set of values based on the socio-political judgement and the society´s perception of fairness, solidarity and ability to pay.

4. In principle, the reimbursement of OTC medicines is therefore independent of the decision if self-responsible and voluntary self-care should be promoted. The socio-political component of this issue is manifested in the framework conditions and steering instruments used to promote self-care.

The advocacy and promotion of the principle of self-care should not be overloaded with socio-political issues. However, the question of an efficient care pathway for self-treatable conditions, which is the focus of this study, should be considered separately from equity and distribution issues. These two issues only intersect if the aim is to promote self-care with instruments that create (especially financial) hurdles for certain groups of the population to access a physician and to be able to be reimbursed on the medical expenses including those that are medication-incurred. Such hurdles are not only socio-political but also clinically questionable and ultimately counterproductive in terms of health economics. On the basis of the available data and study

[120] Albers, R., Gottschling, C., Mayer, K. M., Meiners, M. Reinhard, J. (2013): Albtraum Fehldiagnose. In: FOCUS Magazin Nr. 8 (2013). Retrieved from: http://www.focus.de/digital/multimedia/titel-albtraum-fehldiagnose_aid_921147.html. (04.02.2021).

[121] Fainzang, S. (2012): L'automédication ou les mirages de l'autonomie. Presses Universitaires Paris.

results, the authors refrain from recommending health policy measures that aim to create such hurdles (such as a significant practice fee at the physician practice). Further discussions on the limitation of solidarity-based care and the concrete framework of OTC reimbursement are beyond the scope of this report.

4.2 Basic Concepts for the Expansion of Self-Care

The potential for the expansion of self-care beyond the existing scope and current importance can essentially be identified in only two ways, either by facilitating access to a greater number of people in already established areas of self-care or by increasing access to self-care in terms of adding new active pharmaceutical ingredients and/or indication areas where self-care has not been practised so far. In the first case, self-care becomes more profound by exhausting its potential within the given opportunities. In the second case, the scope is enlarged by extending the range of indications accessible to self-care. Of course, both trends of development might occur simultaneously and in parallel in practice, so that a proportional growth of self-care is imaginable in terms of “depth” and “breadth”. Figure 11 schematically summarises these growth scenarios and the potential opportunities for development. The arrangement of the status quo of a given country in the left-hand and bottom sectors of the coordinate system demonstrates that for both depth and breadth there are considerable development potentials in this country and that these potentials are disproportionate in terms of scope, i.e. with regard to new applications. This example reflects the relatively low availability of non-prescription substances.

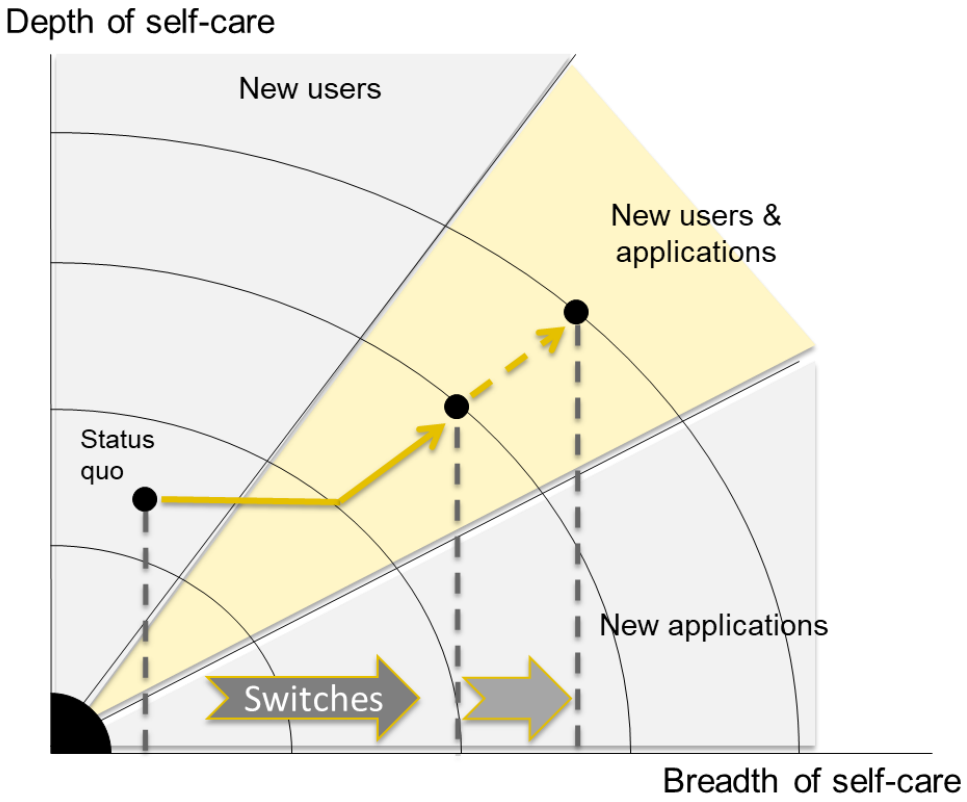

Figure 11: Development potential of self-care by new users and new applications[122]

One potential way to increase the depth of self-care would be to reduce the number of current physician treatments of minor ailments in favour of self-care. A second potential method for winning new users for pharmacy-based self-care could be in the area of previously untreated minor ailments. This means that self-care could attract further clientele and gain more growth impulses from the large number of cases in which treatment has so far been completely omitted (therapeutic nihilism) or where it has not reached the threshold for pharmacy-based self-care.[123] Rx-to-OTC switches could exert a "deepening" effect on both current physician-treated and untreated minor health problems. However, this can only work to the extent of creating more simple, more effective, safer, or more user-friendly opportunities for self-care in indications which were previously already generally accessible to self-care. In this sense, "substance gaps" identified for specific countries are also important as well as of health economic interest if they lie in areas where OTC medicines already exist.

[122] Bauer, C. May, U. (2017): Potentials and Opportunities for OTC-Switches in Austria. Data and Findings for the Support of Decision-Making by Companies and Politicians. Rheinbreitbach 2017.

[123] If and to what extent such kind of "optimised self-medication" can likewise open up economic and efficiency reserves for the healthcare system has not been scientifically investigated so far.

Direction	Depth / new users	Breadth / new applications
Potential	Treatment of minor ailments by physicians	New indications through switches / launches
	Untreated minor ailments / prevention	Chronic diseases after initial diagnosis by a physician

Table 18: Depth and breadth of self-care

The possibilities to further develop the significance of self-care through Rx-to-OTC switches or to increase the degree of utilisation of over-the-counter treatment options (uptake) are discussed in the following.

4.2.1 Rx-to-OTC Switches

The basic importance of switches for the promotion of self-care is well-founded by various studies and also reflected in the results of a survey of experts.[124]

Above all, switches are the classic instrument for the extension of the spectrum of health disorders which are accessible to self-care. The switch of new substances or substance classes can be the initial step towards opening the door for self-care of entire indication areas or partial indications for the first time. This is particularly true if a switch provides the first adequate treatment option with non-prescription medicines in a specified indication area. For such cases, a series of examples can be found in the international switch history of the last few decades. They include e.g. aciclovir for herpes (1992), clotrimazole for vaginal mycosis (1994), nicotine for smoking cessation (2000) and miconazole for the treatment of fungal diseases of the oral cavity (2005) in Germany. During the last 15 years, the lipid-lowering pharmaceuticals lovastatin and simvastatin were switched in Canada and the UK respectively, and the antiviral agent valaciclovir was switched in Finland for systemic use against labial herpes.[125]

In some cases, it is even possible that the non-prescription status of certain medicines, or a certain therapeutic indication, now cater for an indication area or a group of medicines that is perceived by consumers to be of significant practical relevance for the first time. One example of this phenomenon is the nicotine-containing medicines for smoking cessation therapy and phosphodiesterase-5 inhibitors for the treatment of erectile dysfunction in men. As so-called lifestyle medicines, these medicines are excluded from reimbursement by national healthcare systems/statutory health insurances in many countries, with the result that they de facto do not play an important role in medical prescription practice. Without the non-prescription status of these medicines, there is no adequate and needs-based application nor use in practice, particularly since direct-to-consumer advertising is not allowed for prescription medicines according to national advertising regulations.

[124] May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

[125] AESGP (2017): Database OTC ingredients. Retrieved from: http://www.aesgp.eu/facts-figures/otc-ingredients/ (16.11.2020).

Another recent example concerns emergency contraceptives ("morning after pill" or "MAP") which contain ulipristal or levonorgestrel. Levonorgestrel-containing emergency contraceptives were switched to non-prescription status in the UK in 2001 and in Austria in 2009, whereas they were only available on prescription in Croatia, Germany, Greece, Hungary, Italy and Poland prior to 2015.[126] Following a recommendation by EMA to switch the ulipristal-containing MAP to non-prescription status, the European Commission issued an EU-wide decision to switch in January 2015.[127] This switch was supported by a number of arguments, including the fact that a physician consultation might constitute a hurdle for the use of the pill in cases where their use would be indicated and that low-threshold access to the medication in pharmacies "would be desirable".[128] A further hurdle included the frequent reports of cases in which prescription of the MAP was refused on the basis of "theological" reasons, despite the prescription being indicated. These hurdles were overcome following the successful EU-wide switch and the corresponding benefits are evident through reported increases in the number of packages of emergency contraceptives dispensed in pharmacies. For example, after the OTC switch in Germany, the number of emergency contraceptive packages dispensed in pharmacies increased by an average of 30% across the federal states in a short period of time before it stabilised at the resulting higher level.[129]

International switch experts have moreover recognised an opportunity for the extension of the basis for self-care, beyond the described switch-opportunities in the classical sense, by opening up certain chronic diseases for self-care by patients after initial diagnosis by a physician. In this context, the AESGP has developed a proposal in this regard which is relatively far-reaching when compared with self-medication areas currently existing in European countries.[130] This proposal goes beyond minor ailments where the focus of self-care initiatives is traditionally placed and is thus only partly compatible with the original definition of self-care (which, for example, also includes self-diagnosis).

In conclusion, the role of switches for the promotion of self-care can be summarised as follows: the availability of non-prescription medicines is important for the quantity and quality of self-care. Rx-to-OTC switches can, in particular, provide important impetus for the growth of self-

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[126] Bundesministerium für Gesundheit und Frauen (2017): Die Pille danach. Retrieved from: https://www.gesundheit.gv.at/leben/sexualitaet/verhuetung/verhuetungsmittel/notfallverhuetung/pille-danach (29.11.2020).

Italia, S., Brand, H. (2016): Status of Emergency Contraceptives in Europe One Year after the European Medicines Agency's Recommendation to Switch Ulipristal Acetate to Non-Prescription Status. In: Public Health Genomics. 19.

ECEC (2018): Emergency Contraception Availability in Europe. Retrieved from: https://www.ec-ec.org/emergency-contraception-in-europe/emergency-contraception-availability-in-europe/ (16.02.2021).

[127] EMA (2014): EMA recommends availability of ellaOne emergency contraceptive without prescription. Retrieved from: https://www.ema.europa.eu/en/news/ema-recommends-availability-ellaone-emergency-contraceptive-without-prescription (16.02.2021).

[128] Deutscher Bundestag (2014): Drucksache 18/2630. 18. Wahlperiode 24.09.2014.

[129] IMS Health (2015): Der Gesundheitsmarkt in Deutschland. Frankfurt 2015.

Bundesverband Deutscher Versandapotheken (2015): IMS HEALTH: Rezeptfreie „Pille danach": Zweistellige Zuwächse der Abgaben in Bundesländern. Retrieved from: https://www.bvdva.de/aktuelles/news-kooperationspartner/71-ims-health-rezeptfreie-pille-danach-zweistellige-zuwaechse-der-abgaben-in-bundeslaendern (29.11.2020).

[130] AESGP (2004): The Economic and Public Health Value of Self-Medication. AESGP, Brussels 2004.

care if they open up new therapeutic options. In addition, the availability of a non-prescription active substance can directly influence a patient's decision in favour of or against a physician consultation. The situation in countries such as Austria, Estonia, Croatia, France, Slovenia, Sweden and the Netherlands with a rather restrictive "switch culture" can, in particular, be suggestive for the quantitative effect that can be associated with switches in terms of the volume of self-care.[131] As a restriction, however, it must be noted that the expected quantitative effects of switches on the extent of self-care should be estimated with caution because they cannot be assessed in isolation. Instead, it is deemed necessary that the existing environment of the self-care market in a respective country ("switch climate") creates the economic breeding ground for the switched substances.

4.2.2 Increasing the Uptake of Self-Care

In the event of the occurrence of a minor ailment, the basic options for action arise for the patient, as listed in Chapter 3.2.1.1. The transitions between the wait-and-see situation or home remedy and self-care with OTC preparation strategies and between self-care and a physician's visit are regarded as fundamental and central to the significance of self-care.

Based on the premise that there is an underuse of OTC preparations for self-treatment in terms of frequency of use, a (meaningful) potential for the further development of self-care results on the one hand from a shift of prescriptions from the prescription-only market. On the other hand, there may also be potential for self-care to be optimised, e.g. through greater involvement of healthcare professionals such as pharmacists and the use of OTC medicines.

Based on these considerations, two development directions for self-care can be derived, which are illustrated in the following Figure 12. The scenarios or settings for expanded pharmacy-supported self-care, described here as "Self-Care First" (setting 1) and "Higher Treatment Rate" self-care (setting 2), are described in more detail below.

[131] May, U., Bauer, C. (2013): Der gesundheitsökonomische Stellenwert von OTC-Präparaten in Österreich. Vienna 2013.

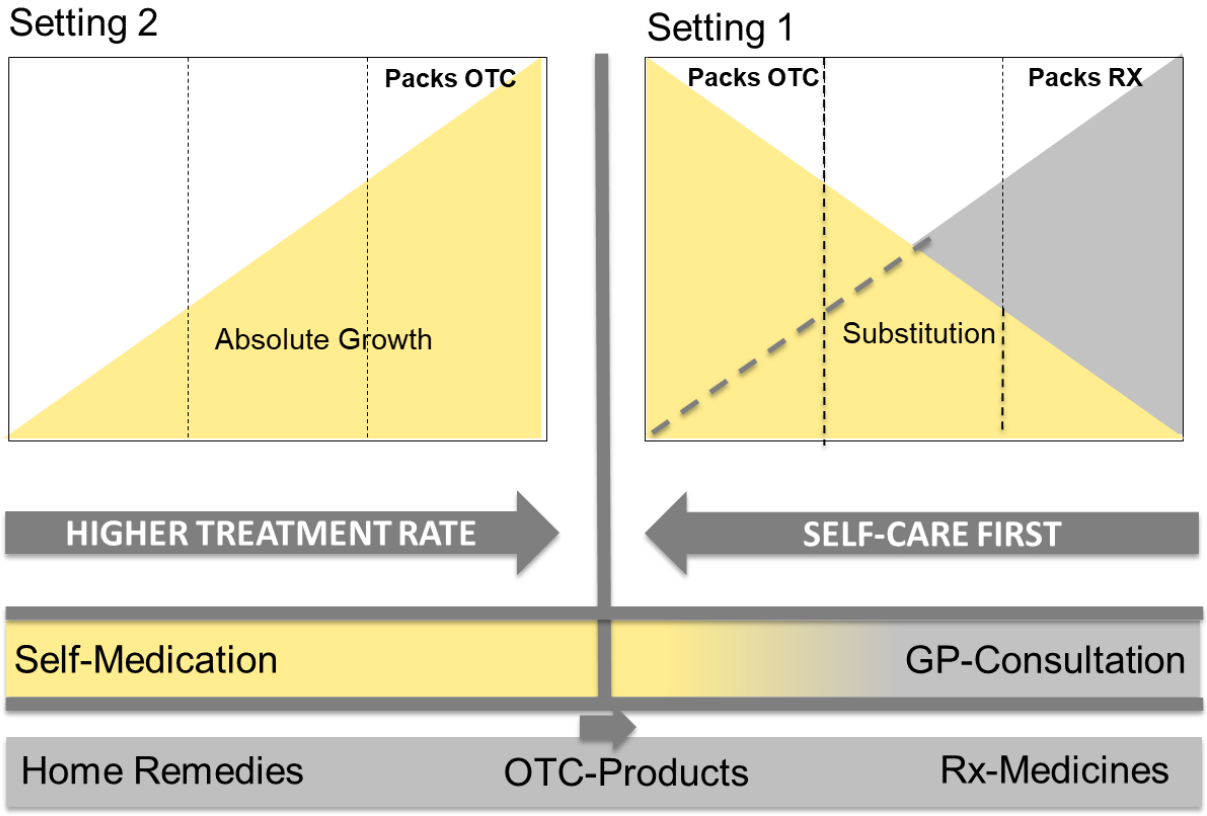

Figure 12: Different settings for the development of self-care

4.2.2.1 Self-Care First (Setting 1)

Patients who currently visit a physician for minor, temporary ailments and health disorders could, in certain cases, also be adequately cared for within the framework of self-care. Accordingly, a shift from the prescription-only to the non-prescription segment (OTC segment) is taking place, which could make sense in terms of health economics for the healthcare system and the individual consumer.

As an example, reference can be made here to the indication of common cold. Colds occur about three to five times a year in adults in Europe and are successfully self-treated in a large number of cases. According to a pharmacoeconomic study by the authors in Germany, an average of 1.4 products from the OTC segment are used for self-medication. If the patients consult a physician, in the majority of cases a product from the prescription-only segment is prescribed and/or a prescription (OTX) or recommendation of an OTC product (on average a total of 2.1 products) is issued or pronounced. Depending on the severity of the cold, a change from the therapeutic path of physician treatment to self-medication is medically justifiable and corresponds to the scenario of self-care first described here.[132]

4.2.2.2 Treatment Rate (Setting 2)

In the case of minor, temporary ailments and health disorders, appropriate measures should be taken at the right time, in the right way, and taking into account the individual initial situation, in order to achieve an effective and appropriate resolution of the minor ailment. In general, the

[132] May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

pharmacy is considered as a technically predestined and, from the consumer's point of view, trustworthy point of contact for this purpose (Chapter 6.2.1). In this case, it can be assessed whether self-care, e.g. with an OTC medicine, is recommended or whether a physician's visit is advisable. Based on the optimisation potential of self-care in this respect, a corresponding increase in treatment rate is assumed in setting 2, which is considered to make sense from a health economic point of view with regard to the system and the individual consumer.

For example, digital tools and consultations in the pharmacy open up the possibility of recommending a combination of measures tailored to the individual customer.[133] In this context, preparations for nicotine replacement therapy (NRT), which have proven their benefit for smoking cessation in scientific studies,[134] can also be used. This can be distinguished from other products and methods which are sometimes not suitable for smoking cessation. Expert patient information in the pharmacy, if necessary supplemented by behavioural tips (sport, diet) that facilitate smoking cessation, can thus strengthen the patient benefit related to the NRT preparations. More benefit, in this case, means an increasing rate of quitting smokers. The health economic effect that pharmacy-assisted self-care contributes to relieving the burden on the healthcare system in the outlined case, for example, can be quantified and evaluated on the basis of corresponding study results.[135]

Other examples of this type relate to prevention and lifestyle changes through dietary changes/weight reduction, needs-based nutritional supplementation with vitamins and minerals, and the management of sports injuries. As the above examples show, an optimisation of self-care (according to setting 2) is usually accompanied by an improvement in the quality of care and patient-relevant benefits. In this respect, this case also differs from the setting of intensified self-care (setting 1). In this setting, it can generally be assumed that the quality of care remains the same if more patients treat their minor health problems themselves instead of consulting a GP.

4.3 Model Calculations to Quantify Potential Effects

The computation of attainable economic effects in a future scenario for self-treatment is based on the cost and benefit effects which develop in individual cases by the self-treatment or medical therapy of a light illness and were computed in Chapter 3.2.1.4. For a projection into the future, these data must be combined with hypotheses as to the extent to which the given potential for self-treatment can actually be tapped in the future.

Based on the epidemiological data on the frequency of minor health problems, contacts with physicians and prescribed drugs as well as a number of treatment causes can be identified that could potentially be amenable to self-treatment. These data provide a quantitative framework for the construction of corresponding scenarios.

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[133] GSK (2020): MyQuit: A Quit Smoking App. Retrieved from: https://www.nicorette.com/amp/myquit-app.html (14.04.2021).

[134] IQWiG (2010): Rauchentwöhnung zahlt sich auch für Menschen mit COPD aus. Retrieved from: https://www.iqwig.de/de/presse/pressemitteilungen/pressemitteilungen/rauchentwoehnung-zahlt-sich-auch-fur-menschen-mit-copd-aus.2416.html (17.03.2019).

[135] Silagy C, Lancaster T, Stead L, Mant D, Fowler G. (2004): Nicotine replacement therapy for smoking cessation. Cochrane Database of Systematic Reviews 2004, Issue 3. Wasem, J., Jung, M., May, U. et al. (2008): Nutzen und Kosteneffektivität der Nikotinersatztherapie zur Raucherentwöhnung - eine entscheidungs-analytische Modellierung der direkten medizinischen Kosten. In: Gesundheitsökonomie & Qualitätsmanagement, 13. Jahrg., Nr. 2, April 2008, S. 99-108.

The extent to which these potentials can be exploited and a corresponding shift of cases to self-treatment actually takes place crucially depends on how the health policy and legal framework conditions will be shaped in the future. The national legislators and, to a certain extent, the European Union have a broad scope for action in this area, which can be used to a greater or lesser extent to promote a proactive self-care policy (Chapter 6). As a basis for the mathematical simulation of corresponding effects, country-specific scenarios will be used here.

4.3.1 Scenarios of Enhanced Self-Medication

The increasing use of self-care as an alternative to physician consultation in a country can, as discussed above, be the result of growth in breadth or in depth. Consequently, the model calculations to be made here consider both a growth component based on Rx-to-OTC switches and a growth component based on higher utilisation of self-care. In practice, it will typically be a mix of both components that can drive the prominence of self-care.

This means that the scenarios are to be expressed in substitution rates GP/self-care. For countries with a high number of OTC substances, lower switch potentials are assumed than for countries with a narrow OTC range.

Quantitatively, the defined scenarios are based on studies and international experiences of market research on the development of self-care as a result of changes in certain framework conditions.[136] With regard to Rx-to-OTC switches, market data on the development of OTC sales after implemented switches can be used here in particular. As for the effects that result from this on physician consultations, the health economic literature on Rx-to-OTC switches was also referenced (Chapter 2.2.1.1 and 2.2.1.2).

Data on the potential effects of changed incentive situations for consumers and HCPs are available in particular in connection with various health policy measures that have been implemented in European countries in the past. These include, for example, OTC reimbursement exclusions, the introduction of practice fees for physician's visits and, last but not least, the scientific evaluations carried out to accompany projects such as netCare in Switzerland and the MAS in the United Kingdom (Chapters 6.2.1). In addition, the health economic studies described in Chapter 2.2 were also consulted.

4.3.1.1 Definition of Concrete Model Scenarios

As explained above, the model calculation carried out focuses on the further potential of self-care for minor ailments. The total number of such minor ailments has already been estimated in Chapter 3 at 6.6 billion cases per year in Europe. This figure can be broken down proportionally to the size of the population in the individual European countries. An initial estimate of the potential for expanding self-care and self-medication can be made by comparing the number of all minor ailments occurring in a country per year (potential causes of treatment) with the proportion of these that are actually treated with OTC products. The following Figure **13** demonstates this comparison for the European countries considered in this report. The number of actual treatment cases was determined on the basis of the number of OTC packages sold and the number of packages per treatment case.

[136] May, U. (2002): Selbstmedikation in Deutschland: Eine ökonomische und gesundheitspolitische Analyse. BAH, Bonn 2002.

May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheitsstörungen – Nutzen und Potentiale aus gesundheitsökonomischer Sicht. In: Gesundh ökon Qual manag 2017; 22: S12–S22. Georg Thieme Verlag KG Stuttgart New York.

reveals that the proportion of minor ailments treated by the patients themselves with OTC products greatly varies between the European countries. Whereas in Poland an OTC product is used in more than half of these cases, this proportion is less than 20% in Slovenia, Portugal, Sweden, Spain and Norway. Conversely, the proportion of milder health disorders that are either not treated at all with a medicine or for which a physician is consulted ranges from 45% to more than 80% in the countries mentioned. As described in Chapter 4.2.2, the potential for increasing the uptake of self-care lies, on the one hand, in attracting more people to self-care with OTC preparations who do not currently treat themselves at all. On the other hand, self-care can grow from the fact that clinically unnecessary visits to the physician are replaced by self-treatment. This possibility, which is of particular interest from a health economic point of view, is the focus of the further procedure for calculating the social and economic effects of more self-care in the future.

In part, the following presentation refers to results obtained by means of the so-called country rating, which will be presented in more detail in Chapter 5. These results relate to the scoring values plotted on the vertical axis of the graph below. These values indicate the current uptake of self-care in terms of frequency of use (depth). The number of OTC substances[137] available without a prescription[138] is plotted on the horizontal axis for each country. In line with the considerations in Chapter 4.2 (see in particular Figure 11), it is obvious that the development potential for more self-care in a country and its direction (breadth/depth) depends on the initial situation of that country. For example, countries with a relatively small number of substances available without a prescription (e.g. Sweden, Finland) have particular potential for broad-based growth if Rx-to-OTC switches take place. If many OTC substances are available, but the population is reluctant to use them for self-care (e.g. Spain), the growth potential for self-care lies primarily in the direction of greater depth.

It is evident that in quantitative terms, the development potential for more self-care is greatest in countries located in the lower-left quadrant, i.e., with both a low breadth and depth of self-care (e.g. Slovenia, Croatia, Austria). Similarly, in countries with high availability of over-the-counter substances and at the same time already high use of self-care (e.g. UK, Germany, Poland), only a comparatively small additional potential for self-care can be tapped through further switches and incentive mechanisms.

[137] The number of OTC substances includes different routes of administration as per the AESGP OTC Database, but does not include different dosages.

[138] This number refers to data directly taken from the “AESGP OTC Ingredients Directory” database and therefore presents only a quantitative summary of the number of OTC substances that are available without a prescription. A detailed qualitative analysis of each substance and their relevance to care as well as their degree of innovativeness is outside the scope of this study.

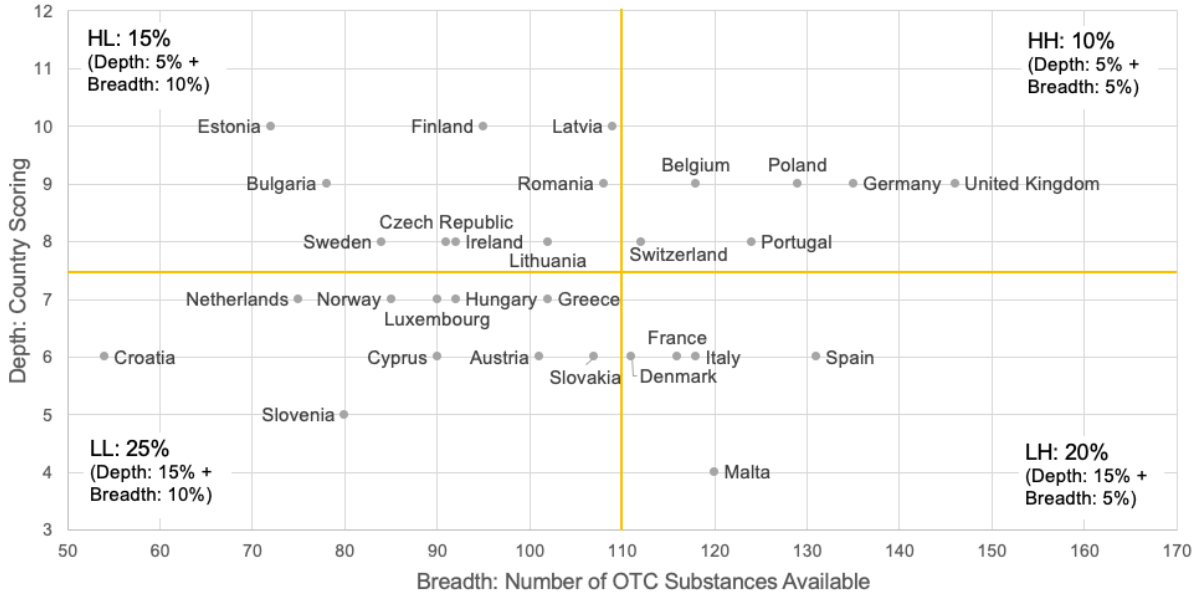


Figure 13: Future potential: Substitution from GP to self-care[139]

Based on these considerations, different development potentials of the national markets can be assumed for the different market constellations as represented by the four quadrants of the figure above. This applies to both the overall potential and its composition in terms of breadth and depth.

The derivation of concrete values for these scenarios is based on available studies and market data (Chapter 4.3.1). For this purpose, both the data from the systematic review carried out (Chapter 2.2.1) and the authors' market analyses and studies were used. The scenarios defined in this way are shown in the following table. Depending on the initial situation in each country, the result is a development potential for self-care based on the substitution of 10% to 25% of current physician consultations. The contribution that comes from growth in depth is between 5% and 15%. The contribution resulting from an increasing breadth ranges between 5% in the group of countries with already a high number of OTC substances and 10% in countries with larger substance gaps in the OTC area.

In addition, sensitivity analyses were carried out to show the influence of these scenarios on the results of the model calculation and to ensure the robustness of the derived results and conclusions. For this purpose, a particularly restrictive and a particularly progressive scenario were defined. In the restrictive scenario, the overall development potential for self-care ranges between only 5% and 20%, depending on the country group, while in the progressive scenario, values between 15% and 30% were calculated. The following table summarises the scenarios including the sensitivity analysis.

[139] The total number of non-prescription substances in Europe exceeds 200 (cf. https://aesgp.eu/content/uploads/2021/06/AESGP-Activity-Report-2020.pdf).

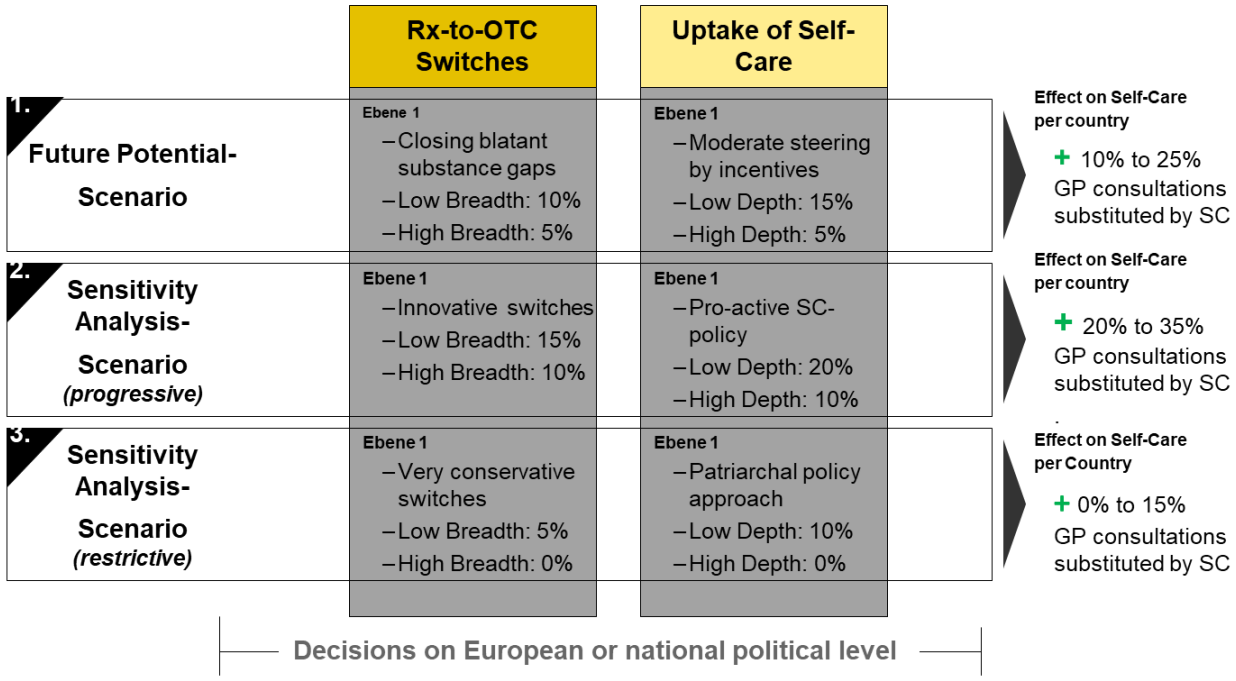


Figure 14: Specification of scenarios for the future potential of self-care

The aforementioned approaches and key considerations are applied in the following to conduct the health economic calculations.

4.3.2 Health Economic Calculations

With a view to the projected future scenarios, it must be pointed out that the reform ideas and modifications even of the more progressive model are also founded on given structures and circumstances in the European countries and that they require comparably moderate steps. This assessment must be seen especially with a view to measures and concepts for the promotion of “self-care” which have already been successfully implemented in some European countries for a number of years.

For the following calculations on the economic effects of increased self-medication, the scenarios from the previous Chapter 4.3.1.1 were incorporated into the health economic model from Chapter 3.2.1. In concrete terms, this means that the effects of a substitution between self-medication and GP consultation calculated in Chapter 3.2.1.4 (a.) for the individual case are multiplied by the number of additional self-medication cases according to the scenarios. The three scenarios considered are displayed and explained in detail in Figure 15 below.

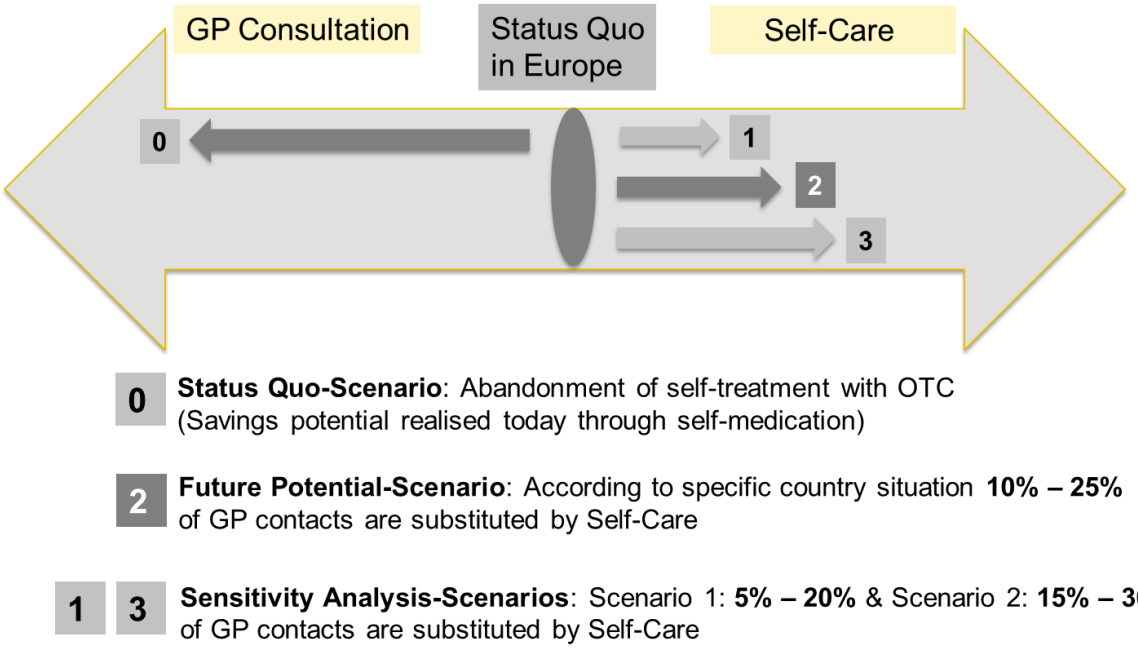


Figure 15: Scenarios: Self-care in status quo and in future

The following tables show the effects which are to be forecasted according to the so-called future potential scenario (scenario 2) and the somewhat more restrictive or progressive sensitivity analysis scenarios (scenario 1 and 3).

Cost Savings in Future Potential Scenarios				
		Scenario 1	Scenario 2	Scenario 3
	Substitution volume	386.95 m	**567.30 m**	747.64 m
Direct Cost	Total medication cost (EUR)	-2.76 bn	-4.18 bn	-5.59 bn
	Treatment cost physician (EUR)	-6.54 bn	-9.68 bn	-12.81 bn
Indirect Cost	Time cost physician (hours)	-72.00 m	-105.55 m	-139.11 m
	Treatment-related work loss (EUR)	-1.54 bn	-2.27 bn	-3.00 bn
	Treatment-related work loss (hours)	-62.45 m	-91.56 m	-120.66 m
	Absence from work due to sick leave (EUR)	-1.91 bn	-2.81 bn	-3.71 bn
	Absence from work due to sick leave (hours)	-77.39 m	-113.46 m	-149.53 m
Intangible Cost	Time cost patient (hours)	-684.06 m	-1.00 bn	-1.32 bn

Table 19: Europe total: Cost savings in future potential scenarios

The previously tabulated effects of monetary nature, which would result according to the future potential scenario if the importance of self-care in Europe increases in the future, are shown graphically in Figure 16 and placed in relation to the resource savings already realised through self-care. The left column (grey) of the diagram shows the total direct and indirect cost savings of EUR 36.72 billion calculated in section 3.2.1.4. The middle column (yellow) shows the additional effect of EUR 17.60 billion (+48%) that can be achieved through further switches and an increased uptake of self-care (scenario 2). The right column (grey) indicates the resulting total volume of resource relief that could be realised in the future in euros p.a. through self-care. Compared to the status quo, there is an additional potential of +48% in monetary

effects that could be achieved by promoting self-care. This potential emerges from a shift of GP consultations to self-care.

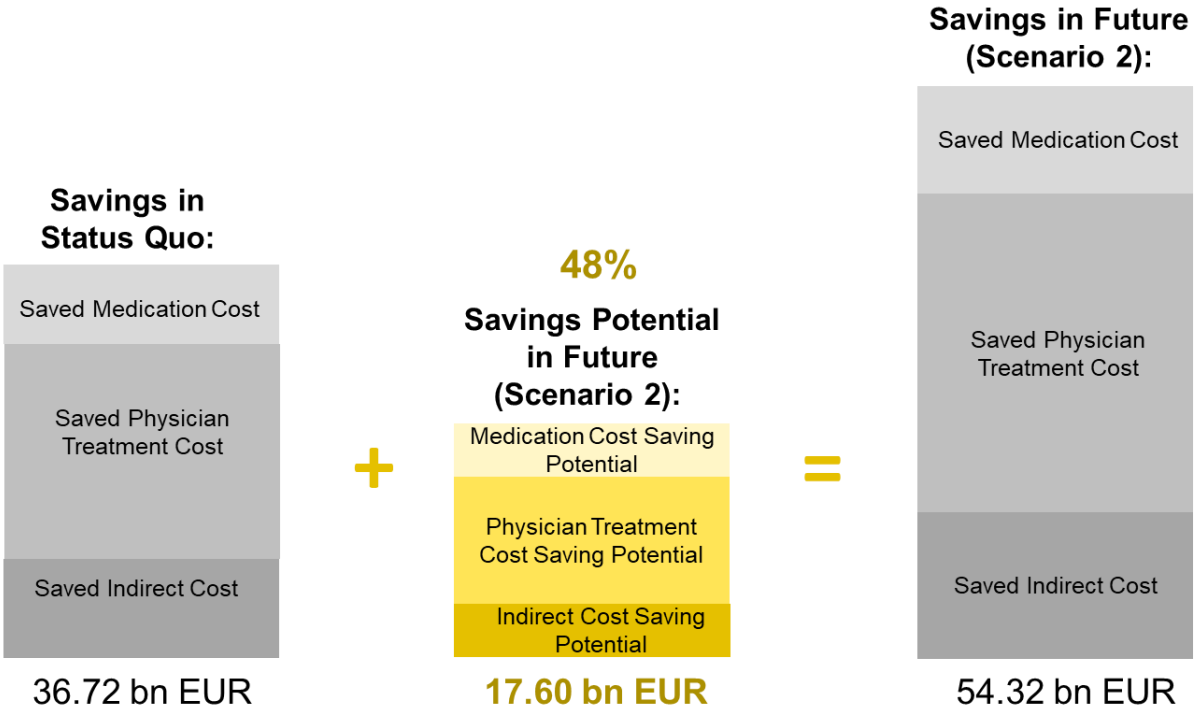


Figure 16: Future savings potential with more self-care

4.3.3 Evaluation of Results from the different Stakeholders' Perspectives

The economic and socioeconomic effects generated by an expansion of self-medication correspond, on a qualitative level, to the effects of self-medication as a whole for the individual actors. The only difference is manifested in the extent to which these occur.

Cost Savings from Different Perspectives				
		Scenario 1	Scenario 2	Scenario 3
	Substitution volume	**386.95 m**	**567.30 m**	**747.64 m**
Patient Perspective	Total medication cost (EUR)	317.26 m	472.97 m	628.67 m
	Patient contribution per physician visit	-1.01 bn	-1.43 bn	-1.85 bn
	Time cost patient (min)	-41.04 bn	-60.17 bn	-79.30 bn
Physician Perspective	Time cost physician (min)	-4.32 bn	-6.33 bn	-8.35 bn
National Healthcare System Perspective	Treatment cost physician (EUR)	-5.54 bn	-8.25 bn	-10.97 bn
	Medication cost Rx (EUR)	-2.02 bn	-3.08 bn	-4.13 bn
	Total cost savings	**-7.56 bn**	**-11.33 bn**	**-15.10 bn**
National Economy Perspective	Absence from work due to sick leave (EUR)	-1.91 bn	-2.81 bn	-3.71 bn
	Treatment-related work loss (EUR)	-1.54 bn	-2.27 bn	-3.00 bn
	Total cost savings	**-3.45 bn**	**-5.07 bn**	**-6.70 bn**
	Absence from work due to sick leave (min)	-4.64 bn	-6.81 bn	-8.97 bn
	Treatment-related work loss (min)	-3.75 bn	-5.49 bn	-7.24 bn

Table 20: Europe total: Cost savings in future potential scenarios from different perspectives

The fundamental difference to the health economic effects presented in Chapter 3.2.1.4 is represented in the fact that now not only savings and relief effects already realised through self-care have to be considered, but also effects that can still be achieved in the future. This becomes particularly clear with a view to the relief of physicians by self-care. In the above-mentioned chapter, the number of additional physicians that would be needed if self-care were not practised to the extent it is today was demonstrated (Figure 9). Figure 17 below reveals the extent to which physicians could be relieved if the role of self-care in minor ailments could be further strengthened throughout Europe.

Accordingly, 58,000 physicians (shown in green below) could be freed up by self-care, so that their valuable working time would be available for treating patients suffering from more severe illnesses. Through this relief effect, self-care could also make a significant contribution to countering the shortage of physicians that is becoming apparent in many European countries. Alternatively, if the number of physicians remains the same, each physician could gain more than one hour per day. This could also be used for more treatment of other patients with more severe illnesses.

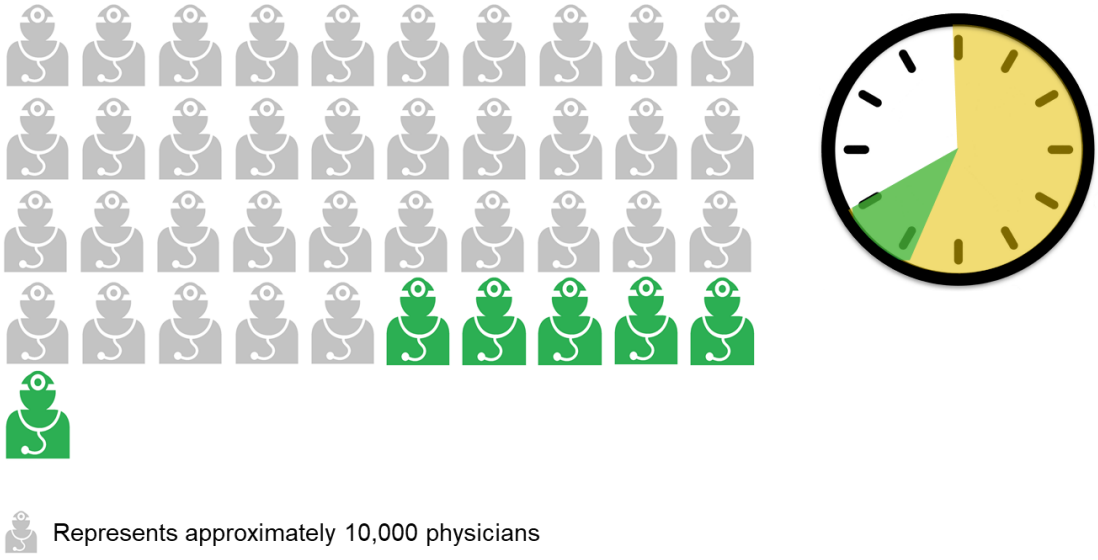


Figure 17: Physician working hours per day can potentially be freed with self-care

The findings presented should be seen against the background that, for many patients, a visit to the GP is the obvious alternative to self-treatment, even for minor ailments. As a result of the practised utilisation behaviour, some European countries, above all Slovakia, Hungary and Germany, occupy top positions worldwide in the number of their annual physician contacts.[140]

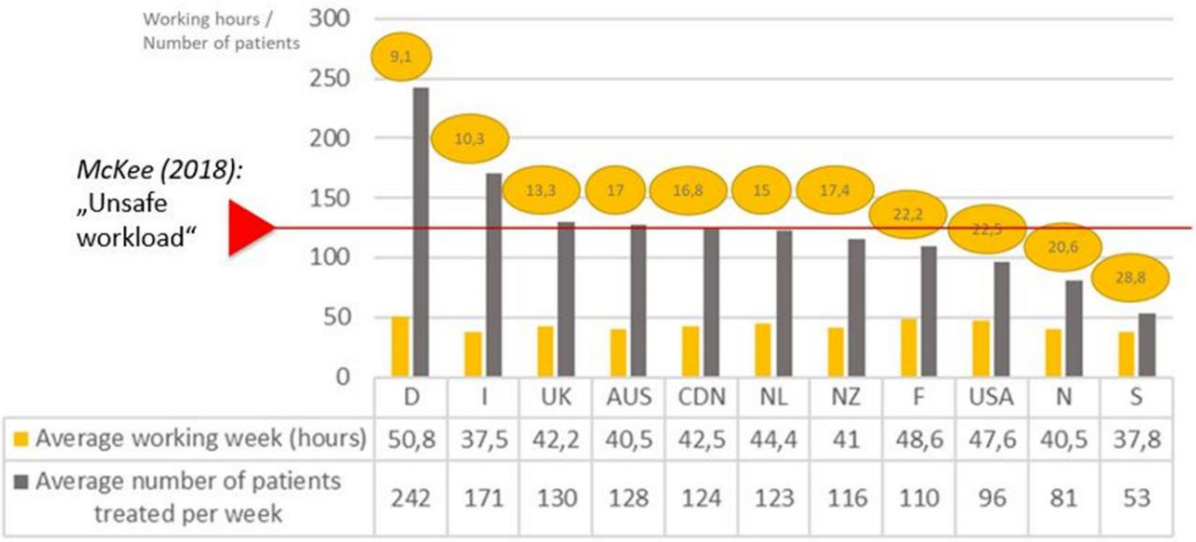
Today, concerns regarding a severe lack of time for patient care have already been brought into focus by both patients and physicians. Although a leading European GP forum recommends a maximum of 25 patient contacts per day, Figure 18 demonstrates that the physician workload in many countries exceeds this recommendation.[141] Thus, the current workload of physicians can be classified as “unsafe” since patients do not always receive an adequate amount of consultation time, which can lead to misdiagnoses and treatment errors.[142] This situation is becoming precarious in the context of the growing shortages of GPs as well as an uneven geographic distribution of physicians in many European countries. A recent OECD report revealed that, although the number of physicians per capita has slightly increased from 2008 to 2018 in all EU countries, the share of GPs has decreased in most countries. In this context, approximately only one in five physicians in the EU is a GP.[143] The problem associated with this shortage in GPs and increasing patient demand for care is driven by demographic development and can effectively be countered by self-care.

[140] Arzt-Wirtschaft (2021): Ländervergleich: Deutsche häufig beim Arzt und in der Ambulanz. Retrieved from: https://www.arzt-wirtschaft.de/vermischtes/laendervergleich-deutsche-haeufig-beim-arzt-und-in-der-ambulanz/ (25.02.2021).

[141] McKee, S. (2018): GPs dealing with ‘unsafe’ work load. Retrieved from: http://www.pharmatimes.com/news/gps_dealing_with_unsafe_work_load_1217707 (19.01.2018).

[142] McKee, S. (2018): GPs dealing with ‘unsafe’ work load. Retrieved from: http://www.pharmatimes.com/news/gps_dealing_with_unsafe_work_load_1217707 (19.01.2018).
Koch K, Miksch A, Schürmann C, Joos S, Sawicki PT. The German Health Care System in International Comparison. In: Deutsches Ärzteblatt International 2011; 108(15): 255-61.
Kassenärztliche Bundesvereinigung (KBV) (2014): Ärztemonitor. Ergebnisse zur zweiten Befragung im Frühjahr 2014. Retrieved from: http://www.kbv.de/media/sp/infas_Praesentation_Aerztemonitor_5213_20140701.pdf (22.02.2021).

[143] OECD/European Union (2020): Health at a Glance. Europe 2020. STATE OF HEALTH IN THE EU CYCLE. OECD Publishing, Paris 2020.



	D	I	UK	AUS	CDN	NL	NZ	F	USA	N	S
Average working week (hours)	50,8	37,5	42,2	40,5	42,5	44,4	41	48,6	47,6	40,5	37,8
Average number of patients treated per week	242	171	130	128	124	123	116	110	96	81	53

Figure 18: International comparison of physicians' workload[144]

In the following, the key findings of the preceding section are summarised and thus answers to research question B are provided.

4.4 Interim Conclusion Chapter 4

The health economic analysis of the status quo (Chapter 3) has revealed that self-care currently releases considerable resources on a social and economic level. It is obvious that these effects could be further increased by promoting self-care. In the model calculation carried out, an expansion of self-care was only considered in the context of minor ailments.

Currently, the share of minor ailments that are actually treated by self-medication varies from 55% in Poland to less than 20% in Slovenia, 19% in both Portugal and Sweden, 16% in Spain and 13% in Norway. Conversely, this means that between 45% and more than 80% of all minor ailments are either not treated or are referred to a GP. This leads to two basic directions for the growth of self-care. One is the use of OTC preparations for previously untreated health disorders. This would be clinically indicated in cases where there has been an undersupply to date. Secondly, the further substitution of physician contacts by self-care is also considered here. This approach is linked to the calculations of the social and economic value of self-care in the status quo (Chapter 3).

Based on the current conditions in the countries considered, different growth potentials for self-care were derived in each case. According to this, the share of GP consultations that could be substituted by self-care lies between 10% and 25% in the different countries. Depending on the specific initial situation of each country, a growth through Rx-to-OTC switches ("breadth") or through a higher utilisation ("depth") of self-care is considered with different percentage weighting.

Based on these country-specific development potentials, a total of 567.3 million additional cases of minor ailments could be treated by self-care per year in Europe. This corresponds to about one additional self-care case per European citizen.

[144] Koch K, Miksch A, Schürmann C, Joos S, Sawicki PT. The German Health Care System in International Comparison. In: Deutsches Ärzteblatt International 2011; 108(15): 255-61.

On this basis, it is calculated that self-care could release additional resources worth around EUR 18.8 billion p.a. for society. In particular, 58,000 physicians could be freed up for other tasks in the healthcare systems. Alternatively, each GP currently employed in Europe could gain about one hour of time per working day. This time could be used for patients with more severe health problems or as leisure time.

5 Ranking Model for European Countries in Terms of Access to and Uptake of Self-Care

To develop a model that allows ranking European countries in terms of access to and uptake of self-care is one of the tasks of this research project (see research question C in Chapter 1.2). The implicit hypothesis behind this research question is that there is a connection between the framework conditions for self-care in a country and the resulting status of self-care in the healthcare system concerned.

To be able to draw conclusions in this regard, it is first necessary to define the objectively measurable parameters that can be used to determine the varying national importance of self-care. Taking these parameters into account, a rating model is then developed, which can be used to establish a rating among the European countries with regard to the current status of self-care. Only on this basis can a possible connection between the status (uptake) of self-care in a country and the framework conditions given there be identified. This in turn provides the basis for discussing which measures and instruments are suitable for promoting the role of self-care and which obstacles may stand in the way. Finally, the insights gained in this way provide the basis for identifying best practice examples for a self-care policy in Europe in the following Chapter 6.

5.1 Scoring of European Countries According to their Degree of Implementation of Self-Medication

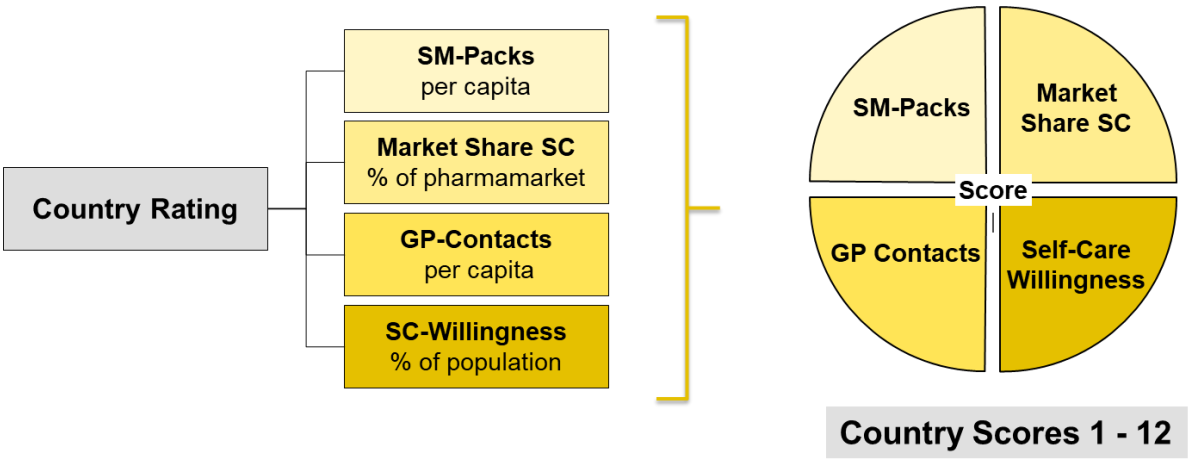
To be able to make comparative statements regarding the use of self-care in European countries, it is essential to first create a reliable basis. This study uses a rating model as a basis for comparison. For this purpose, an algorithm was developed to calculate a score regarding the self-care status in the individual countries. This algorithm is first described theoretically in the following section. In the next step, the rating is presented for the individual European countries. This is accompanied by explanatory typographies of countries with particularly high or particularly low rating values. The results of the country rating have already been used in Chapter 4.3 to determine the future potential of self-care (Figure 14). In the further course of the study, they are particularly intended to provide information on whether there is a correlation between the degree of utilisation of self-care and country-specific conditions.

5.1.1 Algorithm for Calculating a Score for Self-Medication Status

Conclusions about the importance of self-care in a particular country or cross-national comparisons are regularly based on market figures for turnover and sales of OTC preparations. Per capita figures are often used in order to enable a comparison despite the different population sizes. However, these market data alone do not go far enough in the present context. Although they are an expression of the willingness and ability of the population to pay for OTC preparations, they do not sufficiently take into account the willingness of the population to consider self-care as an alternative to consulting a physician for the independent treatment of minor health problems. Against this background, the algorithm used here takes into account not only OTC market data but also the actual number of physician visits and the general acceptance of and attitude toward self-care among the population.

Figure 19 illustrates that the score per country is determined on the basis of four equally weighted parameters. Depending on the characteristics of the parameters in a country, a score of 1 to 3 is assigned to each of them. High scores indicate a significant role for self-care, and

vice versa. Theoretically, up to 12 points can be achieved by a country in this country-rating algorithm.



	Low	medium	high
SM-Packs	1	2	3
Market Share SC	1	2	3
GP Consultations	3	2	1
Self-Care Willingness	1	2	3

Figure 19: Algorithm for calculating a score for self-medication status

The results of the implementation of the algorithm described above for a rating of the 30 considered European countries corresponding to their individual self-medication status are displayed in the following.

5.1.2 Score-based Rating List of European Countries

Based on the algorithm described above, the rating for the 30 European countries under consideration is listed in the following Table 21, Table 22 and Table 23. Countries with rating scores of 9 points or more (excluding 11 and 12 points) are grouped here as those with a high value (uptake) of self-care. Countries with 6 and fewer points are grouped as those with low uptake. In between is the intermediate group of countries with 7 and 8 points, which is referred to as moderate uptake.

In addition to the rating values, the tables also indicate the influence on the results of the four parameters assessed in Chapter 5.2. Higher rating values are indicated by darker shades of grey. Certain patterns can thus be identified in the tables.

Table 21 below shows the countries with high rating values, i.e., with a high uptake of self-care. The highest score of 10 is achieved only by Finland and the two Baltic states Estonia and Latvia. These are followed by Bulgaria, Poland and Romania, three other Eastern European countries, and Belgium, Germany and the United Kingdom. The mentioned countries tend to have either a very flourishing OTC market or a particularly low number of physician contacts as a reason for their score. In Finland, the United Kingdom and Belgium, the population's commitment to the idea of self-care is also particularly pronounced.

Country	SM packs per capita	Market share self-care	Physician contacts	Self-care willingness	Total
FI	2	2	3	3	10
EE	3	3	2	2	10
LV	3	3	2	2	10
UK	2	1	3	3	9
DE	3	3	1	2	9
PL	3	2	2	2	9
BG	3	2	2	2	9
RO	2	2	3	2	9
BE	2	2	2	3	9

Table 21: Country rating: High-level of self-care uptake

It can be taken from the following Table 22 that a total of eleven European countries have rating values in the moderate range (7 to 8 points). This again includes a mix of smaller to medium-sized countries. Geographically, the spectrum ranges from the North (Norway, Sweden) to the South (Greece, Portugal) and from the West ((Ireland) to the East (Lithuania, Hungary). Economically, too, the range of very prosperous economies (Switzerland, Luxembourg, Norway) to countries with significantly lower per capita income (Czech Republic, Portugal, Greece) is covered here. The influence of the four parameters included in the algorithm also does not reveal any pattern (indicated by the shades of grey).

Country	SM packs per capita	Market share self-care	Physician contacts	Self-care willingness	Total
IE	2	2	2	2	8
CH	1	2	3	2	8
SE	1	2	3	2	8
PT	1	1	3	3	8
LT	3	3	1	1	8
CZ	2	2	1	3	8
NL	2	2	1	2	7
EL	2	1	3	1	7
NO	1	1	3	2	7
HU	2	2	1	2	7
LU	1	2	2	2	7

Table 22: Country rating: Moderate-level of self-care uptake

The following Table 23 reveals that the group of countries with low rating scores (4 to 6 points) includes three of the European G5 countries (Spain, France, Italy). It also includes the smallest countries considered in this study (Cyprus, Malta). These countries also largely cover the

European range in economic terms. There is a striking pattern in the group of these countries with regard to the parameters assessed in the algorithm. A low rating value regularly results from a low number of OTC packages sold combined with a low market share of self-medication in the national pharmaceutical market (exceptions: Slovakia, Italy). At the same time, the number of physician contacts per capita tends to be somewhat higher and the expressed willingness to use self-care slightly lower than in the countries with high rating values. The latter constellation is particularly evident in Denmark and Cyprus.

Country	SM packs per capita	Market share self-care	Physician contacts	Self-care willingness	Total
AT	1	1	2	2	6
IT	2	1	2	1	6
FR	1	1	2	2	6
ES	1	1	2	2	6
HR	1	1	2	2	6
SK	2	2	1	1	6
CY	1	1	3	1	6
DK	1	1	3	1	6
SI	1	1	2	1	5
MT	1	1	1	1	4

Table 23: Country rating: Low-level of self-care uptake

The results of the rating according to the three tables above are shown again in the overview in the following figure. The map of Europe shows the individual countries colour-coded according to their rating level in the three categories (low, moderate, high). This geographic representation shows that there is currently a North-South disparity in Europe with regard to the uptake of self-care. In particular, 7 of the 8 Mediterranean countries included in the study (Italy, Spain, France, Croatia, Slovenia, Malta, Cyprus) have a low uptake of self-care according to the country rating. The three countries with the highest ratings, Finland, Estonia and Latvia, are neighbouring countries in the Northeastern part of the Baltic Sea.

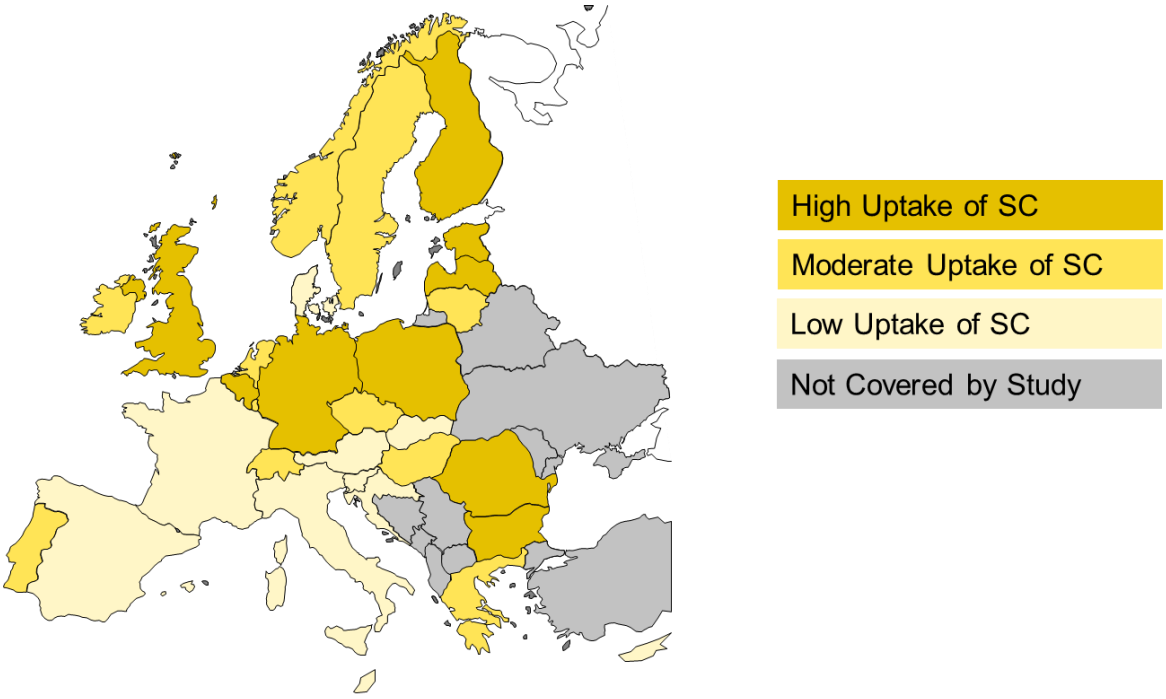


Figure 20: The uptake of self-care in the European countries

In the following section, the possible explanations for the different rating values and the different status of self-care in the individual European countries are discussed.

5.2 Self-Care Related Typography of the European Countries

The previous observation inevitably leads to the question of whether, and if so, what commonalities connect those countries in which self-care has a comparable status. As expected, such typography should especially appear if those countries with a high or low uptake of self-care are compared with each other. In a second step, it could also be of interest to contrast the two polarising groups of countries mentioned above.

Looking first at the countries with a high uptake, a consistent pattern concerning e.g. socioeconomic, health policy or cultural conditions in the countries mentioned cannot be identified. However, subgroups of countries can be identified that share common characteristics that could explain the high importance of self-care.

A part of these countries is characterised by limited access to medical care. Both financial hurdles (practice fee) and a de facto shortage of physicians combined with long appointment times and waiting times in the practice can deter consumers from visiting a physician. This applies to Bulgaria, Romania, Estonia and Latvia in the group of countries with a high uptake of self-care. In all the countries mentioned (and additionally in Poland and Germany), the proportion of minor ailments treated by self-care is more than 40% (

).

Belgium and Germany have another common feature: in both countries, a particularly strong and traditionally anchored position of community pharmacies combined with a very high level

of trust in pharmacists could provide an explanation for the high importance of self-care.[145] The fact that the willingness and acceptance for self-care expressed in surveys are very high also underlines this aspect. Interestingly, the high willingness to use self-care in these two countries is linked to – especially in the case of Germany – many visits to the physician. Here, apparently, pharmacists and physicians as well as the use of medicines play a particularly important role when (even minor) health problems occur (

).

Furthermore, it is obvious that among the countries with a high significance of self-care, there is a predominance of countries in which neither an active self-care policy is in place nor individual measures have been implemented that appear to be particularly suitable for promoting self-care. The United Kingdom is an exception here, where comprehensive and relatively effective programmes for the targeted promotion of self-care have been implemented for many years. With certain reservations, Finland and Poland can also be regarded as countries with an active self-care policy (cf. also the best practice examples in Chapters 6.1 and 6.2). In this respect, the three countries mentioned could be described to be part of the group with a high uptake of self-care as expected.

The group of countries with low uptake of self-care is also relatively heterogeneous. However, the majority of countries in this group have a stable economy, sufficiently solid healthcare systems and an above-average per capita income in comparison to the rest of the European population. Nevertheless, it is noteworthy that all seven Mediterranean countries belong to this group (Italy, France, Spain, Cyprus, Malta, Slovenia and Croatia), which could indicate commonalities of a cultural nature or mentalities. This could include a strong physician orientation and a rather paternalistic approach to healthcare, which, in addition to the Mediterranean countries, could also be an explanation for Austria. Politically, this underlying orientation could also be reflected in the design of the healthcare systems. In any case, it is true for the majority of the countries in this group that the design of the healthcare system is accompanied by financial disincentives with regard to self-care and the purchase of OTC medicines, or that at least no positive financial incentives are set for the health-related responsibility of the individual.

With reference to the figure described above, which results from the interpretation of the country rating, the following can be stated:

1) A common pattern that can serve as an explanation for what determines the status of self-care in a country does not exist. Instead, various explanatory hypotheses that are based on very different country-specific characteristics can be derived.

2) A comparison between country-specific framework conditions and the significance of self-care (according to the score-based rating list of European countries) to derive empirical regularities from this is therefore not target-oriented.

[145] According to a survey in Belgium, more than 75% of Belgians expressed that pharmacists provide sufficient information on health conditions and the use of OTC medicines (BACHI (2018): Consumer Research OTC Products. PowerPoint presentation. BACHI 2018).

According to a representative survey in Germany, local pharmacies enjoy the highest level of trust among all actors in the healthcare system: more than three quarters (77%) have "decidedly" or "rather" high trust in them (for example, see: https://www.deutsche-apotheker-zeitung.de/news/artikel/2021/02/18/umfrage-apotheken-vor-ort-geniessen-besonderes-vertrauen/chapter:2).

3) When interpreting the rating, it should be noted that the countries may differ greatly in terms of economic, social and cultural framework conditions. These framework conditions are also reflected in the fundamentally different healthcare systems. From the perspective of a self-care policy, these factors, which can be seen as exogenous, have a shaping influence on the status of self-care in a country.

4) In addition, there are also framework conditions and individual regulations that are specifically oriented towards individual responsibility for health and the strengthening of self-care. The influence of such conditions is also partly recognisable in the country ratings, but is predominantly concealed by the framework conditions mentioned under 3).

The aim of the following chapter is to examine the relationship between general national framework conditions and self-care-specific regulations in greater detail.

5.3 Steering Effects of General Framework Conditions and Specific Policies on the Status of Self-Care

The European countries differ in terms of economic, social and cultural framework conditions, and in some cases, they differ to a considerable extent. These framework conditions are also reflected in fundamentally different healthcare systems. Such findings are no less valid when only considering the subgroups of EU Member States. As illustrated by the attempted typology in the previous chapter, these factors and variables have a shaping influence on the status of self-care within a country. At the same time, from the perspective of a self-care policy, these influencing factors should be regarded as exogenous: a change in these framework conditions is – If at all – then generally only possible in the long term and with a disproportionate amount of effort. Moreover, there are also framework conditions and individual regulations that are specifically oriented towards individual responsibility for health and the strengthening of self-care. In most cases, these factors start with the relevant stakeholders (consumers, pharmacists, physicians) by providing certain incentives for appropriate behaviour. The following figure (Figure 21) illustrates this relationship between the different influencing factors.

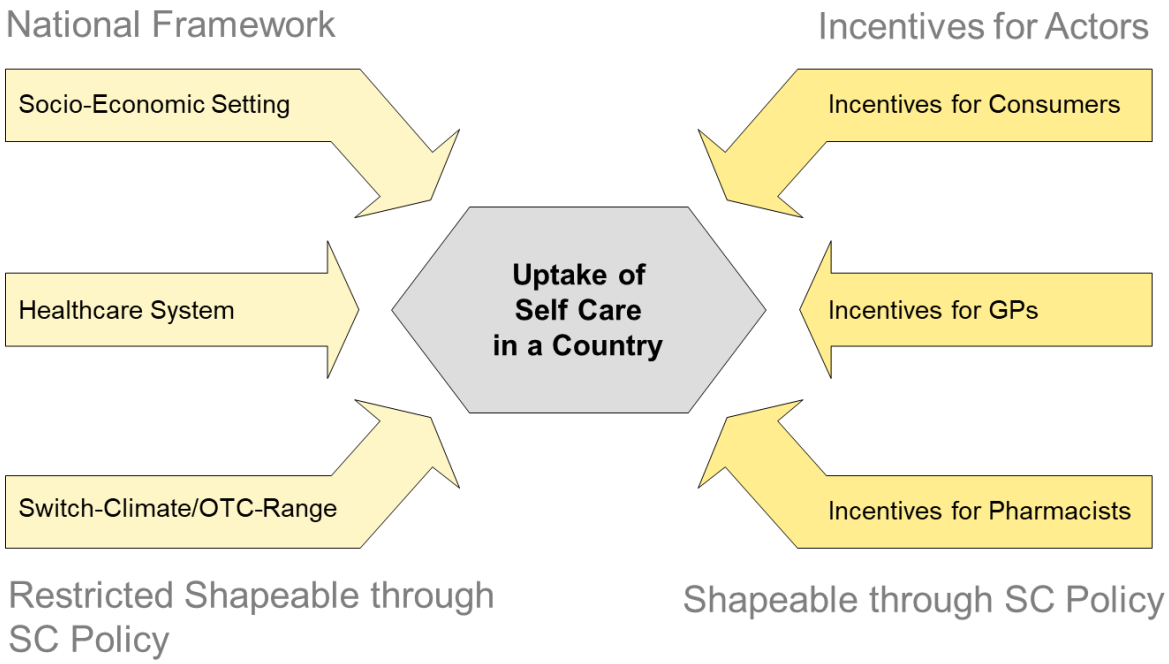


Figure 21: General factors influencing the importance and uptake of self-care in a country

Not only measures and projects in the narrower OTC context but also special forms or characteristics of the framework conditions of the healthcare system can have a steering influence on the importance of self-care in a country or a region. In this context, steering by means of incentives means that mechanisms or incentives are created at the microeconomic level that contribute to the fact that self-care is chosen as a therapeutic path in an additional number of cases instead of a physician consultation. All of the steering instruments mentioned here were identified during the international literature research carried out in the course of preparing this health economic study or were taken directly from the health and pharmaceutical policy discussion. The practical relevance of the identified instruments was discussed and validated together with experts from approximately twenty European countries.[146]

The fundamental and most important decision in favour of or against self-care or a physician consultation always lies in the hands of the individual or patient in question when a treatment case arises. This decision-making situation is used here to explain the temporal sequence of the decision-making process and the effect of the steering behavioural incentives (Figure 22).

[146] For more details, please refer to the introduction of Chapter 6.

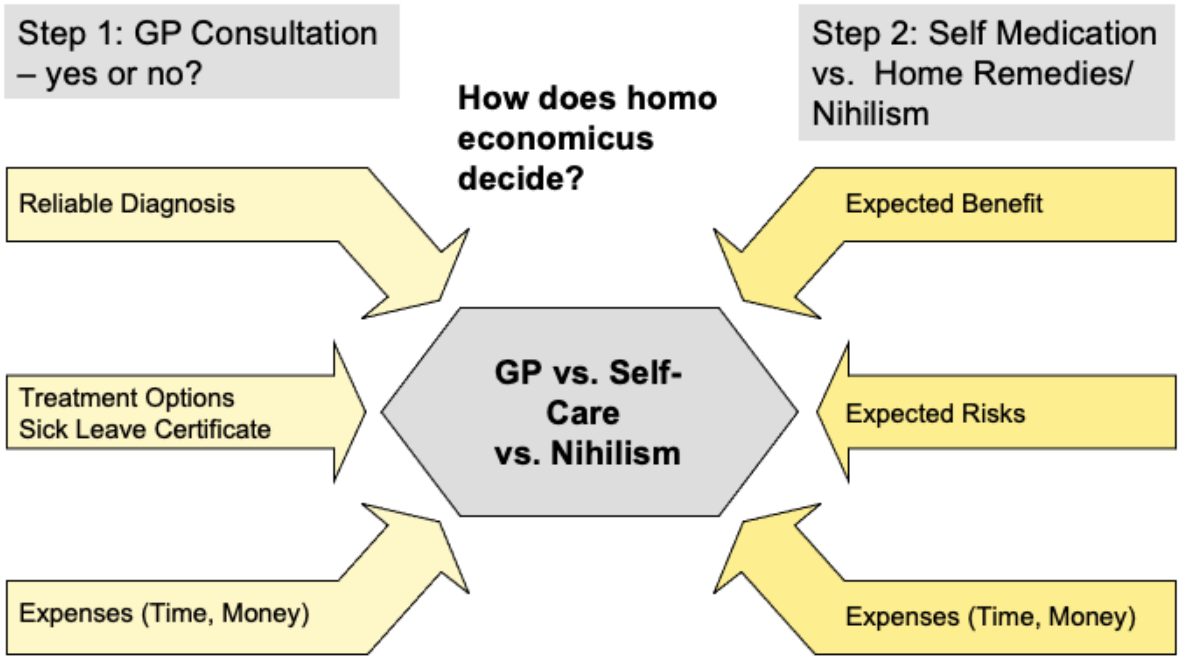


Figure 22: Factors influencing the individual decision for Self-Care

Figure 22 provides an abstract summary of the central findings of market research in various European countries regarding the decision-making behaviour of consumers with regard to self-care: after the affected person has become aware of the existence of a health problem, their first step will be to make a basic decision as to whether or not they have reason to visit a physician. From the patient's point of view, the need for a reliable diagnosis is often the decisive reason for consulting a physician. Furthermore, they will consider the treatment options including the physician's prescription options (e.g. the reimbursement of medicines). A stand-alone aspect of high practical relevance is the need to obtain a sick leave certificate, which in many cases effectively corresponds to a need for a physician consultation. Once the decision has been made against a physician consultation and in favour of self-care, the consumer will in a second step consider whether to treat themselves with medication (self-medication), use home remedies or wait and do nothing.

In making this decision, they typically weigh up the expected benefits and the expected risks of all options for taking action. From a benefits point of view, the focus will be on symptom relief, while from a risks point of view, any side-effects or the risk of spreading the disease will be taken into account. Moreover, as the demoscopic results distinctly show, for both step one and step two, the expenditure of time and money is taken into account. This is done in such a way that, on the one hand, the costs are weighed against the benefits and risk aspects of a therapy option, and on the other hand, the costs of self-treatment and visits to the physician are compared.

The consolidation and aggregation of existing demoscopic and empirical survey results reveal the decision-making behaviour of consumers in the context of self-treatment, simplify and facilitate the assessment of such behaviour, and provide an insight into the motivation and decision-making behaviour that is necessary to implement control and incentive mechanisms for consumer behaviour.

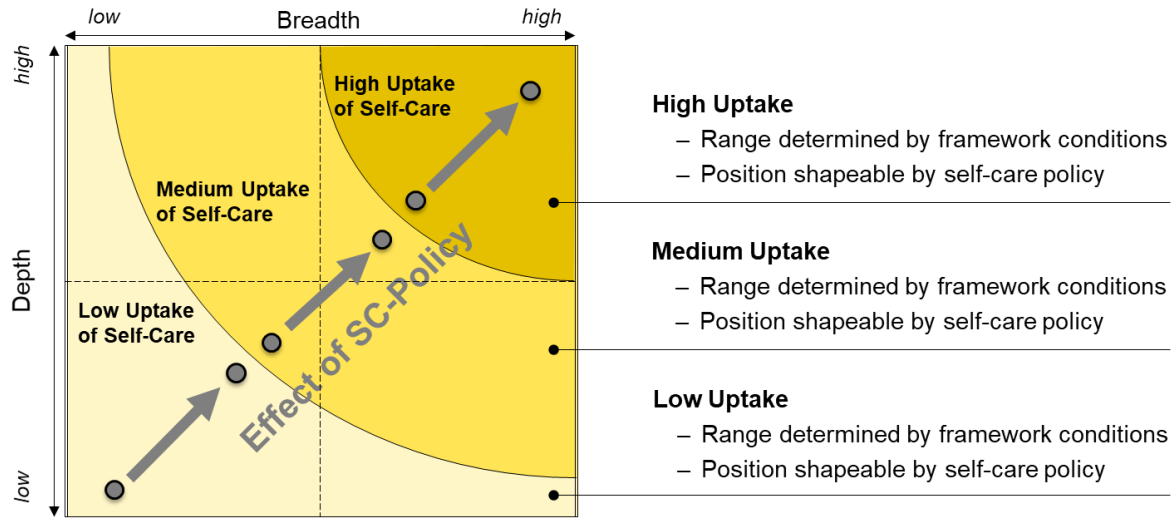


Figure 23: Interaction between country-specific framework conditions and self-care policies

In summary and with a view to further action, the following should be noted at this point: general economic, political, social and cultural conditions can determine the possible range for the status of self-care in a country to a large extent. As a rule, changes in these basic conditions cannot be expected to be politically initiated with the sole aim of strengthening self-care. Nevertheless, specific measures to promote self-care can be effective in an environment that is more or less conducive to self-care. In other words, general country-specific conditions will usually define a range within which the value of self-care can vary. However, the extent to which this range is utilised by actually exploiting the potential of self-care greatly depends on the design of specific incentives at the individual level (e.g. consumer, pharmacy). This aspect is displayed in Figure 23 above. In the following Chapter 6, promising measures are identified and described in different European countries.

5.4 Interim Conclusion Chapter 5

Chapter 5 aimed to identify whether there are specific factors that determine the current level of use and relevance of self-care (referred to here as Uptake) in the different European countries. For this purpose, it was first necessary to define the objectively measurable parameters that can be used to determine the varying national levels of self-care Uptake. Taking these parameters into account, a rating model on the basis of four specific criteria reflecting national markets was then developed. This was used to establish a ranking among the European countries with regard to the current status of self-care. The ranking in turn provides the basis for discussing which measures and instruments are suitable for promoting the role of self-care and potential obstacles.

The results showed that the relevance of self-care, defined by their uptake, varies greatly in the European countries. Especially the three neighbour countries, Finland, Estonia and Latvia, reach the highest Rating-Value of 10 points (Table 21). There was no consistent pattern or characteristics between the groups of countries with a high, medium and low Uptake of self-care. Rather, it became apparent that there are potentially different explanations that can be associated with the degree of self-care importance at each national level.

It is evident that in many cases, it is the overriding socioeconomic or legal conditions as well as socio-cultural conditions that have a decisive influence here. For example, limited access of the population to the public health system (e.g. access to GP) can be a driver for self-care

(BG, RO). However, the self-care enhancing effect that results from hurdles which prevent patients from seeing a GP are rather undesirable from a health policy perspective. In some countries, a high acceptance and appreciation of public pharmacies (BE, DE) seems to have a positive effect on the population's willingness to practise self-care. Certain self-care policies could only be identified in three of those countries with high self-care uptake. It can therefore be assumed that an active self-care policy or targeted incentives among consumers and HCPs in these countries are causally related to the high value of self-care (FI, UK, PL).

Regardless of these findings, however, empirical evidence proves that certain concrete measures or incentives have a positive steering effect with regard to self-care in their respective countries. This means that within a specific range of self-care Uptake determined by other (overriding) factors and framework conditions, the promotion of self-care is possible, makes sense and should be taken into consideration. For this reason, it is advisable to identify corresponding steering instruments in the further course of the study. Finally, the insights gained in this way provide the basis for identifying best practice examples for a self-care policy in Europe and to discuss their transferability to other countries in the following Chapter 6.

6 Best Practice Examples of Self-Care Enhancing Approaches in European Countries

The results of this study (Chapters 3 and 4) allow the conclusion that self-care brings many benefits, for the patients/consumers, healthcare professionals, the healthcare system, governments, and the national economy. However, the tasks and functions of each relevant stakeholder to effectively support self-care for minor ailments can still significantly be extended. An integrative self-care policy that involves approaches by the government, policy-makers, pharmacists, physicians and consumers is essential to facilitate self-care and realise the significant potential for efficiency gains in European healthcare systems. Without such a national self-care policy, there is no framework for self-care and thus, a lack of coordination to strengthen primary healthcare, to ensure that patients are seeking care at the most appropriate accessible point of entry into the healthcare system, and to increase the availability of OTC medicines to support self-care.

Attention must also be given to the providers of healthcare, especially GPs and pharmacists, as they play a significant role in minimising the direct and indirect risks that are inherent in self-care. Furthermore, an environment that fosters self-care behaviour should provide individuals with a range of medicines that are available without a prescription. Although self-care campaigns through national healthcare policies, advice from healthcare professionals and availability of OTC products support consumer self-care behaviour, the uptake and success of self-care are dependent on the consumers themselves. Equipped with the necessary knowledge and skills to manage minor ailments, the consumer must also be willing to practise self-care. Therefore, self-care enhancing approaches must be implemented on all levels and across all relevant stakeholders to create a sustainable self-care policy.

Practice-proven examples that focus on political aspects, pharmacies, consumers and physicians can be found in European countries. Some of these approaches have been evaluated in terms of benefits and cost-effectiveness and have also been deemed partly transferable to other countries. At this point, it is important to note that the best practice examples outlined in this chapter simply cannot be taken from one country and immediately implemented in another country without any adjustments or adaptations. These best practices should serve as a blueprint to facilitate the development of further ideas or as a guide for the implementation of new self-care related policies and activities across Europe.

This chapter aims to summarise the most important approaches focusing on various stakeholders and is therefore divided into four main parts to discuss in detail how each of these stakeholders can enhance their role to support self-care. To ensure that the recommended self-care enhancing approaches are relevant to the European context, best practices have been selected across European countries following in-depth interviews that have been conducted with the respective country experts on self-care. First, the importance of a general political commitment to self-care will be described. Second, the role of the pharmacy and pharmacy-focused approaches will be discussed. This will be followed by best practice examples for consumer-focused approaches. Lastly, physician-focused approaches will be explored. At this point, it should be noted that pharmacies play a significant role in the enhancement of self-care as they are often the initial contact point for patients with minor ailments. Thus, this chapter emphasises their role and respective pharmacy-focused approaches.

6.1 General Political Commitment to Self-Care

Scientific studies and policies recommended by researchers and associations representing healthcare professionals and/or consumers establish a strong foundation in the support of self-care. Evidence-based prevention and health promotion activities, educational campaigns, Rx-to-OTC switches, self-care budgets, and training for healthcare professionals are some policies that can empower patients to take charge of their own health as well as improve the quality of healthcare provision. In doing so, self-care reduces unnecessary GP and emergency care consultations and thus helps to alleviate the pressure on over-burdened healthcare systems while enabling a more appropriate and cost-effective use of healthcare resources.

Nevertheless, the true potential and progress of self-care can only be realised through political commitment to approve and implement recommended self-care policies as well as create an agile regulatory environment for non-prescription medicines. Government approaches and collaborative partnerships are also required to encourage the involvement of relevant stakeholders and foster a positive change in the behaviour and attitudes of both individuals and health systems towards self-care[147]. This means that European governments and policy-makers hold the power to increase the quality of healthcare provision, improve population health and enable a more cost-effective use of healthcare resources through a political commitment to self-care.

Although self-care plays an increasingly significant role in healthcare today, its importance is often overlooked in the policy-making process of countries not only in Europe but also around the world. As seen in Figure 24, this chapter will highlight four European countries, namely Ireland, Finland, Switzerland and the UK, which have integrated self-care into government policies and strategies. In particular, many UK-based best practice examples have been identified (see Subchapter 6.2.2.1 for best practice examples for self-care hotlines and websites). However, European examples of political commitment to self-care, including white papers and special legislations, is limited. This highlights that there is still enormous potential and a great opportunity for policymakers to recognise the value of self-care in healthcare systems and to integrate self-care into healthcare policies.

[147] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

AFIPA (2020): Make selfcare products a lever for resilience and access to proximity care in France. AFIPA, Paris 2020.

European Commission (2017): Pilot project on the promotion of self-care systems in the European Union 2014-2017. PiSCE. European Union 2017.

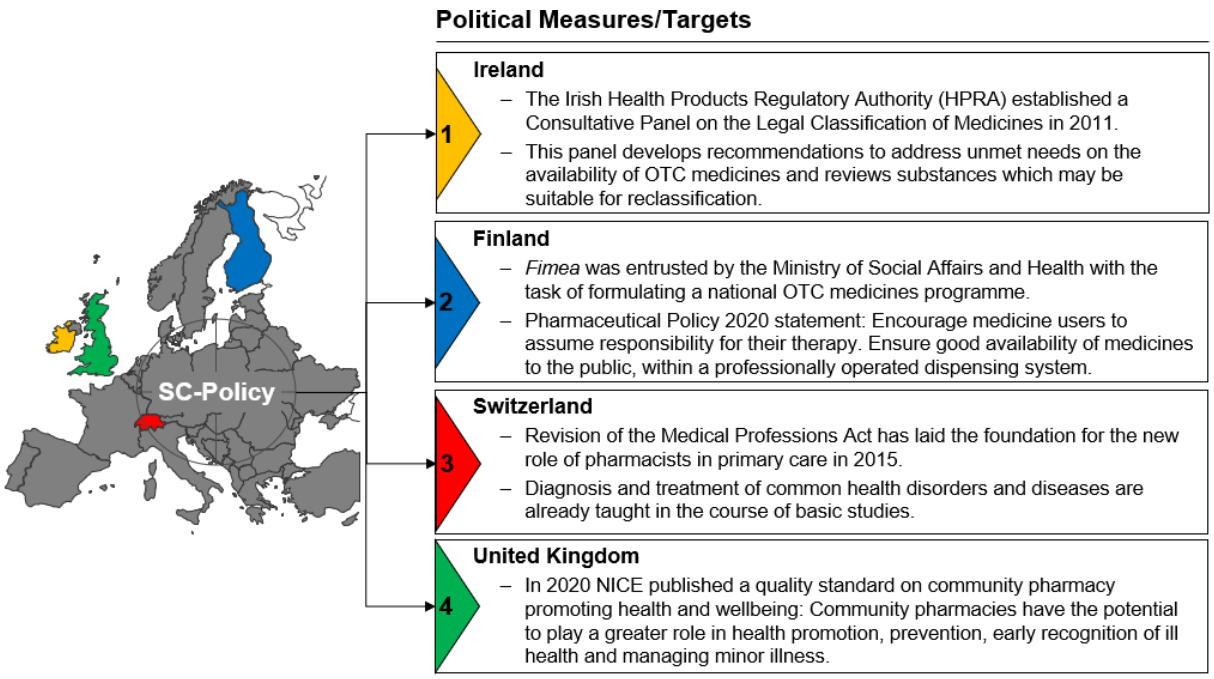


Figure 24: Political agenda/commitment to self-care

Ireland

The Irish Health Products Regulatory Authority (HPRA), previously known as the Irish Medicines Board (IMB), established a Consultative Panel on the Legal Classification of Medicines in 2011.[148] This panel aimed to develop recommendations to address unmet needs on the availability of OTC medicines and consisted of a wide range of stakeholders, including patients, healthcare professionals, the Department of Health and relevant government agencies. A list of twelve substances that were considered as those that can be safely switched from prescription-only to OTC status were published in 2014 and there are currently 34 medicinal products included on the list.[149] Presently, the HPRA continues to focus on the reclassification of prescription medicines by inviting submissions of reclassification applications and reviewing substances that may be suitable for reclassification. Furthermore, they also consider extending the sale of non-prescription medicines, where it is safe to do so, outside of the pharmacy setting in retail outlets. This proactive approach to the reclassification of prescription medicines will expand the range of self-care medicines and increase patient access to non-prescription medicines.

Finland

Fimea, the Finnish medicines agency, was entrusted by the Ministry of Social Affairs and Health with the task of formulating a national OTC medicines programme. This programme was published in 2015 and focuses on self-medication in Finland, specifically the factors affecting the current selection of OTC medicines available and the possibilities offered by

[148] HPRA (2014): Legal Classification / Method of Sale and Supply. Retrieved from: https://www.hpra.ie/homepage/medicines/special-topics/legal-classification-method-of-sale-and-supply (26.04.2021).

[149] HPRA (2014): List of active substances (or combinations of active substances) which HPRA can consider switching from POM to OTC – July 2014. Retrieved from: chrome-extension://oemmndcbldboiebfnladdacbdfmadadm/https://www.hpra.ie/docs/default-source/default-document-library/150714_top12-list-for-website_final.pdf?sfvrsn=2 (26.04.2021).

medicinal products as a component in self-care. In addition to a suitable selection of OTC medicines, Fimea also supports the need for adequate advice and guidance to ensure an appropriate use of medicines and while the Finnish pharmacy system is an excellent setting for providing guidance, Fimea believes that there is room for improvement. To successfully deliver the national self-medication programme, Fimea promotes the harmonisation of guidance provisions on OTC medicines and the cooperation of all stakeholders.[150]

The Finnish government also encourages medicine users to assume responsibility for their therapy and supports the need for the good availability of medicines to the public. In the Medicines Policy 2020, the Ministry of Social Affairs and Health states that the patients' role must be enhanced in the treatment of easily manageable symptoms and that "the advice given by the healthcare professionals, pharmacists and dispensers in particular, is instrumental for the proper use of self-care medicines".[151] The Finnish government therefore actively aims to promote self-care and self-management through the advice provided by pharmacists and other healthcare professionals, as well as to develop approaches to integrate safe self-care into healthcare.

Switzerland

In 2015, the Swiss Medical Professions Act (MedBG) was revised, laying down the foundations for the extended role of pharmacists in primary care.[152] This law requires pharmacists to learn how to vaccinate as well as diagnose and treat common health problems in the course of their studies. In conjunction with the integration of topics related to self-care in pharmacy studies and advanced mandatory training for independent professional practice, the government has revised the Therapeutic Products Act. This federal act grants pharmacists dispensation rights without a physician-issued prescription after personal contact with the patient.[153]

United Kingdom

The potential of community pharmacies to play a greater role in health promotion, prevention, early recognition of health problems and the management of minor ailments has been incorporated into the quality standard on community pharmacy promoting health and well-being by the National Institute for Health and Care Excellence (NICE). The quality standard places emphasis on advice and education, expertise and services available from community pharmacies as well as referral pathways and health inequalities. These quality statements aim to provide patients with effective, convenient and easily accessible services and ultimately, relieve the pressure on the healthcare system through the management of minor ailments in community pharmacies. Additionally, NICE calls for the establishment of local initiatives to raise awareness of the expertise and services available from community pharmacies to improve public confidence in the support they provide and encourage the use of community pharmacies as the first port of call for advice on minor ailments.[154]

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[150] Fimea (2015): Fimea publishes national OTC medicines programme. Retrieved from: https://www.fimea.fi/web/en/-/fimea-publishes-national-otc-medicines-programme (25.01.2021).

[151] Ministry of Social Affairs and Health (2011): Medicines Policy 2011. Helsinki 2011.

[152] pharmaSuisse (2016): Facts and Figures. Swiss pharmacies 2016. pharmaSuisse, Bern-Liebefield 2016.

[153] Fedlex (2020): Federal Act on Medicinal Products and Medical Devices (Therapeutic Products Act, TPA).

[154] NICE (2020): Community pharmacies: promoting health and wellbeing. Quality standard [QS196]. Retrieved from: https://www.nice.org.uk/guidance/qs196 (28.01.2021).

6.2 Approaches Focusing on Different Stakeholders

In the following chapter, approaches to enhance self-care are presented in detail. These approaches are discussed according to the stakeholders directly involved. First, approaches focusing on pharmacies to enhance self-care and consumer-focused approaches are presented. Finally, physician-focused approaches are discussed.

6.2.1 Pharmacy-Focused Approaches

High demands for GP consultations and the use of emergency and urgent care services are persisting challenges that create economic pressures on healthcare systems across Europe. These problems have been escalated by the COVID-19 pandemic and relevant stakeholders are seeking ways to reduce the burden of care on GPs and emergency care providers. In many European countries, pharmacies naturally play an important role in the self-treatment of minor ailments, which helps to minimise GP consultations for minor ailments as well as reduce any clinically unnecessary use of emergency care services. Pharmacies offer a wide range of evidence-based OTC medicines that can be used in the management of health problems that do not require medical attention from GPs or emergency care providers. In most instances, individuals can directly purchase non-prescription medicines from the pharmacy and consult the pharmacist for advice on minor ailments.

OTC medicines, however, must be used as indicated for self-recognisable or well-understood conditions, and they must be accompanied by relevant information that the user can understand. Pharmacies often have long opening hours that extend beyond the average working hours of a European citizen and generally do not require appointments to be scheduled for a consultation with the pharmacist. Furthermore, the pharmacist is professionally trained on OTC medicines and can in many cases play a valuable role in identifying potentially serious health issues.[155] A recommendation from a pharmacist is seen by individuals as important when buying a product for the first time.[156] Overall, pharmacies offer patients flexible and convenient access to healthcare professional advice on the management of minor ailments as well as reliable information on medicines used in self-care.

Additionally, pharmacists can triage consumers' symptoms efficiently and direct them to GPs or other health personnel when appropriate. Therefore, encouraging individuals to use existing services offered by pharmacies is one approach that European healthcare systems can embrace to minimise the burden on time-constrained GPs and resource-consuming emergency care services.

To be able to investigate approaches focusing on pharmacies in European countries, it is essential to explore the role of pharmacists in general and their significance for self-care, in

[155] PGEU (2019): PHARMACY 2030: A Vision for Community Pharmacy in Europe. Retrieved from: https://www.pgeu.eu/wp-content/uploads/2019/03/Pharmacy-2030_-A-Vision-for-Community-Pharmacy-in-Europe.pdf (25.12.2020).

Council of Europe, Ministers' Deputies (2020): Resolution CM/Res(2020)3 on the implementation of pharmaceutical care for the benefit of patients and health services (Adopted by the Committee of Ministers on 11 March 2020 at the 1370th meeting of the Ministers' Deputies) (CM/Res(2020)3). Retrieved from: https://rm.coe.int/09000016809cdf26 (15.12.2020).

[156] GAP Taskforce on Self Care (2015): Towards Responsible Self Care: The Role of Health Literacy, Pharmacy and Non-Prescription Medicines. Final Report June 2015. Retrieved from: https://www.globalaccesspartners.org/GAP_Taskforce_on_Self_Care_Report_released_23_June_2015.pdf (07.12.2020).

addition to the quality of counselling and expectations of consumers and the therapeutic areas eligible for pharmacy-based self-medication. Therefore, this chapter will first explore the general role of pharmacists, the quality of counselling by pharmacists and consumer expectations towards pharmacists and pharmacy staff. Secondly, the therapeutic areas that are eligible for self-care and pharmacist support will be described. Next, the enhanced role of pharmacies during the COVID-19 pandemic and their contribution to self-care behaviour among consumers will be discussed. Lastly, a number of best practice examples identified across a selection of seven European countries will be presented.

6.2.1.1 Role of Pharmacists for Self-Care in General

The role of pharmacists for self-care, in general, is emphasised by various international organisations including the WHO[157] , the International Pharmaceutical Federation (FIP)[158], the Pharmaceutical Group of the European Union (PGEU)[159] as well as several national pharmacy organisations which are in the process of developing or have developed vision statements and strategic plans about the future of pharmacy and the role of pharmacists.[160] In general, there is a consensus that community pharmacists are positioned as “healthcare hubs” and “primary healthcare destinations” for patients and consumers. Pharmacies are also very accessible since the public and patients can seek advice and services without an appointment. According to PGEU data, 58% of EU citizens can reach their nearest community pharmacy within five minutes and 98% within 30 minutes. The average share of pharmacies located in rural areas is 31%, which ensures care and medicines supply in often underserved regions.[161] Night-shift services are available in 93% of countries in Europe.[162] The spectrum of additional professional services provided by community pharmacies besides dispensing medicines and providing advice encompasses many types including medication reviews and medication management, minor ailment services, immunisations and vaccinations, blood pressure, glucose, cholesterol and weight measurement, disease screening and the support for smoking cessation.[163]

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[157] WHO (2009): The Role of the Pharmacist in Self-Care and Self-Medication. Retrieved from: https://dyahperwitasari.files.wordpress.com/2009/11/who-role-pharmacist-self-care-self-medication.pdf (25.12.2020).

WHO (2010): JOINT FIP/WHO GUIDELINES ON GOOD PHARMACY PRACTICE: STANDARDS FOR QUALITY OF PHARMACY SERVICES. Retrieved from: https://www.who.int/medicines/services/expert-committees/pharmprep/CLEAN-Rev1-GPP-StandardsQ-PharmacyServices-QAS10-352_July2010.pdf (26.04.2021).

[158] FIP (2020): Community Pharmacy Section. Vision 2020-2025. Pharmacists at the Heart of our Communities. Retrieved from: https://www.fip.org/files/CPS_vision_FINAL.pdf (07.12.2020).

[159] PGEU (2019): PHARMACY 2030: A Vision for Community Pharmacy in Europe. Retrieved from: https://www.pgeu.eu/wp-content/uploads/2019/03/Pharmacy-2030_-A-Vision-for-Community-Pharmacy-in-Europe.pdf (25.12.2020).

[160] Benrimoj, S.I., Fernandez-Llimos, F. (2020): An international series on the integration of community pharmacy in primary health care. In: Pharmacy Practice. 18(1).

[161] PGEU (2018): Annual Report 2018. Guaranteeing continued access to medicines. Retrieved from: https://pgeu-annual-report.eu/.Accessed (24.12.2020).

[162] PGEU (2018): Annual Report 2018. Guaranteeing continued access to medicines. Retrieved from: https://pgeu-annual-report.eu/.Accessed (24.12.2020).

[163] Moullin, J.C., Sabater-Hernández, D., Fernandez-Llimos, F., Benrimoj, S.I. (2013): Defining professional pharmacy services in community pharmacy. In: Research in Social and Administrative Pharmacy. 9(6).

Benrimoj, S.I., Fernandez-Llimos, F. (2020): An international series on the integration of community pharmacy in primary health care. In: Pharmacy Practice. 18(1).

6.2.1.2 Quality of Counselling and Expectations of Consumers

The acceptance of pharmacy-based (facilitated) self-medication is significantly influenced by the quality of counselling as well as the customers' barriers and expectations during self-medication consultations. These aspects have been investigated in numerous studies. Some of them will be briefly summarised here.

In a German questionnaire-based survey of passers-by in community pharmacies from June to September 2018, 92% of the 963 respondents stated they were generally satisfied with self-medication consultations in community pharmacies. Around one-fifth of all respondents claimed that they would like to be asked more health-related questions (22%) and receive more information on non-prescription medicines (20%). Respondents understood the need for answering guideline-recommended questions (85-96%) and did not mind being asked these questions (70-96%). Most of the respondents expected to be counselled even if they did not ask for it directly (69%). However, more than half would consider counselling as unimportant if they knew exactly which medication they wanted to buy (56%) or if they had used the non-prescription drug before (70%). Customers expect high-quality counselling, the majority attaching importance to guideline-recommended information on medicines.[164]

Another study by the same team of researchers provided a deeper look into this aspect in German community pharmacies.[165] In total, twelve guideline-recommended parameters were predefined for gathering patient-related information and for the provision of information. These information exchange parameters were evaluated in two parts: Firstly, in a self-report of pharmaceutical staff via an online questionnaire and secondly, in a non-participant observation in five pharmacies to evaluate the actual consultation practice. In the self-report, all parameters were rated as important by more than 76% of the 1068 participants. However, during the on-site observation, the information gathering parameters were each only addressed between 8 and 63% in the consultations and the parameters of information provision between 3 and 34%. Hence, despite broad acceptance, the guideline parameters of information exchange were comparatively little addressed during the actual routine care. The authors attribute this phenomenon at least partly to a perceived 'lack of patient's interest' in counselling.

Durham, M.J., Goad, J.A., Neinstein, L.S., Lou, M. (2011): A comparison of pharmacist travel-health specialists' versus primary care providers' recommendations for travel-related medications, vaccinations, and patient compliance in a college health setting. In: Journal of Travel Medicine. 18(1).

Yuan, C., Ding, Y., Zhou, K., Huang, Y., Xi, X. (2019): Clinical outcomes of community pharmacy services: A systematic review and meta-analysis. In: Health & Social Care in the Community. 27(5).

PGEU (2017): Annual report 2017. Measuring health outcomes in community pharmacy. Retrieved from: https://www.pgeu.eu/wp-content/uploads/2019/04/PGEU-AR-2017-WEB.pdf (24.12.2020).

De Barra, M., Scott, C.L., Scott, N.W., Johnston, M., de Bruin, M., Nkansah, N., Bond, C.M., Matheson, C.I., Rackow, P., Williams, A.J., Watson, M.C. (2018): Pharmacist services for non-hospitalised patients. In: Cochrane Database of Systematic Reviews. 9 (Art. No. CD013102).

Schneider-Ziebe, A., Bauer, C., May, U. (2020): Lotsen für den Patienten, Gatekeeper für das System: Wie das Gesundheitswesen von den Apotheken profitiert. In: Deutsche Apotheker Zeitung (DAZ), Nr. 1-2/ 2020, S. 54-58.

[164] Seiberth, J.M., Moritz, K., Vogel, C.F., Bertsche, T., Schiek, S. (2020): Public's perspectives on guideline-recommended self-medication consultations in German community pharmacies. In: Health & Social Care in the Community. 29(1).

[165] Seiberth, J.M., Moritz, K., Kücükay, N., Schiek, S., Bertsche, T. (2020): What is the attitude towards and the current practice of information exchange during self-medication counselling in German community pharmacies? An assessment through self-report and non-participant observation. In: PLoS One. 15(10).

A prospective cohort study in Malta examined the attitudes and beliefs of people towards community pharmacy services and the clinical outcomes brought about by pharmacists' OTC recommendations with two interviews with about 1.300 people. Data retrieved from the study showed that overall, the attitudes and beliefs of the Maltese people towards community pharmacy services were positive. Respondents (90%) stated that they believe and trust that the pharmacist is an important healthcare provider for their general health concerns. The people's experience as a result of pharmacists' OTC recommendations was likewise positive (92%).[166]

Another Maltese research investigated the nature and frequency of drug-related problems (DRPs) occurring in self-medication and documenting the interventions carried out by the pharmacist. 203 patients presenting themselves at a community pharmacy asking for OTC medications were included in the study. A total of 40 DRPs were detected in 19% of patients presenting themselves with requests for OTC medicines. The most common DRP (32%) was 'requested medicine is not optimal for symptoms presented', followed by 'requested medicine is contraindicated' (27%) and 'duplication of medicines' (12%). The most frequent intervention by the pharmacist was to change to a more suitable drug (57%), followed by referral to a physician (22%). The results of the study highlight the importance of the pharmacist's intervention when dispensing OTC medications since a DRP was detected in nearly one of five encounters.[167]

A Swedish study demonstrated the high quality of pharmacy practitioners' self-care counselling supported by IT-based national clinical guidelines, including a favourable impact on customers' ailments.[168] The most common documented symptoms were allergy (26%), musculoskeletal symptoms (8%) and dyspepsia (7%). Independent assessments of the documentation by a physician and a pharmacist found that self-care advice was appropriate in 97% of the customers and that the advice provided was correct in 88% of the cases. In total, 217 cases (87%) were fully approved by both the physician and the pharmacist. Among the 182 customers who claimed that they complied completely with appropriate advice provided, 135 (74.2%) experienced a great improvement in symptoms. If the pharmacy practitioner had not been available, 56.8% of the customers would have chosen the physician as their first point of contact for medical care.

According to a national survey conducted by the Finnish Medicines Agency (Fimea) in 2013, Finnish medicine users were also satisfied with the information obtained on OTC medicines and pharmacy operations.[169] The majority of respondents (85%) felt that the counselling on OTC medicines provided by pharmacies was adequate, and 84% said that they trusted the advice given by pharmacists. 61% of the respondents wanted pharmacists to volunteer advice

[166] Parnis, M. J., Marmara, V., Azzopardi, L. M., Serracino-Inglott, A. (2020): Attitudes and beliefs of patients towards community pharmacy services. American Society of Health-System Pharmacists (ASHP) Midyear Clinical Meeting & Exhibition. Retrieved from: https://www.um.edu.mt/library/oar/handle/123456789/65740 (18.12.2020).

[167] Fenech, A. (2020): Optimising self-medication through the community pharmacist. Doctorate of Pharmacy Dissertation. University of Malta 2017. Retrieved from: https://www.um.edu.mt/library/oar/handle/123456789/55724 (18.12.2020).

[168] Westerlund, T., Andersson, I.L., Marklund, B. (2007): The quality of self-care counselling by pharmacy practitioners, supported by IT-based clinical guidelines. In: Pharmacy World & Science. 29(2).

[169] Fimea (2014): Views of the Finnish public regarding over-the-counter medicines – availability, risks and access to information. Serial Publication Fimea Develops, Assesses and Informs 1/2014.

on how to use OTC medicines, while 28% said they usually preferred to buy medicines without advice from pharmacists.

Similarly, the survey results of the Pharmacy Monitor 2020 of the market and opinion research institute GFS Bern on behalf of the Swiss Pharmacists Association (pharmaSuisse) were positive.[170] Pharmacies were seen as the first point of contact for explaining medicines (80% of the respondents), as well as an uncomplicated solution that saves costs (77%). Among those who seek advice at all, pharmacists were the main contact persons with 20% when it comes to information about minor health disorders. 90% of the population said that they trust the pharmacy as the first point of contact. About two-thirds agreed "rather/very much" on the remuneration for direct prescriptions for medicines without a physician. This was different when it came to a drug delivery on a physician-issued prescription or a consultation without a drug delivery. Here, only 28% and 38% of respondents agreed that pharmacists should receive their fee for this.

A practice-based audit in the UK sought to explore the reasons why people seeking care for themselves may leave a pharmacy without being provided with a requested OTC medicine.[171] Data was collected from 5,035 community pharmacies. Over a one-week period, pharmacies recorded a total of 113,278 instances where pharmacy teams, after professional judgement, decided not to supply a requested OTC product to a patient/customer. The most common reason was that the pharmacy team provided advice instead (29% of all instances of non-supply). Nearly one in five of the instances of non-supply was because of suspected misuse, unsuitability or legal reasons. In 18% of all instances of non-supply, customers were given onward referrals to other healthcare providers or services. The findings demonstrate the value of community pharmacy teams, especially when it comes to the avoidance or refusal of OTC sales of products that are not necessary or appropriate for an individual's circumstances.

6.2.1.3 Therapeutic Areas Eligible for Pharmacy-Based Self-Medication

A review of consumer surveys by the World Self-Medication Industry (WSMI, changed to Global Self-Care Federation, GSCF) of 2015 reveals that non-prescription medicines are used widely and responsibly by health consumers in very different countries in remarkably similar ways. The three therapeutic areas that consistently rank as the most prevalent problems seen in all markets and reflected by product sales are respiratory problems (coughs, colds, sore throats), pain disorders (headaches, musculoskeletal pains) and gastrointestinal disturbances.[172] According to the results of the review, 90% of people around the world report some degree of disease every month, with 50% remaining untreated or being treated with simple home remedies. One-quarter of health problems experienced by the respondents prompts a visit to the doctor or the use of a previous prescription, while the remaining quarter is treated with OTC products. The survey also reveals that most people use OTC products

[170] Gfs.Bern (2020): Vertrauen in Apotheken stabil hoch (Apothekenmonitor 2020). Retrieved from: https://cockpit.gfsbern.ch/de/cockpit/apothekenmonitor-2020/ (25.12.2020).

[171] Pharmacy Voice (2016): The non-supply of over-the-counter (OTC) products to people seeking self-care. Practice-based Audit 2015/16 – Full Report August 2016. Retrieved from: https://psnc.org.uk/sheffield-lpc/wp-content/uploads/sites/79/2013/06/Pharmacy-Voice-audit-OTC-interventions.pdf (25.12.2020).

[172] WSMI (n.d.): Responsible Self-Care and Self-Medication: A Worldwide Review of Consumer Surveys. Ferney-Voltaire: WSMI.

cautiously, appropriately and are satisfied with their results, believing them to be as effective as prescription medicines.[173]

To date, most Rx-to-OTC reclassifications have involved medicines that are used to treat acute problems. However, recent reclassifications also extend into the area of medicines for the management of long-term conditions (statins, orlistat, tamsulosin and sildenafil). These medicines may signpost the beginning of a new era in non-prescription availability, whereby pharmacists will be able to manage long-term conditions.[174]

6.2.1.4 Enhanced Role of Pharmacies in Self-Care during the COVID-19 Pandemic

Pharmacies have been very important for the supply of medicines upon prescription as well as for self-care during the Covid-19 pandemic.[175] Many European countries introduced changes in legislation to expand the role of pharmacists in order to relieve pressure on the rest of the healthcare system.[176] Some countries have also secured additional funds to empower pharmacists in their vital work on the frontline against COVID-19.[177]

A paper published by the Proprietary Association of Great Britain (PAGB, the consumer healthcare association) in August 2020 sets out the importance of self-care in the context of COVID-19.[178] During the peak of the pandemic in early 2020, citizens were advised against visiting practices of GPs, urgent care centres and accident and emergency (A&E) services. As a consequence, community pharmacies have become an essential place for health advice and the purchase of over-the-counter medicines. A PAGB survey[179,] carried out in June 2020 in more than 2,000 adults revealed that all had experienced at least one health problem that is normally self-treatable (e.g. backache, hayfever or a sore throat) since the start of the first lockdown in the UK on March 23. Almost seven out of ten respondents (69%) who might not have considered self-care as their first option before the pandemic said they were likely to more likely do so in future. More than half (51%) of those who previously sought a GP

[173] WSMI (n.d.): Responsible Self-Care and Self-Medication: A Worldwide Review of Consumer Surveys. Ferney-Voltaire: WSMI.

GAP Taskforce on Self Care (2015): Towards Responsible Self Care: The Role of Health Literacy, Pharmacy and Non-Prescription Medicines. Final Report June 2015. Retrieved from: https://www.globalaccesspartners.org/GAP_Taskforce_on_Self_Care_Report_released_23_June_2015.pdf (07.12.2020).

[174] Rutter, P. (2015): Role of community pharmacists in patients' self-care and self-medication. In: Integrated Pharmacy Research and Practice. 4(1).

Paudyal, V., Hansford, D., Cunningham, S., Stewart, D. (2011): Pharmacy assisted patient self care of minor ailments: a chronological review of UK health policy documents and key events 1997-2010. In: Health Policy. 101(3).

[175] FIP (2020): Community Pharmacy Section. Vision 2020-2025. Pharmacists at the Heart of our Communities. August 2020. Retrieved from: https://www.fip.org/files/CPS_vision_FINAL.pdf (07.12.2020).

[176] PGEU (2020): Press Release – Community pharmacists supporting patients and healthcare systems during COVID-19. 15.05.2020. Retrieved from: https://www.pgeu.eu/publications/press-release-community-pharmacists-supporting-patients-and-healthcare-systems-during-covid-19/ (08.12.2020).

[177] PGEU (2020): Press Release – Community pharmacists supporting patients and healthcare systems during COVID-19. 15.05.2020. Retrieved from: https://www.pgeu.eu/publications/press-release-community-pharmacists-supporting-patients-and-healthcare-systems-during-covid-19/ (26.04.2021).

[178] PAGB (2020): The future of the NHS: Self care during and beyond the COVID-19 pandemic. Retrieved from: https://www.pagb.co.uk/content/uploads/2020/08/PAGB-Report-Future-of-NHS-Aug-2020-v1-0.pdf (18.12.2020).

[179] PAGB (2020): PAGB survey suggests coronavirus will change attitudes to NHS use. Retrieved from: https://www.pagb.co.uk/latest-news/pagb-self-care-survey/ (18.12.2020).

appointment as their first option, said they were less likely to do so after the pandemic. Almost every third respondent said the pandemic had changed their attitude to the way they access healthcare services.

A survey by the British National Pharmacy Association carried out online between October and November 2020 found that 35% of respondents had visited a pharmacy instead of a doctor as a result of COVID-19 safety measures at their GP surgery. Of those visits, the largest proportion (42%) related to minor illnesses.[180]

The emerging change of consumer attitudes is further supported by the key findings from the research shared by GSK Consumer Healthcare and IPSOS and published in July 2020 which surveyed 4,400 participants aged between 16 and 75 years in Germany, Italy, Spain and the UK.[181] The vast majority of people considered it important to take their health into their own hands and to relieve pressure on healthcare systems (Spain 84%, UK 77%, Italy 75%, Germany 63%). 41% are planning on asking their pharmacist for advice more often in the future when suffering from smaller physical problems.

In Germany, during the corona lockdown starting in spring 2020, at least one in two visited a local pharmacy to obtain necessary medicines or to get information about self-medication. This was the result of a representative study conducted by the research institute Nielsen within the framework of the Health Monitor, commissioned by the German Medicines Manufacturers' Association (BAH).[182] Around one-third of the pharmacy customers surveyed would have typically visited a doctor before the COVID-19 pandemic; however, they felt that pharmacies also offer reliable advice. In addition, pharmacy visitors felt that pharmacists dedicated sufficient time to their request. Two-thirds said that during the corona crisis, pharmacies had gained higher importance for easily accessible counselling and self-medication services.

6.2.1.5 Best Practice Examples for the Role of Pharmacies in Self-Care in Selected Countries

On the comprehensive basis of information regarding the role of pharmacies, especially pharmacists, in enhancing self-care, this subchapter summarises best practice examples. Since, as elaborated in the previous subchapters, the pharmacist is of crucial importance for the enhancement of self-care, this subchapter will provide an in-depth analysis of nine European countries and their respective pharmacy-focused approaches.

United Kingdom

The UK market is one of the leading self-medication markets in Europe, based on a long history.[183] Legislation allowing the general sale of medicines has been in place since the Medicines Act of 1968. Besides prescription-only and general sales medicines, there is a third

[180] Burns, C. (2020): Third of patients visited community pharmacies in place of their GP during the COVID-19 pandemic, NPA survey finds. Retrieved from: https://www.pharmaceutical-journal.com/news-and-analysis/news/third-of-patients-visited-community-pharmacies-in-place-of-their-gp-during-the-covid-19-pandemic-npa-survey-finds/20208525.article (18.12.2020).

[181] GSK Consumer Healthcare and IPSOS (2020): COVID-19 prompts increased focus on self-care. 20 July 2020. Retrieved from: https://www.gsk.com/en-gb/media/resource-centre/covid-19-prompts-increased-focus-on-self-care/ (08.12.2020).

[182] BAH (2020): Apotheke vor Ort in der Corona-Pandemie noch wichtiger geworden. Press Release of 04.11.2020. Retrieved from: https://www.bah-bonn.de/bah/?type=565&file=redakteur_filesystem%2Fpublic%2F20201104_PM_Apotheke_noch_wichtiger.pdf (08.12.2020).

[183] This fact also corresponds to the high value in the scoring carried out in the present study. See Chapter 5.1.2.

classification of pharmacy medicines which are non-prescription medicines that can only be sold in community pharmacies under the supervision of a pharmacist.[184] Additionally, the focus of health service delivery is currently changing from hospital to community, from patient to population and from curative to preventive.[185] This is reflected in the NHS 10-year plan that was launched in January 2019 and has over 40 mentions of pharmacists and pharmacy.[186] Pharmacies shall be involved at multiple levels.

The remuneration system of pharmacies is governed by statutory arrangements, known as the Community Pharmacy Contractual Framework. Under the NHS England, the remuneration schemes for pharmacy services are divided into essential, locally commissioned and advanced services. Examples of locally commissioned services include smoking cessation, sexual health and Minor Ailment Services (MAS). Advanced services include the New Medicines Service, the Community Pharmacy Consultation Service (CPCS) and the flu vaccination service which has already been provided by community pharmacists in England since 2015.[187]

A new NHS England community pharmacy contract was agreed upon and launched in 2019.[188] It takes into account the need for pharmacies to engage with local Primary Care Networks (PCNs) and describes services under medicines optimisation, prevention and urgent care.[189] All pharmacies are expected to be “healthy living pharmacies” which means that they should constantly deliver a broad range of high-quality services in order to improve the health and well-being of the local population and to help reduce health inequalities.[190]

On 28 August 2020, the NICE published a quality standard on community pharmacy which promotes health and well-being.[191] It states that community pharmacies have the potential to play a greater role in health promotion, prevention, early recognition of ill health and the management of minor ailments. Furthermore, it highlights that health and social care practitioners recognise that community pharmacy is often the most appropriate service for people with a minor ailment. People are encouraged to use community pharmacies as the first port of call for advice on health and well-being and for minor ailments, instead of seeing their GP or going to accident and emergency services.

[184] Lind, J., Schafheutle, E., Nordén Hägg, A., Kälvemark Sporrong, S. (2016): General sale of non-prescription medicinal products: comparing legislation in two European countries. In: Research in Social and Administrative Pharmacy. 12(1).

[185] Anderson, C., Sharma, R. (2020): Primary health care policy and vision for community pharmacy and pharmacists in England. In: Pharmacy Practice. 18(1).

[186] NHS England (2019): The NHS Long Term Plan, 2019. Retrieved from: https://www.england.nhs.uk/long-term-plan/ (18.12.2020).

[187] Anderson, C., Sharma, R. (2020): Primary health care policy and vision for community pharmacy and pharmacists in England. In: Pharmacy Practice. 18(1).

[188] DHSE and PSNC (2019): The Community Pharmacy Contractual Framework for 2019/20 to 2023/24 supporting delivery for the NHS Long Term Plan. London 2019.

[189] Anderson, C., Sharma, R. (2020): Primary health care policy and vision for community pharmacy and pharmacists in England. In: Pharmacy Practice. 18(1).

[190] Public Health England (2016): Healthy Living Pharmacy Level 1 Quality Criteria. Crown Copyright, London 2016.

[191] NICE (2020): Community pharmacies: promoting health and wellbeing. Quality standard Published: 28 August 2020. Retrieved from: www.nice.org.uk/guidance/qs196 (25.12.2020).

a. Community Pharmacist Consultation Service (CPCS)

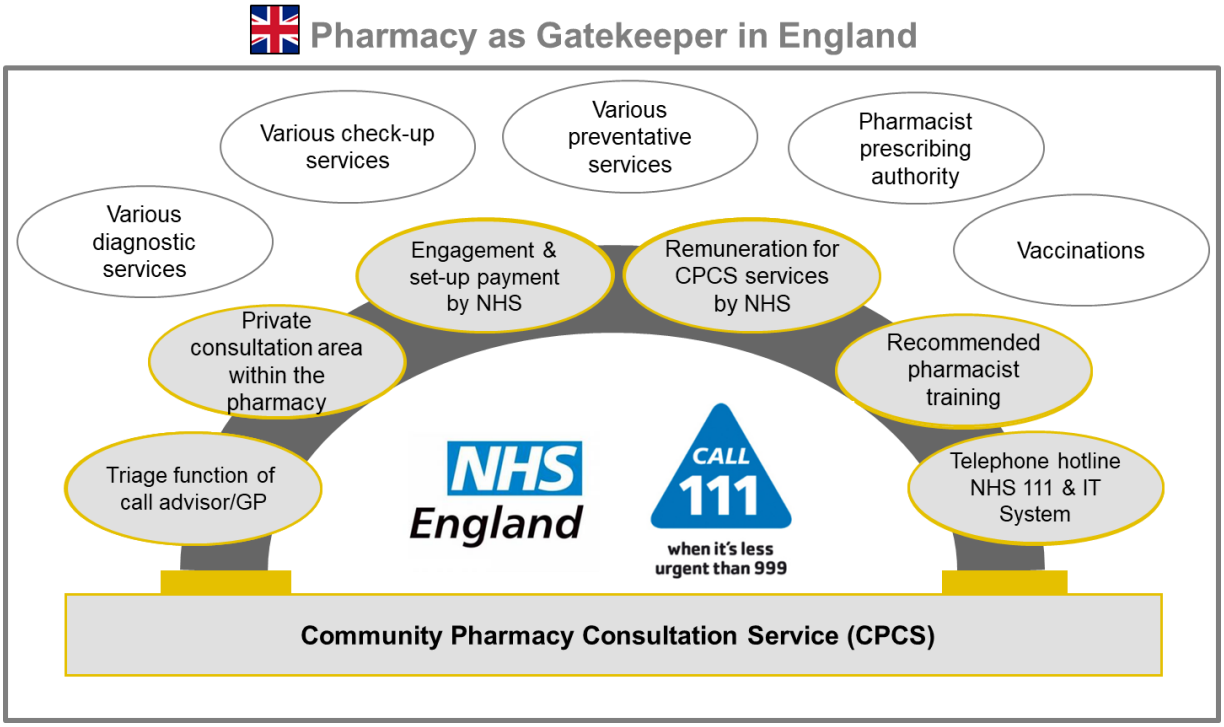

Figure 25: Pharmacy as gatekeeper in England in the form of NHS 111 and Community Pharmacy Consultation Service

The Community Pharmacist Consultation Service (CPCS) was launched by NHS England and NHS Improvement on 29 October 2019.[192] It not only enhances the role of pharmacists in primary healthcare but also encourages consumers to use pharmacies as their first port of call for minor ailments. The CPCS is intended to alleviate pressure on GP appointments and emergency departments, in addition to harnessing the skills and medicines knowledge of pharmacists. Through the CPCS, patients are offered the option of having a face-to-face or remote consultation with a pharmacist following an initial assessment by a trained NHS 111 call advisor. The NHS 111 hotline is a telephone-based triage and service that has been recommended as a best practice measure for enhancing self-care by Ostermann et al.[193] The authors suggest that telephone-based initiatives have high relevance in the field of self-care. Through the CPCS, the patient is provided pharmacist advice for self-care or is referred to the most appropriate healthcare provider for a range of minor ailments or urgent supply of a previously prescribed medicine (repeat prescription). Pharmacies can claim a fee of GBP 14, which is paid by the NHS, for each completed consultation.

Following a period of successful piloting, the service has been extended from November 2020 to include referrals for lower acuity conditions that have been referred from NHS 111 as well

[192] NHS England and NJS Improvement. Advanced Service Specification NHS community Pharmacy Consultation Service (2019): Retrieved from: https://www.england.nhs.uk/wp-content/uploads/2019/10/advanced-service-specification-nhs-pharmacist-consultation-service.pdf (25.12.2020).

[193] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

as GPs and general practice staff to pharmacies.[194] Since the CPCS was launched, an average of 10,500 patients per week has been referred for a consultation with a pharmacist following a call to NHS 111.[195]

b. Minor Ailment Service

Another major pillar of pharmacy-based self-medication in the UK is the minor ailment service.[196] In the UK, pharmacy-based minor ailment schemes (PMASs) provide public access to NHS treatment and/or advice by pharmacists or pharmacy personnel, or, where appropriate, referrals to other health professionals. These schemes were introduced nationally in all community pharmacies in Scotland, Northern Ireland and Wales in 2006, 2009 and 2013, respectively.[197] In England, PMASs can be commissioned after an assessment of local needs.[198] The services database of the Pharmaceutical Services Negotiating Committee lists 105 minor ailment services of which 80 are either completed or ongoing and 78 are funded by Clinical Commissioning Groups (CCG), 23 by NHS England and two by local authorities.[199]

The free minor ailment schemes in community pharmacies, in addition to the ongoing reclassification of medicines to OTC status, can be identified as two key interventions that aim to increase patient access to healthcare services.[200] The significance that has been placed on MAS can be supported by a chronological review which provides a historical perspective to the evolution of policies relevant to the enhancement of self-care of minor ailments from community pharmacies in the UK. In over 30 policy documents by UK health department(s) before and after devolution, the focus on the two key interventions becomes evident.

The effect of PMAS on patient health and cost-related outcomes has also been explored in various studies, including a systematic review conducted in 2013.[201] 31 evaluations were

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[194] PSNC (2020): CPCS – GP referral pathway. Retrieved from: https://psnc.org.uk/services-commissioning/advanced-services/community-pharmacist-consultation-service/cpcs-gp-referral-pathway/ (25.12.2020).

[195] Anderson, C., Sharma, R. (2020): Primary health care policy and vision for community pharmacy and pharmacists in England. In: Pharmacy Practice. 18(1).

[196] Paudyal, V., Watson, M.C., Sach, T., Porteous, T., Bond, C.M., Wright, D.J., Cleland, J., Barton, G., Holland, R. (2013): Are pharmacy-based minor ailment schemes a substitute for other service providers? A systematic review. In: British Journal of General Practice. 63(612).

[197] Northern Ireland Executive (2008): Agreement reached on minor ailments service. Belfast: Northern Ireland Executive, 2008. Retrieved from: http://www.northernireland.gov.uk/news/news-dhssps/news-dhssps-december-2008/news-dhssps-231208-agreement-reached-on.htm (25.12.2020).

Scottish Executive (2006): National Health Service (Scotland) ACT 1978 Health board additional pharmaceutical services (Minor Ailment Service) (Scotland) Directions. Edinburgh: Primary Care Division, 2006.

Griffiths, L. (on behalf of the Welsh Government) (2012): Establishment of a National Minor Ailments Scheme in Wales. Cardiff: Welsh Government, 2012. Retrieved from: https://gov.wales/written-statement-establishment-national-minor-ailments-scheme-wales (15.02.2021).

[198] PSNC (n.d.): The pharmacy contract. Retrieved from: http://www.psnc.org.uk/pages/introduction.html (25.12.2020).

[199] PSNC (2020): Services Database. Retrieved from: https://psnc.org.uk/services-commissioning/services-database/ (25.12.2020).

[200] Paudyal, V., Hansford, D., Cunningham, S., Stewart, D. (2011): Pharmacy assisted patient self-care of minor ailments: a chronological review of UK health policy documents and key events 1997-2010. In: Health Policy. 101(3).

[201] Paudyal, V., Watson, M.C., Sach, T., Porteous, T., Bond, C.M., Wright, D.J., Cleland, J., Barton, G., Holland, R. (2013): Are pharmacy-based minor ailment schemes a substitute for other service providers? A systematic review. In: British Journal of General Practice. 63(612).

included. The most common minor ailments identified in the review were head lice, diarrhoea, constipation, vaginal candidiasis/thrush, fever, sore throat, indigestion, hay fever, cough, and headache. The proportion of patients reporting complete resolution of symptoms after a PMAS consultation ranged from 68% to 94%. The mean cost per PMAS consultation ranged from GBP 1.44 to GBP 15.90. The total number of consultations and prescribing for minor ailments at general practices often declined following the introduction of PMAS.

Moreover, findings from a 2013 report revealed that the relative costs for accessing different levels of healthcare were significantly cheaper through pharmacy services (GBP 29 compared with GBP 82 for GP and GBP 147 for emergency hospital visits).[202]

An audit by the Community Pharmacy Wales, that took place between 28 September 2020 and 9 October 2020 with 522 pharmacies recording data on 9,975 patient consultations, suggested that more than 11,000 advice consultations occur across the Welsh community pharmacy network every day.[203] Around half of the patients said that if they had not visited the pharmacy, they would have otherwise gone to their GP first. This would have led to an additional 35,300 GP surgery consultations each week. Under the Community Pharmacy Common Ailment Service (CAS)[204], which offers patients support for 26 common ailments (Table 24), pharmacies are remunerated for each patient registered for the service.

Acne	Diarrhoea*	Nappy rash
Athletes Foot	Dry Eye	Oral thrush
Backache (acute)	Haemorrhoids	Scabies
Chickenpox	Hayfever	Sore throat/tonsillitis
Cold sores*	Head Lice	Teething
Colic*	Indigestion/reflux	Threadworm
Conjunctivitis (bacterial)	Ingrown toenail*	Vaginal thrush
Constipation	Intertrigo/ringworm	Verruca
Dermatitis (acute)	Mouth Ulcers	

Table 24: Community pharmacy Common Ailments Service in Wales (December 2020)

*advice-only conditions - no treatment available on NHS. Conditions when there is no sufficient evidence to support the use of medicines to treat on the NHS.

There are many learning packages available from the Centre for Pharmacy Postgraduate Education (CPPE) for pharmacists' minor ailment consultation skills.

[202] Pharmacy Research UK (2014): Community Pharmacy Management of Minor Illness: MINA Study. Final Report. London: Pharmacy Research UK. January 2014. Pharmacy Research UK, London 2013.

[203] Community Pharmacy Wales, Richard Brown (2020): Pharmacy Advice Audit Full Report 2020. Retrieved from: http://www.cpwales.org.uk/getattachment/CPW-s-work/CPW-Pharmacy-Advice-Audit-2020/CPW-Pharmacy-Advice-Audit-Final.pdf.aspx?lang=en-GB (25.12.2020).

[204] Community Pharmacy Wales (n.d.): Community Pharmacy Common Ailments Service in Wales. Retrieved from: http://www.cpwales.org.uk/getattachment/Services-and-commissioning/Choose-Pharmacy-Services/Common-Ailments-Service-(1)/CAS-information-for-pharmacy-staff.pdf.aspx?lang=en-GB (25.12.2020).

Scotland

Since 2006, Scottish patients can use the pharmacy of their choice as the first point of call for the treatment of common ailments through the minor ailment service (MAS) provided by the NHS.[205] In 2019, research demonstrated high levels of satisfaction, positive perceptions of consultations and trust in the service. Almost 90% of participants rated the overall service "10 out of 10" for satisfaction and the overwhelming majority rated their experience of consultations as 'Excellent'.[206] On 29 July 2020, the MAS was replaced with the new NHS Pharmacy First Scotland service. An NHS Circular of the Scottish Government (PCA(P)(2020)13), published in June 2020, encloses the legal directions, service specification and operational support documents which together outline how the service should operate.[207] The "approved list" of products details the limited list of items that may be supplied to eligible patients following a consultation in response to presenting symptoms.[208] The approved list only serves to detail the treatments available under the service. Pharmacists must use their own professional judgement to determine the best course of action for each patient.

Finland

In Finland, the retail sale of OTC medicines is limited to pharmacies, with the exception of nicotine replacement therapy and traditional herbal medicinal products. According to a national survey conducted in 2013 by the Finnish medicines' authority, Fimea, medicine users are satisfied with the availability of OTC medicines.[209] 93% of respondents felt that OTC medicines were readily available, and 80% stated that pharmacies were located sufficiently nearby to assure easy access to OTC medicines.

As detailed in Chapter 6.1 as a best practice example for political approaches for self-care, Fimea has published a national OTC medicines programme in 2015 which describes the current status and relevant development needs, while outlining policies for the future of Finnish OTC medicines.[210] The programme does not deal with the entirety of self-care but focuses on the possibilities offered by OTC medicinal products as a component of self-care. The basis for the programme lies in the Pharmaceutical Policy 2020 statement. This statement underpins the importance of encouraging medicine users to assume greater responsibility in the care of chronic illnesses and minor ailments that can be easily self-treated in addition to having safe forms of OTC care as part of healthcare in its entirety.[211] Furthermore, adequate advice and guidance are needed alongside the management of the patient's overall medication use. This

[205] Scottish Government (2017): The NHS Minor Ailment Service at your local pharmacy. Retrieved from: https://www.gov.scot/publications/nhs-minor-ailment-service-local-pharmacy-2/ (10.03.2020)

[206] PGEU (2019): Towards improved availability of medicines in Europe. Annual Report 2019. PGEU, Brussels 2019.

[207] Scottish Government (2020): Additional Pharmaceutical Services. NHS Pharmacy First Scotland – Directions and Service Specification. NHS Circular PCA(P)(2020)13. Retrieved from: https://www.sehd.scot.nhs.uk/pca/PCA2020(P)13.pdf (25.12.2020).

[208] NHS Pharmacy First Scotland (2020): Approved List of products. 9th Edition: 1st December 2020. Review Date: 25th June 2021. Retrieved from: https://www.sehd.scot.nhs.uk/publications/NHS_Pharmacy_First_Scotland_Approved_List_of_Products_v9_1_December_2020.pdf (25.12.2020).

[209] Fimea (2014): Views of the Finnish public regarding over-the-counter medicines – availability, risks and access to information. Serial Publication Fimea Develops, Assesses and Informs 1/2014.

[210] Fimea (2015): National OTC Medicines Programme. Serial Publication 1/2015. Retrieved from: https://www.fimea.fi/documents/160140/765540/28627_KAI_1_2015_EN.pdf (10.12.2020).

[211] Ministry of Social Affairs and Health (2011): Medicines Policy 2020. Towards efficient, safe, rational and cost-effective use of medicines. Helsinki: Publications of the Ministry of Social Affairs and Health 2011.

could be achieved through the Finnish professional pharmacy system, which offers an excellent setting for providing counselling. Pharmacy personnel are identified by the Finnish national medicines information strategy 2012 as being the key source of OTC medicines information since, in the case of mild symptoms, the pharmacy is often the OTC customer's only contact with the healthcare sector.[212] Therefore, pharmacy personnel play an important role in recognising situations where the patient's symptoms require a referral to a physician.

Another important aspect regarding pharmacies and self-care in Finland is the Fimea regulation on dispensing medicines. This regulation requires pharmacies to draw up a code of conduct on providing medication counselling (including OTC medicines). Within Fimea's inspection obligation, priority areas include the dispensing of OTC medicines, the related medication counselling, and the selection of OTC medicines and its comprehensiveness. The skills of pharmacy personnel in giving self-care counselling have been developed for many years. For example, the joint national TIPPA project (Customized Information for the Benefit of Community Pharmacy Patients), which was active from 2000 to 2003[213], developed tools to support OTC medication counselling. This project aimed to achieve a permanent change in the communication behaviour of community pharmacists. The development process consisted of four phases: introducing pharmacists to new counselling behaviours, facilitating self-assessment, promoting the use of medication counselling resources, and evaluating and reporting.

Furthermore, self-care counselling provided by pharmacies has recently been enhanced, for example, through the "Check your choice!" project by the Association of Finnish Pharmacies. Self-care counselling skills are also taught as part of basic pharmacist education.

Due to the regulations on dispensing medicines and related medication counselling as well as projects such as "Check your choice", adults in Finland are supported by pharmacists to practice self-care appropriately. A recent review of 2020 describing the safe use of over-the-counter medications among adults in Finland found most of the results of the reviewed studies comply with the National OTC Programme of Fimea 2015.[214]

Ireland

In January 2018, the Irish Pharmacy Union (IPU) and the Irish Pharmaceutical Healthcare Association (IPHA) published a new report entitled "Self-Care – taking charge of your health".[215] It reflects the results of market research carried out by Behaviour & Attitudes in 2017 on the role of self-care and the importance of pharmacy for adults in Ireland. Additionally, it sets out a range of proposals for a more focused approach to self-care. In the survey, 92% of respondents indicated a desire for increased self-care. Perceptions of the pharmacy are particularly positive. According to the results of the market research, the monthly number of individuals attending or visiting a pharmacy is more than three times larger than those visiting a physician (2,210,000 versus 667,000). Many also have a strong preference to browse in the

[212] Fimea (2012): Rational use of medicines through information and guidance. Medicines Information Services: Current State and the Strategy for 2020. Serial Publication Fimea Develops, Assesses and Informs 1/2012.

[213] Bell, J.S., Väänänen, M., Ovaskainen, H., Närhi, U., Airaksinen, M.S. (2007): Providing Patient Care in Community Pharmacies: Practice and Research in Finland. In: Annals of Pharmacotherapy. 41(6).

[214] Hansen, R., Francisco, J. (2020): Promoting safe use of over-the-counter medications among adults in Finland - A Literature Review. Laurea University of Applied Sciences 2020. Retrieved from: https://www.theseus.fi/bitstream/handle/10024/346064/PROMOTING%20SAFE%20USE%20OF%20OVER-THE-COUNTER%20MEDICATIONS%20AMONG%20ADULTS%20IN%20FINLAND.pdf?sequence=2&isAllowed=y (07.12.2020).

[215] IPU, IPHA (2018): Self Care. Taking charge of your health. 2018. IPU, IPHA, Dublin 2018.

pharmacy and to try products and medicines that will prevent them from having to go to the physician. These findings demonstrate that although a substantial number of individuals may be living with a continuing or enduring medical condition, they are still much more likely to interact regularly with the pharmacist than with the GP.

Focusing on those who made an OTC medicines purchase, trust and relationship with the pharmacist turned out to be fundamental drivers of satisfaction, leading to patients making self-care-purchases that address their own medical needs and requirements. Almost 9 out of 10 pharmacy customers indicate that the quality of medical advice they receive at their regular pharmacy is either very good (60%) or good (29%). Overall, the research provided evidence to indicate that the Irish population is very receptive to the concept of self-care and sees the pharmacist as an important and trusted partner in the management of their health.

Supported by the aforementioned results of the market research, the IPU and IPHA advise expanding the role of the pharmacist, for example, by developing a minor ailment scheme that would enable medical card or General Medical Services (GMS) patients to receive treatment for minor ailments free of charge directly from their community pharmacist. So far, to receive medicines for specified minor ailments that can be treated by pharmacists from the agreed List of GMS Reimbursable Items free of charge, medical card patients must visit their GP to get a prescription for these medicines. Public opinion research, carried out on behalf of the IPU, indicates overwhelming public support for such a scheme in which pharmacists would be allowed to prescribe some medicines for minor ailments.[216]

Sweden

Current government healthcare initiatives in Sweden primarily focus on a shift towards more local care requiring a transfer of resources from hospital care, and further development of structured digi-physical care, that includes both digital (“online physicians”) and physical accessibility to healthcare. A national telephone help advisory centre has been phased in with the purpose of giving professional medical information and advice, while at the same time supporting self-care and guiding patients to the correct level of care.[217]

According to the annual report from the Swedish Pharmacy Association (2011), deregulation of state-owned pharmacies since 2009 has led to an improvement in the availability of OTC medicines, due to a 34% increase in pharmacies and longer opening hours. Three years after the adjustment of the pharmacy market following a questionnaire study in a stratified, random sample of all inhabitants in Sweden ≥18 years in 2012/13,[218] pharmacy was still the preferred OTC drug retailer by 83% of the respondents and the preferred information source by 80%. Reasons for preferred retailers were primarily due to “out of habit” (45%), the counselling provided (35%), the product range (34%) and the confidence in staff (27%).

Since 2011, the National Medicine Strategy (NMS) has been jointly developed with a broad range of stakeholders. Examples of topics related to community pharmacy include self-care with a focus on non-prescription drug use. A system of quality indicators in community pharmacy practice was developed and tested nationwide by two Government Commissions

[216] IPU (2017): Pharmacy Usage & Attitudes Survey. Pharmacy Index 2019. Retrieved from: https://ipu.ie/wp-content/uploads/2019/06/Pharmacy-Usage-and-Attitudes-Survey-IPU-BA-2019.pdf (01.12.2020).

[217] Gustafsson, S., Vikman, I., Axelsson, K., Sävenstedt, S. (2014): Self-care for minor illness. In: Primary Health Care Research & Development. 16(1).

[218] Westerlund, T., Barzi, S., Bernsten, C. (2017): Consumer views on safety of over-the-counter drugs, preferred retailers and information sources in Sweden: after re-regulation of the pharmacy market. In: Pharmacy Practice. 15(1).

through the Medical Products Agency (Läkemedelsverket). Current priorities of the Swedish Pharmacy Association (Sveriges Apoteksförening) in community pharmacy include an expansion of the pharmacists' role through the introduction of pharmacist repeat prescribing, a pharmacist-only category of medicines, and collaboration with health authorities to develop requirements and a support system for pharmacy self-care counselling.

Switzerland

In Switzerland, the increasing demand of the population for easily accessible health services and the shortage of resources in the face of the shortage of family physicians required a new distribution of roles within primary healthcare. The Swiss Parliament has therefore decided to make better use of the powers of pharmacists in the future.[219] With the latest revisions of the Medicines Act (HMG 2016) and the Medical Profession Act (MedBG 2015), the position of Swiss pharmacies has been significantly enhanced. According to the revised Medicines Act, pharmacists can now dispense certain medicines without the requirement of a physician's prescription. This relatively new competence includes the clarification, advice, documentation of the decision to submit, and the full liability of the responsible pharmacist.

The revision of the Medical Professions Act has laid down the foundations for the new role of pharmacists in primary care in 2015. The current pharmacy curriculum is very practice-oriented. Students learn to make a thorough medical history and triage to decide whether to give the customer a medicine or refer them to a physician or hospital. The basic knowledge of vaccination, as well as the diagnosis and treatment of common health disorders and diseases, are already taught in the course of basic studies.[220]

The support of pharmacists in self-care is also enhanced through the "pharmacy first" approach that has been implemented in Switzerland through a model called "netCare", which was first introduced nationwide in 2016.[221] This approach is illustrated in Figure 26.

[219] pharmaSuisse (2020): Fakten und Zahlen Schweizer Apotheken 2020. pharmaSuisse, Bern-Liebefeld 2020. P. 28-29.

[220] pharmaSuisse (2020): Fakten und Zahlen Schweizer Apotheken 2020. pharmaSuisse, Bern-Liebefeld 2020. P. 20.

[221] pharmaSuisse (2020): Fakten und Zahlen Schweizer Apotheken 2020. pharmaSuisse, Bern-Liebefeld 2020. P. 30-31.

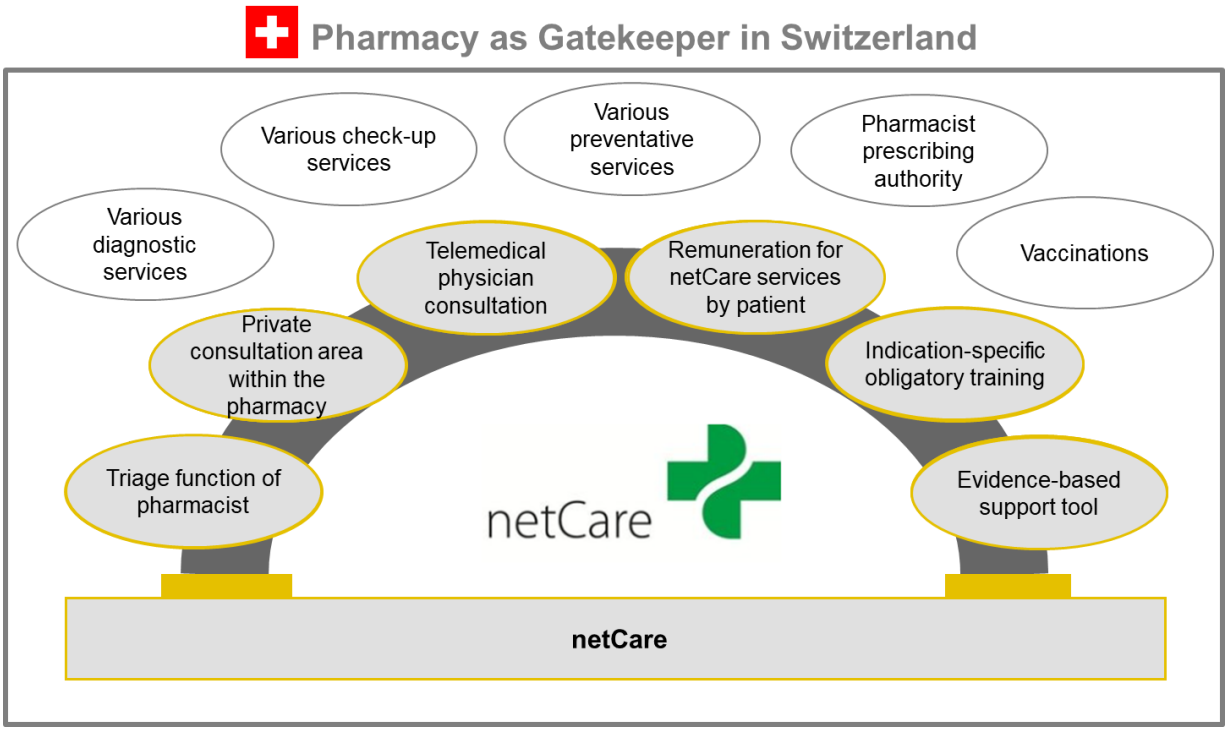

Figure 26: Pharmacy as gatekeeper in the form of netCare

Using a decision-tree assessment, one of three outcomes is possible: (1) The pharmacist provides information and advice related to the health issue. If appropriate, the pharmacist supplies an OTC product or, within the definition of Swiss law, a prescription medicine with guidance on their use; (2) The pharmacist manages the minor ailment case with support from a telemedicine physician via a video-call consultation that takes place within the pharmacy; (3) The pharmacist refers the patient for a face-to-face consultation with the GP. Pharmacists that offer the netCare service are required to complete two training courses that cover the most common medical conditions that are faced in the pharmacy, as well as the 27 decision trees that have been developed specifically for netCare.[222] With a mandatory pharmacist training component and evidence-based support tools, the netCare triage approach has resulted in 84% of patients being treated solely by pharmacists and backup consultations by telemedicine physicians were needed in only 17% of the cases studied.[223] Via netCare, 27 different diseases can be appropriately managed in the pharmacy setting. From a total of 1,806 pharmacies[224] in Switzerland, 371 pharmacies offered netCare in mid-2019.

Remuneration for this service provides pharmacists with the incentive to support patient self-care practices. Patients pay CHF 15 for a netCare triage and an additional CHF 48 for a consultation with the telemedicine physician. Although patients cover the cost of netCare themselves, research has demonstrated that the netCare service is patient-centred, affordable and provides patients with ease of access to the treatment of minor ailments. An additional

[222] Erni, P., von Overbeck, J., Reich, O., Ruggli, M. (2016): netCare, a New Collaborative Primary Health Care Service Based in Swiss Community Pharmacies. In: Research in Social and Administrative Pharmacy. 12(4).

[223] Erni, P., von Overbeck, J., Reich, O., Ruggli, M. (2016): netCare, a New Collaborative Primary Health Care Service Based in Swiss Community Pharmacies. In: Research in Social and Administrative Pharmacy. 12(4).

[224] pharmaSuisse (2020): Fakten und Zahlen Schwewizer Apotheken 2020. pharmaSuisse, Bern-Liebefeld 2020.

study showed that the netCare triage approach by pharmacists is approximately EUR 3.45 or 13% lower in cost than alternative treatment options which involve GP consultations.[225] The ease of access to appropriate healthcare and the cost-saving potential of netCare has been recognised by health insurers who have developed similar models to promote the role of the pharmacist in the management of minor ailments. NetCare forms the basis for alternative insurance models such as .B. Swica with "Medpharm" (since 2016), Sympany with "Casamed Pharm" (start 2017) and ÖKK with "Casamed Select" (since 2019). Other insurance models such as .B. "PrimaPharma" from Groupe Mutuel or "Medbase Multi Access" from Sanitas also establish pharmacies as the first point of contact.

Croatia

As an encouraging example, the Croatian Association of the Self-Medication Industry has developed a Self-medication Manual that should empower pharmacists as professional advisors who assist patients in the treatment of minor illnesses. The Manual provides detailed descriptions of the most frequent minor health problems encountered by pharmacists in their work with patients, along with specific advice to help citizens and properly advise them.[226]

Patient-Centric Self-Care Advice Training for Pharmacists and Pharmacy Staff (Malta)

As demonstrated through a questionnaire on self-care education by the Pharmaceutical Group of European Union (PGEU) in 2012, some European countries have incorporated elements of self-care in their pharmacy curricula.[227] Malta is one example of such a European country that has taken into consideration the ongoing transformation of the pharmacist's role and the need to have an education model that supports the "practice-oriented competencies in pharmacy students based on a sound scientific foundation".[228] The University of Malta has continuously adapted its pharmacy curriculum by shifting from traditional scientific-oriented content to include clinical sciences, which comprises pharmacotherapeutics, patient assessment, care and monitoring, optimisation in medicine use and interprofessional practice. These aspects of clinical sciences have been offered to Maltese pharmacy students for almost 30 decades through various courses, including "Pharmacy Practice". Pharmacy Practice is divided into a number of units that are spread across the 5-year duration of the programme and aims to equip pharmacy students with the knowledge and skills to respond to common health disorders and support self-care behaviour amongst patients.[229] Today, it is considered to be one of the pillars of the pharmacy curriculum in Malta and has enhanced the development of competencies for pharmacists, especially in recognising symptoms of minor ailments and providing advice to patients.[230]

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[225] Trottmann, M., Telser, H. (2015): Cost effectiveness of a new collaborative primary health care service based in Swiss community pharmacies. Polynomics AG, Olten 2015.

[226] CASI (2018): Priručnik za samoliječenje. Retrieved from: https://www.casi.hr/prirucnik_za_samolijecenje/ (14.04.2021).

[227] PGEU (2012): PGEU survey on Pharmacy Education in relation to Non-Prescription Medicines/Self-care. Retrieved from: https://www.pgeu.eu/wp-content/uploads/2019/03/Pharmacy-Education-in-Self-Care-FINAL-1.pdf (24.08.2020).

[228] Azzopardi, L.M., Serracino-Inglott, A. (2020): Clinical pharmacy education and practice evolvement in Malta. In: Journal of the American College of Clinical Pharmacy. 3(5).

[229] University of Malta (2021): Programme Description. Retrieved from: https://www.um.edu.mt/courses/programme/UBSCHPHSFT-2021-2-O (29.01.2021).

[230] Azzopardi, L.M., Serracino-Inglott, A. (2020): Clinical pharmacy education and practice evolvement in Malta. In: Journal of the American College of Clinical Pharmacy. 3(5).

In a 2014 study, Malta (54.2%) was the highest rating out of the European countries evaluated for the percentage of patient-centred courses in pharmacy curricula and was closely followed by the Netherlands (50.3%).[231] The remaining countries scored between 19.7% and 34.4%. The incorporation of clinical sciences into pharmacy education can be linked to the fact that patients will receive better patient-centred care in terms of reliable and professional advice from pharmacists, which therefore strengthens patient self-care behaviour.

Various other European countries also consider pharmacist training to be valuable in enhancing the skills and knowledge of pharmacists to provide self-care advice. The PGEU states that pharmacists in all EU countries have a professional obligation to remain up-to-date; however, continuing education and continuing professional development (CPD) activities, which incorporates self-care issues as well as training in effective communication, are not consistent throughout Europe. The PGEU's 2019 'survey on Pharmacy Education in relation to Non-Prescription Medicines/Self-care' included 28 European countries and reported that continuing education is compulsory in eleven countries while continuing professional development is compulsory in only eight countries.[232] This highlights that there is still potential for European countries to increase CPD activities and training programmes for pharmacists to improve their skills and knowledge in order to support patient self-care practices.

The previous subchapters have explored the role of the pharmacist, their competencies and potential therapeutic areas that can be managed by self-care. Additionally, best practice examples taken from European countries have been presented. There are, however, also barriers that community pharmacies face when implementing self-care enhancing approaches and these are described in the following subchapter.

6.2.1.6 Barriers to Community Pharmacy Exercising Self-Care

Despite recent progress, there is still a multitude of problems associated with increasing the contribution pharmacy makes to self-care. According to literature findings, many of these obstacles may, unfortunately, be of pharmacy's own making, namely the reluctance to change, lack of confidence in their own clinical ability and fear of taking on responsibility and accountability. Although various studies indicate the satisfaction of consumers with pharmacists counselling in self-medication (see section "Quality of counselling and expectations of consumers"), this might not be consistent across countries. Moreover, recent research findings on investigating pharmacist diagnostic decision-making have shown that community pharmacists show poor clinical reasoning due to overreliance on protocol-driven questioning.[233] Pharmacists and pharmacy personnel report difficulties in engaging consumers in dialogue, particularly when consultation involves a request for a medicine by name.

Other barriers include the lack of time to engage in self-care counselling and the lack of reimbursement for the extra time required to deliver additional services.[234] Consumers might

[231] Nunes-da-Cunha, I., Arguello, B., Martinez, F.M., Fernandez-Llimos, F. (2016): A Comparison of Patient-Centered Care in Pharmacy Curricula in the United States and Europe. In: American Journal of Pharmaceutical Education. 80(5).

[232] PGEU (2012): PGEU survey on Pharmacy Education in relation to Non-Prescription Medicines/Self-care. Retrieved from: https://www.pgeu.eu/wp-content/uploads/2019/03/Pharmacy-Education-in-Self-Care-FINAL-1.pdf (27.04.2021).

[233] Rutter, P. (2015): Role of community pharmacists in patients' self-care and self-medication. In: Integrated Pharmacy Research and Practice. 4(1).

[234] Costa, F.A., Scullin, C., Al-Taani, G., et al. (2017): Provision of pharmaceutical care by community pharmacists across Europe: Is it developing and spreading? In: Journal of Evaluation in Clinical Practice. 23(6).

need more education about the community pharmacists' role and responsibilities to motivate them to engage in OTC consultations.[235] Besides that, pharmacies' design of premises must take account of the need to protect customer privacy during the discussion of sensitive issues related to pharmacotherapy.[236] A 2017 survey revealed that private consultation areas are not consistently present in pharmacies across Europe. Respondents from Germany, the Netherlands, Norway, Portugal, Spain and Switzerland report a high availability of space for private consultations, whereas those in Denmark, Lithuania, Sweden and Malta reported a low availability.[237] Private consultation areas facilitate a higher quality of clinical care for patients and enable pharmacists to offer more services and support, where necessary, to patients practising self-care.

6.2.1.7 Summary and Outlook

The shift towards enhanced self-care in European countries has become more than evident which is reflected in numerous political and professional programmes having been launched especially during the last decade. A joint statement on Responsible and Effective Self-care of the International Pharmaceutical Federation (FIP) and the Global Self-Care Federation (GSCF) of 2019 describes the united intention of the pharmacy profession and the pharmaceutical industry to deliver solutions to facilitate people with self-care and to further develop self-care as a "core pillar of sustainable healthcare systems".[238] Pursuant to the statement the responsibilities for pharmacists in this regard include the support of people with evidence-based, unbiased and sound advice about: self-care, the range of available treatment options, and the accurate self-identification of many self-treatable conditions. Pharmacists should: verify whether self-care products can safely be used, encourage the person to always use self-care products appropriately, safely, efficaciously and judiciously, assess and triage the patient to serve as a gateway to care based on information provided and appropriately refer patients to other healthcare providers when self-care is not appropriate.[239]

As outlined by the Irish Pharmacy Union and the Irish Pharmaceutical Healthcare Association: "Community pharmacy is the key to the successful development of a self-care policy and its evolution in the future due to: the availability and accessibility of pharmacies where no prior appointment is required, the provision of professional advice to ensure self-care is practiced practised safely and effectively and the pharmacist's in-depth knowledge on a broad range of health matters to support patients in self-care."[240]

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[235] Seubert, L.J., Whitelaw, K., Boeni, F., Hattingh, L., Watson, M.C., Clifford, R.M. (2017): Barriers and Facilitators for Information Exchange during Over-The-Counter Consultations in Community Pharmacy: A Focus Group Study. In: Pharmacy (Basel). 5(4).

[236] Seiberth, J.M., Moritz, K., Vogel, C.F., Bertsche, T., Schiek, S. (2020): Public's perspectives on guideline-recommended self-medication consultations in German community pharmacies. In: Health and Social Care in the Community. 29(1).

[237] Costa, F.A., Scullin, C., Al-Taani, G., et al. (2017): Provision of pharmaceutical care by community pharmacists across Europe: Is it developing and spreading? In: Journal of Evaluation in Clinical Practice. 23(6).

[238] FIP and GSCF (2019): 2019 Joint Statement of Policy by the International Pharmaceutical Federation (FIP) and the Global Self-Care Federation (GSCF) on Responsible and Effective Self-care. Retrieved from: https://www.selfcarefederation.org/sites/default/files/media/documents/2019-10/FIP-GSCF%20Responsible%20and%20effective%20self-care.pdf (25.12.2020).

[239] Schneider-Ziebe, A., Bauer, C., May, U. (2020): Lotsen für den Patienten, Gatekeeper für das System: Wie das Gesundheitswesen von den Apotheken profitiert. In: Deutsche Apotheker Zeitung (DAZ), Nr. 1-2/ 2020, S. 54-58.

[240] IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

The context of the COVID-19 pandemic has helped to enhance the role of community pharmacy, reduce pressure on GP services and enable healthcare professionals to provide care to those who need it most.[241] Many experts assess the development as an opportunity to drive forward the innovation that we have seen in the past few months. A major pillar could be to establish community pharmacies as the first port-of-call for patients and thereby support a long-term shift to self-care. The experiences with minor ailment schemes, that are increasingly recognised as an extended pharmacy service, demonstrate how pharmacists can deliver quality patient care and improve public health access and health outcomes. As an indispensable prerequisite for such concepts to develop their potential in practice is that pharmacies need to be adequately remunerated for enhanced self-medication services.[242]

6.2.2 Consumer-Focused Approaches

The previous subchapters have presented services that are currently offered in European pharmacies to assist patients/consumers in responsibly and appropriately practising self-care. However, the significance and sustainability of self-care highly depend on the consumer's level of willingness and capabilities to be proactively involved in the management of their own health. This subchapter therefore describes a number of best practice examples that have been identified for consumer-focused approaches and aims to draw attention to measures that can increase an individual's awareness surrounding self-care, sources of information to improve health literacy, financial incentives for consumer use of self-care products and methods to safeguard the consumer from the possible risks of self-care. Firstly, the focus is placed on eight selected individual consumer-focused measures and the respective implementing countries. In a subsequent step, three comprehensive consumer-focused approaches are detailed.

Based on consumer willingness, self-care only occurs once the individual has become aware of and understands the value that self-care will provide and consequently decides to take action.[243] The decision-making process and the desire to participate in self-care behaviour are, naturally, also influenced by a number of incentives. As determined in several studies across Europe, these incentives include monetary and time benefits for the consumer.[244] The results of the literature review in Chapter 2.2 show that the European population is taking more interest in their health and is increasingly more determined to manage minor health problems through self-care. This upward trend in consumer involvement has been augmented by the COVID-19 pandemic with more individuals eager to relieve the pressure on the healthcare systems by visiting community pharmacies and using OTC medicines.[245] Nevertheless, consumer willingness to engage in self-care behaviour must be supported by educational campaigns and tools to ensure that the individual is equipped with the abilities, skills and knowledge to

[241] PAGB (2020): The future of the NHS: Self care during and beyond the COVID-19 pandemic. PAGB, London 2020.

[242] May, U., Bauer, C. (2019): Honorar muss attraktiv sein. Gesundheitsexperten May und Bauer zur Vergütung der Grippeschutzimpfung in der Apotheke. In: Arzneimittel Zeitung. AZ 27/2019.

[243] Wendland, D., Skinner, D. (2020): Key Influences on Self-Care Behaviour. In: SelfCare. 11(1).

[244] PAGB (2016): Self Care Nation. Self care attitudes and behaviours in the UK. London 2016.

Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

[245] Harris Interactive (2020): Impact du Covid-19 sur les comportements des Français. PowerPoint presentation. AFIPA 2020.

PAGB (2020): The future of the NHS: Self care during and beyond the COVID-19 pandemic. PAGB, London 2020.

appropriately and successfully practise self-care. Therefore, the amount and type of information available on self-care as well as the availability of non-prescription medicines strongly influence the way consumers will search for, purchase and use self-care products.[246]

In 2013, a consumer survey focusing on self-care in Europe revealed that only 15% of respondents felt very confident that they could take care of their own health, while 51% expressed that they felt confident in taking responsibility for their own health.[247] Nevertheless, it is important that the skills and knowledge of individuals should be enhanced and thus, build their confidence to make correct decisions when taking responsibility for their healthcare.[248] European countries recognise the essential role that health literacy plays in promoting effective self-care efforts and a number of countries have developed education programmes to build the foundation for self-care and support continuing self-care behaviour. Self-care websites and social media are also currently used by various countries in the UK, as well as Ireland, the Netherlands and Poland, to increase awareness and provide information sources to both patients and healthcare providers.

Although self-care can be practised by individuals without the need to visit a healthcare professional, research shows that Europeans believe it is important to first obtain information about OTC medicines from an HCP and that the treatment of minor ailments is best undertaken with professional advice. [249] Many Europeans prefer the convenience of community pharmacies when seeking advice on self-care as they tend to have long opening hours and do not require a prior appointment[250]. On this basis, pharmacies are endorsed across Europe as sources of accessible care and trustworthy medical information to support and safeguard the self-care decisions of its citizens.

6.2.2.1 Individual Consumer-Focused Approaches

A number of best practice examples have been identified for individual consumer-focused approaches to improve the role or quality of self-care in Europe. These approaches aim to increase awareness of self-care and the potential role of community pharmacy among patients, healthcare providers and other stakeholders, as well as incentivise patients to practise self-care. Each best practice example has been identified by a team of researchers and their quality and validity have been reviewed by country experts.

The following figure provides an overview of the identified best practice approaches focusing on the consumer. This is followed by a detailed description of the respective approaches. The focus is particularly on the impact of the individual consumer-focused approaches on self-care.

[246] Wendland, D., Skinner, D. (2020): Key Influences on Self-Care Behaviour. In: SelfCare. 11(1).

[247] EPPOSI (2013): The Epposi Barometer: Consumer Perceptions of Self Care in Europe. Quantitative Study 2013. Epposi, Belgium 2013.

[248] Sørensen, K. et al. (2015): Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). European Journal of Public Health. 25(6).

[249] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P. & Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

BACHI (2018): Consumer Research OTC Products. PowerPoint Presentation. Leuven 2018.

AFIPA (2020): Make selfcare products a lever for resilience and access to proximity care in France. AFIPA, Paris 2018.

[250] Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

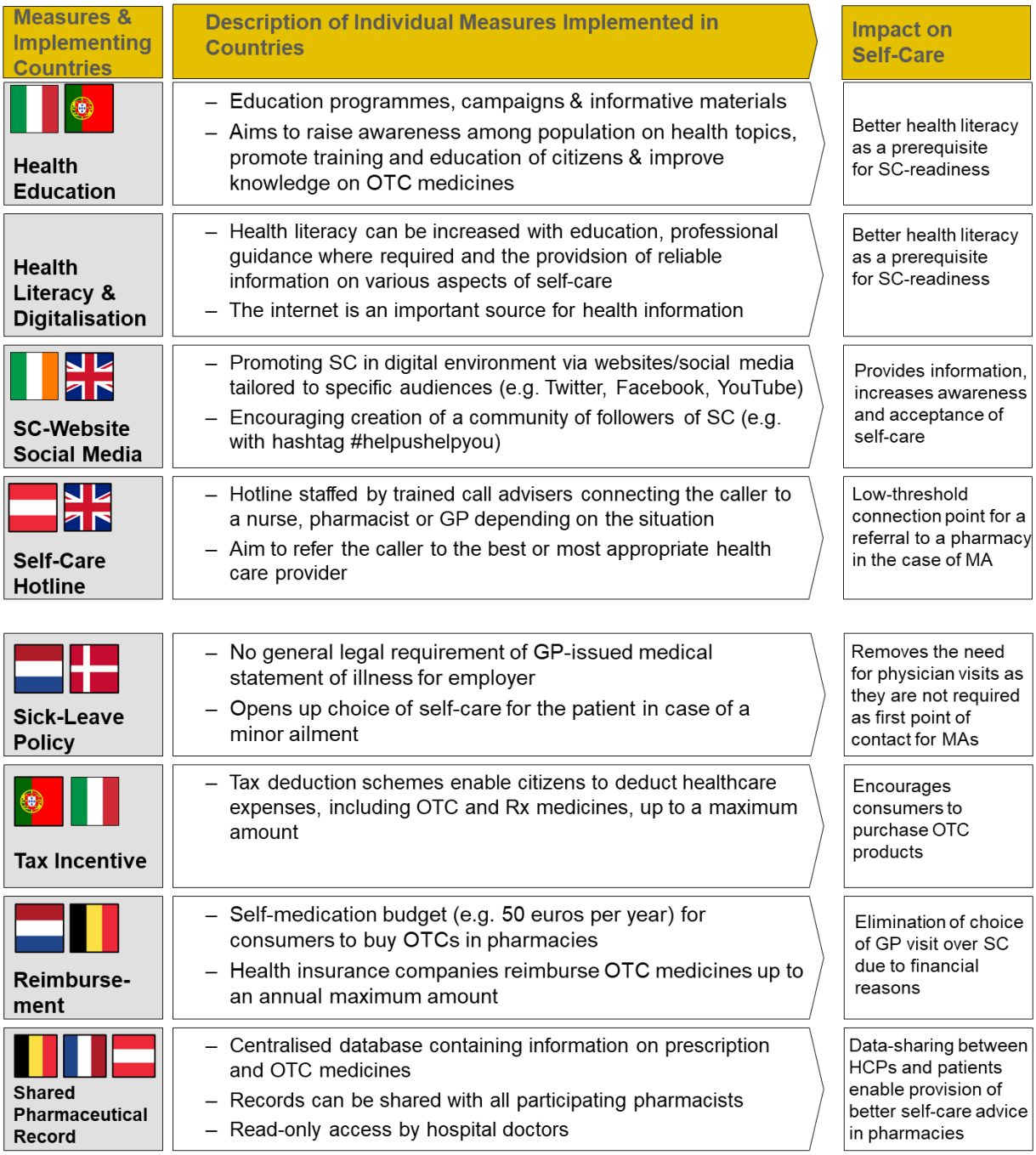

Figure 27: Best practice examples for consumer-focused approaches in Europe

Health Education (Italy, Portugal)

For consumers to make well-informed health-related choices, it is essential that they have access to trustworthy health information and are guided to suitably process and understand this information. Knowledge and understanding of self-care topics provide the foundations on which consumers are enabled to play an active role in taking responsibility for their own healthcare. Therefore, educational campaigns and the incorporation of self-care into primary and secondary school curricula are approaches that provide health information and help consumers develop the necessary competencies to practise self-care.

The Italian Association of Self-Medication Drugs (Federchimica ASSOSALUTE) in collaboration with Cittadinanzattiva, a non-profit organisation that advocates the protection of

citizens, have supported two educational programmes since 2010. Both programmes aim to educate students on the topics of health and the correct use of self-medication. 'La Salute vien Clicc@ndo?' targeted secondary school students to educate them on the use of web tools with regard to health issues, including counterfeit drugs and the purchasing of health products online.[251] '10@lode in Salute' targeted primary school students and was promoted by Cittadinanzattiva, Federchimica ASSOSALUTE, the Italian Medicines Agency (AIFA) and the Italian Federation of Paediatricians (FIMP).[252]

Such educational programmes provide information to children to guarantee better health literacy levels from a young age and ensure that parents and educators are able to transmit correct information regarding health and well-being, including the correct and safe choice and use of medicines, as well as the role of the pharmacist and paediatrician. Increased health literacy contributes to higher levels of health knowledge, skills and self-care confidence. This not only provides consumers with the assurance and capabilities to reliably practise self-care but can also motivate consumers to practise self-care.

Similarly, the Portuguese OTC industries association APIFARMA launched the health literacy programme "Tratar de Mim" (Take care of me)[253] in 2015 to raise awareness among the population on health topics, promote the training and education of citizens and improve their knowledge of non-prescription medicines. The campaign is run in partnership with the National Pharmacy Association (ANF), the Directorate-General for Health, the National Authority for Medicines and Health Products (INFARMED) and further institutions including the Chamber of Medical Doctors. Informative materials were developed for the campaign that allow citizens as well as health professionals to gain knowledge and guide individual health decisions. The programme started with information leaflets on the safe and responsible use of non-prescription medicines for the treatment of fever, flu, colds, sore throat, constipation, headaches, allergic rhinitis, cough in adults and diarrhoea. Information and counselling will progressively be extended to health topics of general interest to the population. Additionally, training actions in universities and schools in the country will be developed.

A unique part of this programme is the "Jogo Tratar de Mim"[254] (Treat Me Game), which provides health education and promotes healthy living habits to children from seven to twelve years old in the form of a game. It is one of the activities that is promoted by the OF's Pharmacy or Health Laboratory at KidZania in Lisbon and is also available for download for use at home, school, pharmacy or physician's office. The game consists of a board, 48 question-and-answer cards, a sheet with eight stickers, a booklet and a bag with a dice and four pins. When a question is answered correctly, the children are awarded a sticker to stick on the booklet which is a "medicine cabinet". At the end of the game, the children will have the information required for them and their parents to organise the medicine cabinet at home. This educational game enables health information to be extended to young people and support the early development of healthy lifestyle habits and responsible use of non-prescription medicines, indicated for the treatment of minor ailments.

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[251] Cittadinanzattiva (2011): La salute vien... clicc@ndo? Retrieved from: http://www.cittadinanzattiva.it/files/guide_utili/scuola/benessere/salute_vien_clickando.pdf (19.01.2021).

[252] Cittadinanzattiva (n.d.): 10@LODE IN SALUTE, EDIZIONE 2016-2017. Retrieved from: https://www.cittadinanzattivalombardia.com/progetti/progetto-scuola/ (19.01.2021).

[253] Apifarma (n.d.): TRATAR DE MIM. Retrieved from: https://www.apifarma.pt/tratardemim/Paginas/default.aspx/ (07.12.2020).

[254] Apifarma (n.d.): Jogo Tratar de Mim. Retrieved from: https://www.apifarma.pt/conhecimento/tratar-de-mim/jogo-tratar-de-mim/ (27.04.2021).

"Tratar de Mim" delivers two key messages. The first is that citizens are capable of managing the symptoms of minor ailments with quick and easy access to the pharmacy, pharmaceutical advice and non-prescription medicines. The second is that this would help to free up resources for the national healthcare system while also freeing up time for the GP, making it easier for citizens to get an appointment when they actually have a disease with more serious symptoms.

Health Literacy and Digitalisation

Health literacy plays a major role in supporting consumers to practise self-care appropriately and responsibly. It enables patients to make more informed choices in the management of their healthcare, helps them to monitor symptoms and encourages them to seek treatments.[255] Although the concept of health literacy has been included in European policy documents, there is limited research on the status of health literacy in Europe. In 2015, Sørensen et al. conducted a European health literacy survey in the following eight countries: Austria, Bulgaria, Germany, Greece, Ireland, the Netherlands, Poland and Spain. The results of this European Health Literacy Survey (HLS-EU) demonstrated that approximately 12% of respondents had an insufficient level of health literacy and 47% had limited health literacy.[256] Low levels of health literacy are linked to sub-populations with financial deprivation, low social status, low education or old age. This means that health literacy remains a challenge for health policies and practice in Europe and efforts to strengthen health literacy are needed.

The health literacy of consumers can be increased with education, professional guidance where required and the provision of reliable information on various aspects of self-care, including prevention, types of minor ailments and treatment options.[257] To improve the health literacy of patients, the AESGP suggests that the involvement of media, journalists and communicators is essential to convey reliable messages and address healthcare concepts responsibly. Additionally, patients should be aware of the opportunities and the non-prescription treatments that are available to practise self-care, while healthy citizens should have the skills and knowledge to prevent illnesses, manage minor ailments, and recognise trustworthy sources of health information. Therefore, as described in Chapter 6 on best practice examples to enhance self-care, it is important to develop joint education initiatives to promote health information, include self-care in basic primary and secondary school curricula, as well as incorporate self-care in training and education programmes for healthcare professionals. Furthermore, comprehensive approaches highlighted in Chapter 6.2.1.5 demonstrate the important role of pharmacy-based services in educating patients on self-care and supporting self-care practices. Such efforts will improve the knowledge and competencies of patients, increase patient motivation to seek treatments for health problems such as minor ailments, and improve the ability of healthcare professionals as well as the healthcare system to guide and facilitate responsible self-care behaviour.

At this point, it is once again important to note that due to differences between European countries, educational approaches cannot be implemented on a European level. Instead, educational approaches should be tailored towards the country's educational, social, economic and cultural situation.

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[255] European Commission (2017): Pilot project on the promotion of self-care systems in the European Union 2014-2017. PiSCE. European Union 2017.

[256] Sørensen, K., et al. (2015): Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). In: European Journal of Public Health. 25(6).

[257] AESGP (2021): Health Education is a right, a public good and a public responsibility. Retrieved from: https://aesgp.eu/articles/health-education-is-a-right-a-public-good-and-a-public-responsibility (09.02.2021).

Moreover, digitalisation has increased the significance of educational approaches in healthcare and self-care behaviour today. Although health information is widely distributed on online platforms, including search engines and social media, the quality and reliability of the information is variable. The dissemination of health information from trustworthy sources is therefore crucial to minimise the impact of misinformation or disinformation and avoid the inappropriate management of minor ailments by patients.[258] The European Commission recognises the importance of the internet as a tool for consumers to search for health-related information and has published a Eurobarometer survey on "European citizens' digital health literacy" in 2014.[259] This report highlights that digital health has the potential to empower consumers to better manage their health, improve prevention, and facilitate communication between healthcare professionals and patients. Another EU initiative is the IC-Health that aims to improve the digital health literacy of EU citizens.[260]

Although there are initiatives in Europe to improve health literacy and approaches have been implemented on a national level (e.g. education programme for students in Italy), there are no current European-wide policies that focus on improving health literacy. It is therefore essential that appropriate health education programmes and information systems are implemented on a European level and centred on the importance of health literacy dimensions to enable European citizens to access, interpret, use and evaluate health information and health services.

Self-Care Websites and Social Media Platforms (England, Ireland, the Netherlands, Poland)

In the current digitalised world, health information is easily accessible online from sources such as websites, blogs, search engines, and social media platforms. This means that through the development of websites and the dissemination of information via social media (e.g. Twitter, Facebook and YouTube), the topic of self-care is increasing in presence in the digital environment. These information sources on minor ailments, non-prescription products and treatment recommendations are generally tailored to specific audiences and encourage the creation of a community of followers of self-care. However, it is important that these information sources are provided by organisations that are able to produce evidence-based and accurate health information.

In England, the hashtag '#helpushelpyou' is used across various social media platforms to spread awareness of the 'Help Us, Help You' campaign. As part of this campaign, a nine-week 'Get It Seen To' pharmacy advice phase campaign encourages the public to use their local pharmacy as the first place to go for clinical advice on minor ailments.[261] Similarly, Ireland launched the 'Be Well this Winter – Think Pharmacy' social media campaign in 2019 to urge

[258] AESGP (2021): Health Education is a right, a public good and a public responsibility. Retrieved from: https://aesgp.eu/articles/health-education-is-a-right-a-public-good-and-a-public-responsibility (09.02.2021).

[259] European Commission (2014): Flash Eurobarometer 404. European Citizen's Digital Health Literacy. European Union, 2014.

[260] EC (2020): Horizon 2020. Improving digital health literacy in Europe. Retrieved from: https://cordis.europa.eu/project/id/727474 (09.02.2021)

[261] National Pharmacy Association (2020): NHS Help Us, Help You campaign. Retrieved from: https://www.npa.co.uk/news-and-events/news-item/80017/ (19.01.2021).

the public to consult their pharmacist for advice on self-limiting illnesses that are more prevalent in winter, such as coughs and colds.[262]

The Netherlands[263], Poland[264] and Portugal[265] have self-care websites to increase the health literacy of their citizens and create awareness of the value of self-care. The Portuguese have also extended their self-care website, "Tratar de Mim" to the social media platform, Facebook[266], which has over 50,000 followers.

A lack of awareness, especially regarding the potential role of community pharmacy, has been identified in the literature as a key barrier to self-care.[267] Therefore, websites and social media content counteract this hurdle by raising awareness and increasing public acceptance of self-care. Additionally, other effects of websites and social media on self-care include the encouragement of individuals to manage their own health in a pro-active way and the promotion of the pharmacists' role in supporting self-care behaviour.

Self-Care Hotline (UK, Austria, Latvia)

The literature supports the role of telephone hotlines in the context of advice provision for minor ailments and urgent medical conditions. In particular, the UK NHS 111 has been considered as best-practice by Ostermann et al. and has recently been used by Austria as an example when setting up the Austrian telephone health advice hotline, "Wenn's weh tut! 1450".[268] These hotlines are staffed by trained call advisers who may connect the individual to a nurse, pharmacist or GP depending on the situation. In England, the NHS 111 number may refer individuals to the pharmacy to participate in the Community Pharmacy Consultation Service[269] for minor ailments, while the Austrian "Wenn's weh tut! 1450" may provide suitable recommendations by a qualified nurse. Moreover, a self-care hotline exists in Latvia, through which tele-consultations are provided by medical staff and self-care advice or direction to other health service providers is offered.[270]

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[262] IPHA (2019): Campaign urges public to visit their pharmacy to manage winter illnesses. Retrieved from: https://www.ipha.ie/campaign-urges-public-to-visit-their-pharmacy-to-manage-winter-illnesses/ (19.01.2021).

[263] Neprofarm (2021): zelfzorg. Retrieved from: https://zelfzorg.nl/ (27.04.2021).

[264] PASMI (n.d.): CZYM JEST ODPOWIEDZIALNE LECZENIE. Retrieved from: https://odpowiedzialneleczenie.pl/" (27.04.2021).

[265] Apifarma (n.d.): TRATAR DE MIM. Retrieved from: https://www.apifarma.pt/tratardemim/Paginas/default.aspx/ (27.04.2020).

[266] For additional information, please see: https://www.facebook.com/programaTratardeMim/.

[267] IPU, IPHA (2018): Self Care. Taking charge of your health. IPU, IPHA Dublin, 2018.

[268] Bundesministeriums für Soziales, Gesundheit, Pflege und Konsumentenschutz (n.d.): Wenn's weh tut! 1450. Ihre telefonische Gesundheitsberatung. Retrieved from: https://www.1450.at/1450-die-gesundheitsnummer/ (19.01.2021).

[269] NHS111 is getting better at advising self-care. In December 2014, Keith Willett, the director of acute episodes of care at NHS England stated that only 1% of callers were directed to self-care. This has improved and the Community Pharmacist Consultation Service is a very positive development. However, it should also be noted that NHS111 is for any health concern that is not an emergency (i.e. doesn't need an ambulance straight to hospital) and thus, it also covers health problems that are not related to self-care.

[270] Nacionālais Veselības Dienests (2020): Informatīvais tālrunis 80001234. Retrieved from: https://www.vmnvd.gov.lv/en/informative-telephone-number-0 (29.04.2021).

Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

These examples of self-care hotlines aim to refer the caller to the best or most appropriate healthcare provider or guide the caller with advice in non-medical emergency cases. Thus, self-care hotlines have a positive impact on self-care as they provide a low-threshold connection point for a referral to visit the pharmacy in the case of a minor ailment. Additionally, self-care hotlines help to improve access to health services that would otherwise be unavailable or inaccessible for patients due to time, distance or cost and enable patients to self-treat minor ailments from home.

The role and important contribution of hotlines to self-care have been emphasised through worldwide responses to the COVID-19 pandemic. Many European countries have rapidly adapted to digital healthcare by investing in apps, the use of mobile technology and hotlines to support healthcare systems manage the outbreak.[271] Hotline services may reduce stress levels concerning healthcare needs, provide shorter waiting times and help arrange appropriate follow-up for patients.[272] Therefore, a shift to telehealth, including telehealth consultations and hotlines to support mental well-being, has evidently reduced COVID-19 exposure for both patients and healthcare providers, diverted people from hospitals and unnecessary use of primary care services. As hotlines reduce the demand for scarce healthcare resources by assisting people to practise self-care, it can be expected that this service will continue to expand beyond the COVID-19 pandemic.

Sick Leave Policy (Norway, United Kingdom)

There are cases of minor ailments that may result in the inability of individualsto attend work. For example, colds and flu are infectious diseases that may require the individual to stay home to prevent the spread of the virus, while migraines are often associated with incapacitating symptoms that result in the individual's inability to work or function normally.[273] Another example is musculoskeletal pain, which may be aggravated by particular work environments or specific tasks and it is a medical condition that has been confirmed by national and European studies to have a significant impact on work-related absence.[274] For such indications, individuals are faced with the choice of either staying at home to practise self-care or visiting a GP. A decision made for the latter may be influenced by the sick-leave certificate requirement as despite being capable and having the means to appropriately practise self-care, a GP visit may be necessary for the sole purpose of illness certification by a physician.

There is evidence to demonstrate that if the need for GP-issued certification for short periods of absence due to illness is removed, this would then result in decreased absenteeism and potential misuse of sick leave entitlement. Torsvik and Vaage examined the impact of a policy

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[271] WHO (2020): Setup and management of COVID-19 hotlines (2020) (produced by WHO/Europe). Retrieved from: https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/publications-and-technical-guidance/monitoring-and-evaluation/setup-and-management-of-covid-19-hotlines-2020-produced-by-whoeurope (27.04.2021).

Dimotikalis, Y., Karagrigoriou, A., Parpoula, C., Skiadas, C.H. (2021): Applied Modeling Techniques and Data Analysis 2: Financial, Demographic, Stochastic and Statistical Models and Methods. John Wiley & Sons, 2021.

[272] Cheng, A., Angier, H., Huguet, N., et al. (2021): Launching a Statewide COVID-19 Primary Care Hotline and Telemedicine Service. In: The Journal of the American Board of Family Medicine. 34 (Supplement). 170-178.

[273] Schneider-Ziebe, A., May, U. (2020): The treatment of migraine patients with triptans – is there a need for further Rx-to-OTC switches? In: Gesund ökon Qual manag. 25(01). 15-23.

[274] European Agency for Safety and Health at Work (2010): OSH in figures: Work-related musculoskeletal disorders in the EU – Facts and figures. European Agency for Safety and Health at Work, Luxembourg 2010.

reform in Norway which allowed employees to self-declare sickness absence and found that the incidence of absenteeism declined, thereby reducing sickness absence by more than 20%.[275] Additionally, a study by Herrmann and colleagues on the differences between the average number of physician contacts per year in Norway (5.4) and Germany (17) revealed that while employees in Norway can take sick leave four times a year for up to three days, employers in Germany can request a sick-leave certificate on the first day of incapacity for work.[276] Some studies also report that the requirement for GP-issued sick leave certification may prolong short-term absence and delay return to work due to administrative factors, GP availability and the likelihood that the GP will make a conservative assessment of the individual's ability to work.[277] On the other hand, self-certification practice could shorten the absence duration because, without restrictions set by a medical certificate, individuals may be more likely to return to work as soon as they feel fit for work.[278]

In most European countries, individuals are generally required to obtain a GP-issued sick-leave certificate within approximately three days of absence from work as evidence to provide their employers. However, some countries allow their citizens to self-certify short periods of sick-leave absence when the involvement of a physician may not be clinically required. In the UK, a GP-issued "fit note" or "sick note" is only required if the individual has been ill for more than seven days in a row and this is strongly supported by the British Medical Association as it reduces clinically unnecessary GP consultations.[279] Similarly, Norwegians can use a personal declaration to notify that they are ill without the need for a sick leave certificate for up to three days of absence.[280] Other countries, such as the Netherlands and Denmark, have no official sick leave certification procedures.[281]

To further emphasise the benefits and the effect that sick leave policies have on self-care, the requirement for GP consultations created by GP-issued sick leave certificates must be considered. The effect of this requirement is explained in more detail in Chapter 4.3.2 and means that when appropriate, GP visits cannot be substituted by self-care; thus, the economic effect associated with freeing up GP time and avoidable sick leave days cannot be realised.

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[275] Torsvik, G., Vaage, K. (2014): Gatekeeping versus Monitoring: Evidence from a Case with Extended Self-Reporting of Sickness Absence. CESifo Working Paper No. 5113. Center for Economic Studies and ifo Institute (CESifo), Munich 2014.

[276] Rieser, S. (2015): Inanspruchnahme von Ärztinnen und Ärzten: Lehrreicher Blick nach Norwegen. In: Deutsches Ärzteblatt. 112(12): A-508.

[277] Pesonen, S., Halonen, J.I., Liira, J. (2016): Self-reporting – a study on implementing and the effects of self-reporting of sick leaves [Omailmoitus - tutkimus sairauspoissaolojen omailmoituksenkäyttöönotosta ja vaikutuksista]. Helsinki, Finland: Finnish Institute of Occupational Health 2016.

Letrillieart, L., Barrau, A. (2012): Difficulties with the sickness certification process in general practice and possible solutions: a systematic review. In: European Journal of General Practice. 18(4). 219-28.

[278] Pesonen, S., Halonen, J.I., Liira, J. (2016): Self-reporting – a study on implementing and the effects of self-reporting of sick leaves [Omailmoitus - tutkimus sairauspoissaolojen omailmoituksenkäyttöönotosta ja vaikutuksista]. Helsinki, Finland: Finnish Institute of Occupational Health 2016.

[279] GOV.UK (n.d.): Taking sick leave. Retrieved from: https://www.gov.uk/taking-sick-leave (07.07.2021).

Campbell, D. (2016): Leading doctors urge two-week absence before workers need to see GP. Retrieved from: https://www.theguardian.com/society/2016/jun/22/overstretched-doctors-urge-two-week-absence-before-workers-need-to-see-gp (07.07.2021).

[280] European Commission (n.d.): Norway – Sickness benefit and attendance allowance. Retrieved from: https://ec.europa.eu/social/main.jsp?catId=1123&langId=en&intPageId=4706 (07.07.2021).

[281] Kausto, J., Verbeek, J.H., Ruotsalainen, J.H., Halonen, J.I., Virta, L.J., et al. (2019): Self-certification versus physician certification of sick leave for reducing sickness absence and associated costs. In: Cochrane Database of Systematic Reviews. 5(CD013098).

Overall, self-certification for short periods of sick leave can contribute to a reduction in medically unnecessary GP consultations, free up GP time to attend to patients with more complex diseases, reduce absenteeism and decrease individual time spent in the physician's waiting room.[282] However, the extent to which sick leave policies may create value for the overall healthcare system and the economy as well as its potential to support self-care behaviour is dependent on the culture and social security system of each European country due to differences in work attitudes and behaviours of citizens and their perception of illness.

Financial Incentives for Self-Purchasing of OTC Products

a) Tax Incentive for OTCs (Portugal, Italy)

Increasing consumer access to OTC products through approaches, such as Rx-to-OTC switches, can empower individuals to practise self-care. Nevertheless, socioeconomic aspects should be taken into account to minimise or avoid potential inequalities in terms of access to effective non-prescription treatments as well as eliminate any financial disincentives for patients to choose self-care. Financial disincentives refer to the fact that patients often have to pay out-of-pocket for non-prescription medicines, while prescription medicines are usually partially or completely reimbursed by the national healthcare systems. In some European countries, tax incentives have been implemented to increase consumer motivation to participate in self-care.

Portugal has introduced a tax-deduction scheme, which enables citizens to deduct healthcare expenses, including OTC and prescription medicines, up to a maximum amount of EUR 500 per person or EUR 1,000 per household.[283] Another example of a tax incentive for consumers is the tax-deductible medical expenses in Italy. 19% of healthcare expenses, including OTC medicine costs, paid for the amount exceeding EUR 129.11 can be deducted from income tax.[284]

On the other hand, value-added tax (VAT) on OTC medicines in Europe may deter patients from purchasing self-care medicines and create barriers to patient access to medicines. Malta is the only European country that does not charge VAT on OTC medicines, which enables increased patient access to OTC medicines to manage minor ailments. Luxembourg (3%) and Spain (4%) apply low VAT rates on OTC medicines, while Germany (19%), Bulgaria (20%), Lithuania (21%), the UK (20%), Denmark (25%) and Sweden (25%) charge high VAT rates.[285]

b) Reimbursement of Self-Purchased OTC Products (France, Belgium)

The idea of a self-medication budget was first proposed in 2002 in a German context as an approach to counteract the decrease in sales of non-prescription medicines, time pressures

[282] Kausto, J., Verbeek, J.H., Ruotsalainen, J.H., Halonen, J.I., Virta, L.J., et al. (2019): Self-certification versus physician certification of sick leave for reducing sickness absence and associated costs. In: Cochrane Database of Systematic Reviews. 5(CD013098).

[283] DRE: Diário da República Eletrónico (2014): Legislação Consolidada Lei n.º 82-E/2014. Artigo 78.º. Deduções à coleta. Retrieved from: https://dre.pt/web/guest/legislacao-consolidada/-/lc/153302676/202012310000/73936725/diploma/indice (27.07.2021).

DRE: Diário da República Eletrónico (2014): Legislação Consolidada Lei n.º 82-E/2014. Artigo 78.º-C. Dedução de despesas de saúde. Retrieved from: https://dre.pt/web/guest/legislacao-consolidada/-/lc/153302676/202012310000/73936728/diploma/indice (27.07.2021).

[284] PWC (2021): Italy. Individual – Other tax credits and incentives. Retrieved from: https://taxsummaries.pwc.com/italy/individual/other-tax-credits-and-incentives (26.01.2021).

[285] Mikulic, M. (2021): VAT rate on over-the-counter drugs in Europe 2020, by country. Retrieved from: https://www.statista.com/statistics/458936/vat-rate-on-over-the-counter-drugs-in-europe/ (26.01.2021).

as well as unnecessary GP consultations and prescription of medicines at the expense of the German statutory health insurance.[286] A self-medication budget provides individuals with an annual maximum reimbursable amount for OTC medicines by their health insurance company.[287] Self-medication budgets create an incentive for patients to independently treat minor ailments that do not require the attention of a medical professional.[288] This incentive is financially related and is linked to the patient's choice between self-care and GP consultation for the treatment of a minor ailment. Since a patient can receive a reimbursement for a minor ailment treatment if they choose to visit a GP to obtain a prescription, they would likely prefer this option over the purchase of an OTC product which they would have to pay out-of-pocket. Therefore, a self-medication budget eliminates the financially motivated choice of a physician visit over self-care.

To date, self-medication budgets have not been implemented at a national level in Europe. However, in France, a number of complementary health insurers offer their customers contracts that include the coverage of non-prescription medicines. This can either be complete or partial coverage of OTC medicines. The reimbursement amount varies according to each health insurance and the individual contract. It is generally offered as an annual flat rate of approximately EUR 50; however, the rates can be as low as EUR 20 per year up to EUR 106. [289] While French complementary health insurers support self-care, they limit the reimbursable amount according to a reasonable proportion. Additionally, financial incentives for the self-purchase of OTC products is also utilised in Belgium where health insurance plans are mandatory for all residents. As part of these insurance plans, private insurers reimburse up to 50% of complementary OTC medicine purchases for a limited sum (e.g. EUR 150) per year per affiliate. These reimbursements are often subject to a set of conditions, such as the approval of the medicines by the health insurance company or the provision of a pharmacist-issued certificate allowing for the reimbursement.[290] The reimbursement of complementary OTC medicines provides an important incentive for individuals to practise self-care as homeopathic treatment is used for a wide range of health conditions, including minor ailments such as hay fever, allergies and dermatitis.[291]

Shared Pharmaceutical Record (Belgium, France, Austria)

In addition to the compulsory recording of prescription medicines by pharmacists, medication records that store both prescription and OTC medicines are gaining interest in Europe. Currently, Belgium and France have implemented shared record systems that also record OTC medicines if the patient is identified in the system at the time of purchase. The information is

[286] May, U. (2002): Selbstmedikation in Deutschland. Eine ökonomische und gesundheitspolitische Analyse. BAH, Bonn.

May, U., Hüsgen, U. (2002): Gesetzliche Krankenversicherung: Selbstmedikationsbudget als Steuerungsinstrument. Pharmazeutische Zeitung. 147. No. 41 from 10th October 2002. PP. 18-21.

[287] May, U., Bauer, C. (2017): Apothekengestützte Selbstbehandlung bei leichteren Gesundheitsstörungen – Nutzen und Potenziale aus gesundheitsökonomischer Sicht. In: Gesundheitsökonomie & Qualitätsmanagement. 22(S 01).

[288] May, U. (2011): Selbstmedikation heute und morgen. From: DAZ 2011, No. 11. from 17th March 2011. P. 55.

[289] C3 SAnté (2020): Les complémentaires et le parcours de soins officinal. AFIPA, 2020.

[290] Partenamut (n.d.): Remboursement médicaments homéopathiques. Retrieved from: https://www.partenamut.be/fr/remboursements-avantages/medicaments-homeopathiques (01.07.21)

Solidaris mutualité (n.d.): Homéopathie. Retrieved from: https://www.solidaris-liege.be/mutualite/vos-avantages/vos-avantages/homeopathie.html (01.07.21).

[291] NHS (2021): Homeopathy. Retrieved from: https://www.nhs.uk/conditions/homeopathy/ (01.07.21).

sent to a central database and the data is shared with community pharmacies. Belgian's Shared Pharmaceutical Record, which was implemented in 2013, stores patient data for one year and all pharmacies subscribed to the service have access.[292] In France, the Dossier Pharmaceutique was started in 2008 by the French chamber of pharmacists and it allows community pharmacies to read and write access.[293] It is also accessible to hospital pharmacists and a limited number of physicians, such as those working in the emergency departments. Since 2010, the Dossier Pharmaceutique also includes a mechanism to launch alerts or recalls on a specific pharmaceutical substance.

Similarly, Austria has made a significant advancement in the field of digital health in 2015 by implementing the "elektronische Gesundheitsakte" (electronic health records), also known as ELGA, as a part of the healthcare reform in Austria. ELGA is an information system that helps patients, physicians, pharmacists and other healthcare professionals manage health data, including health records and medications that are dispensed in the pharmacy. A significant component of ELGA is the "e-medication" application, which gives health service providers as well as patients access to information on prescribed and dispensed medicines. The aim of this centralised database is to enable easier control of interactions by healthcare providers, reduce duplications in therapy, minimise adverse events and ultimately, and reduce medication errors.[294] Financed by the ministry of health, the association of Austrian social security institutions and federal provinces, ELGA improves workflow and the quality of patient care as well as strengthens collaborative care efforts among physicians, pharmacists, nurses and other healthcare providers.[295]

These shared OTC and prescription medicine records are an innovative step towards the call for increased data sharing and collaborative efforts between healthcare providers.[296] Moreover, they allow self-care to be formally integrated into the patient care pathway. A number of country experts have emphasised the need to implement a centralised record in pharmacies as this is where the majority of prescription, OTC medicines, as well as vitamins and supplements, are supplied.[297] The patient is advised on the appropriate usage of medicines by their pharmacist who is bound by their professional code of ethics to protect patient privacy and confidentiality. Ultimately, a shared medical record of the patient will be safeguarded by pharmacists, enabling physicians to be more involved with non-prescription medicines and providing healthcare professionals with up-to-date information to identify

[292] APB (2019): The family pharmacist. A new service in Belgian pharmacies. Retrieved from://www.nfs.no/wp-content/uploads/2019/11/FD19_PDF_ManonBuyl.pdf (29.01.2021).

[293] Ordre National des Pharmaciens (2019): Qu'est-ce que le Dossier Pharmaceutique? Retrieved from: http://www.ordre.pharmacien.fr/Le-Dossier-Pharmaceutique/Qu-est-ce-que-le-DP#:~:text=Le%20Dossier%20Pharmaceutique%20(DP)%20recense,ans%20pour%20les%20m%C3%A9dicaments%20biologiques) (09.02.2021).

[294] Herbek, S. et al. (2012): The Electronic Health Record in Austria: a strong network between health care and patients. In: European Surgery. 44(3).

[295] Rauchegger, G. (2018): IHE is Deployed and Operational in Austria with ELGA. Retrieved from: https://www.ihe-europe.net/sites/default/files/2018-05/IHE%20Symposium_Rauchegger.pdf (29.01.2021).

[296] Torjesen, I. (2018): Access to patient records: Britain lags behind other countries. Retrieved from: https://www.pharmaceutical-journal.com/news-and-analysis/features/access-to-patient-records-britain-lags-behind-other-countries/20204251.article?firstPass=false (26.01.2021).

Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.

[297] Torjesen, I. (2018): Access to patient records. Britain lags behind other countries. Retrieved from: https://www.pharmaceutical-journal.com/news-and-analysis/features/access-to-patient-records-britain-lags-behind-other-countries/20204251.article?firstPass=false (21.01.2021).

underuse, overuse or misuse of medicines in patient self-care practices. Data-sharing between healthcare providers and patients will also encourage improved collaborative care efforts between pharmacists and GPs to deliver better patient care results.

In addition to the above-mentioned individual consumer-focused examples, the approaches that are described in Chapter 6.2.1.5 as pharmacy-focused – CPCS, MAS and netCare – obviously also have a significant influence on consumers. This is because they combine a number of individual consumer-focused approaches, such as education, self-care hotline and evidence-based tools. Thus, they can be considered as essentially comprehensive services which utilise community pharmacists with the additional support of GPs, when necessary, to promote and support the effective management of minor ailments by patients. In doing so, these approaches encourage consumers to use community pharmacies as their first point of contact for minor ailments and utilise this opportunity to triage patients within the professional capabilities of the pharmacist. An effective gate-keeping role of pharmacists, in which patients are triaged, can potentially reduce expenses associated with unnecessary use of alternative high-cost healthcare services.[298] However, research suggests that the efficiency and sustainability of such approaches require the service to be fully integrated into the national healthcare system.[299]

6.2.3 Physician-Focused Approaches

In addition to pharmacists and consumers, physicians are of relevance for the enhancement of self-care. Hence, this chapter describes two best-practice examples for physician-focused approaches. Figure 28 provides an overview of the approaches and the respective countries in which they have been implemented. This figure also highlights the impact that these approaches have on self-care.

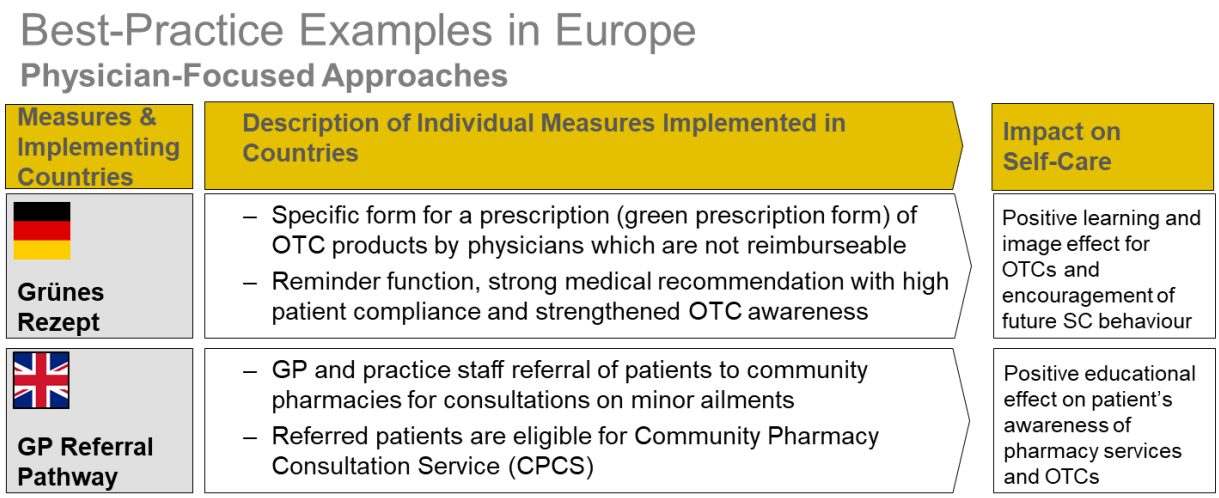

Figure 28: Best practice examples for physician-focused approaches in Europe

[298] Elbeddini, A., Prabaharan, T., Almasalkhi, S., Tran, C. (2020): Pharmacists and COVID-19. In: Journal of Pharmaceutical Policy and Practice. 13(36).

[299] Erni, P., von Overbeck, J., Reich, O., Ruggli, M. (2016): netCare, a New Collaborative Primary Health Care Service Based in Swiss Community Pharmacies. In: Research in Social and Administrative Pharmacy. 12(4).

Grünes Rezept (Germany)

The Grünes Rezept ("green prescription") is a specific form for the written advice of a physician to a patient on OTC products. Medicines prescribed under the Grünes Rezept are not reimbursable. However, some statutory health insurances in Germany partially reimburse medicines purchased with a Grünes Rezept in the framework of so-called optional benefits.[300] The fact that OTC medicines prescribed on a Grünes Rezept are in principle not reimbursed underlines that this approach does not represent a financial incentive for a physician visit and the corresponding decision to neglect self-care from the patient's point of view. The aim of the Grünes Rezept is to serve as a memory aid to help the patient remember details of the recommended non-prescription medicine for the treatment of a minor ailment.[301] These details include the name of the medicinal product, dosage form, or package size amongst others.

The Grünes Rezept also provides the patient with reassurance in regard to the choice of self-care treatment as it is a formal recommendation of an OTC medicine made by a healthcare professional. Thus, it also functions to remove any misconceptions that a medicine is less effective or less trustworthy if there is no requirement for a prescription or if it is not reimbursed by the health insurance company.[302] The latter can be described as a positive image effect on OTC medicines through the Grünes Rezept. In addition, there is a learning effect on the part of the patient through this approach of written recommendation of OTCs. The physician's recommendation can lead to a scenario in which, in a repeated case of a certain minor ailment, the patients directly choose the path of self-medication without having to visit the physician again. This is a result of the previously received instructions for self-treatment of this minor ailment by a physician through the Grünes Rezept.

Moreover, GPs are not always notified of the non-prescription medicines that their patients use. Apart from shared medication records which enable OTC medicines to be recorded in the pharmacy and shared with the GP, the Grünes Rezept strengthens GP-patient relationships by encouraging discussions on self-care products and allowing the GP to stay informed about the non-prescription medicines that their patient purchases at the pharmacy. With a more detailed overview of their patients' medication history (i.e. both prescription and non-prescription medicines), GPs are able to identify risks such as possible drug interactions and make more appropriate treatment choices in the future.[303] Furthermore, the approach of the Grünes Rezept increases the involvement of GPs in self-care as well as their respective interest and positive attitude towards OTC medicines.

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[300] BAH (n.d.): Grünes Rezept. Retrieved from: https://www.bah-bonn.de/unsere-themen/gruenes-rezept/ (04.02.2021).

[301] Korzilius, H. (2011): Grünes Rezept: Marketing oder Merkhilfe? Retrieved from: https://www.aerzteblatt.de/archiv/105900/Gruenes-Rezept-Marketing-oder-Merkhilfe#:~:text=Uwe%20May%2C%20im%20BAH%20zust%C3%A4ndig,nicht%20verschreibungspflichtige%20Medikamente%20zu%20empfehlen (04.02.2021).

[302] Barrenberg, E., Garbe, E. (2015): Use of over-the-counter (OTC) drugs and perceptions of OTC drug safety among German adults. In: Pharmacoepidemiology and Prescription. 71. 1389-1396.

Krska, J., Jones, L., McKinney, J., Wilson, C. (2011): Medicine safety: experiences and perceptions of the general public in Liverpool. In: Pharmacoepidemiology & Drug Safety. 20(10). 1098-1103.

Westerlund, T., Barzi, S., Bernsten, C. (2017): Consumer views on safety of over-the-counter drugs, preferred retailers and information sources in Sweden: after re-regulation of the pharmacy market. In: Pharm Pract (Granada). 15(1).

[303] Pro Grünes Rezept (n.d.): Das Grüne Rezept: Orientierung, Sicherheit und Informationen zu rezeptfreien Arzneimitteln. Retrieved from: https://pro-gruenes-rezept.de/informationen-fuer-patienten/ (04.02.2021).

The Grünes Rezept, therefore, promotes a positive patient learning experience and removes any misconceptions regarding the effectiveness of OTC medicines which in turn strengthens the image of OTCs in general. The idea of a Grünes Rezept has been brought up in other European countries, including the UK, where the PAGB, the consumer healthcare association, have stated that "GP self-care prescriptions" or "recommendation prescriptions are a helpful tool for GPs and other primary care prescribers to refer people with self-treatable conditions to community pharmacy".[304] Although the Grünes Rezept does not necessarily strictly fall under the scope of self-care, it provides physicians with a formal instrument to support self-care and helps to guide individuals to access the right care as well as encourages patients to practise self-care in the long term.

GP Referral Pathway (England)

The GP Referral Pathway is linked to the Community Pharmacy Consultation Service (CPCS) that has been implemented by NHS England. Since November 2020, general practices have had the option of referring patients to the pharmacy to receive the CPCS consultation for a minor ailment.[305] This means that GP practices can complete the initial assessment to determine if the patient presents themselves with a low-acuity, minor illness that can be managed in a pharmacy setting. The GP Referral Pathway aims to open a new channel for patients to access consultation services, especially for minor ailments and further strengthen the relationship between GP practices and community pharmacists.[306] Therefore, the referral service provides a basis for further collaboration between two key healthcare providers who play an essential role in supporting the self-care behaviour of patients. This will contribute to an improvement in the care of patients presenting themselves with minor ailments and alleviate the work burden in GP practices to allow physicians to treat more complex health problems.

6.3 Interim Conclusion Chapter 6

Approaches that focus on political commitment, pharmacies, consumers and physicians to enhance self-care have been discussed in this chapter. The examples selected from a range of countries across Europe reveal that each relevant stakeholder plays an important role in enhancing self-care and that their respective roles and involvement in self-care can be strengthened through individually targeted and structured system approaches.

The first fundamental approach to enhance self-care is through political commitment. Integrative national self-care policies are essential to provide a framework for self-care. They guide relevant stakeholders to harness the significant potential of self-care and benefit from efficiency gains in European healthcare systems. Despite the importance of such political commitments to self-care, European examples of white papers and special legislations which integrate self-care into healthcare policies are limited. However, some examples could be found in Ireland, Finland, Switzerland and the UK.

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[304] PAGB (2019): Overcoming the Barriers to Self Care. PAGB, London 2019.

PAGB (2008): Driving the self care agenda. Retrieved from: https://www.pagb.co.uk/content/uploads/2016/06/Driving-the-self-care-agenda-AndyTisman.pdf (04.02.2021).

[305] PSNC (2020): CPCS – GP referral pathway. Retrieved from: https://psnc.org.uk/services-commissioning/advanced-services/community-pharmacist-consultation-service/cpcs-gp-referral-pathway/ (04.02.2021).

[306] Royal Pharmaceutical Society of Great Britain (2021): GP referrals to community pharmacy begin this month. Retrieved from: https://www.rpharms.com/about-us/news/details/GP-referrals-to-community-pharmacy-begin-this-month (04.02.2021).

Apart from the evident need for more explicit political commitment to self-care by European governments, the involvement of pharmacies, consumers and physicians is also essential to enhance self-care. In particular, pharmacies, respectively pharmacists and pharmacy staff, play a significant role as they are often the initial contact point for patients with minor ailments. Evidence demonstrates that pharmacists have the relevant competencies to triage patients and act as gatekeepers to ensure that patients are guided to the most appropriate level of healthcare provision. It could also be found that structured systems, including netCare, the MAS and CPCS, that combine behavioural incentives on the part of patients, pharmacists and physicians are particularly promising. Such structured systems utilise community pharmacists with the additional support of GPs, when necessary, to promote and support the effective management of minor ailments by patients.

Noteworthy consumer-focused approaches include self-medication budgets, such as the annual EUR 50 budget provided by various French complementary health insurers, which eliminate the financially motivated patient choice of a GP consultation over self-care. Sick leave policies also set a positive impulse for consumers to choose self-care as the lack of need for a sick leave certificate, such as in Norway and the UK, removes a major hurdle for self-care. Additionally, sources of health information and tools, including self-care hotlines (e.g. NHS 111) and self-care websites, provide low-threshold connection points to healthcare advice for minor ailments and improves consumer awareness of the possibilities of self-care.

Physicians also play a significant role in enhancing self-care and two best practice examples for physician approaches could be found in Europe. The first example is the *Grünes Rezept* that was developed in Germany to provide patients with a form for the written advice of a physician on non-reimbursable OTC products. The Grünes Rezept serves as a memory aid for the patient and reinforces which self-care products can be used to treat a specific minor ailment. The Grünes Rezept, therefore, promotes a positive patient learning experience by enabling patients to directly engage in self-care practices in a repeated case of a certain minor ailment, strengthens the image of OTC medicines and provides physicians with a formal instrument to support self-care. The second example is the GP Referral Pathway that was recently implemented in England. It provides general practices with the option of referring patients to the pharmacy to receive a consultation for a minor ailment from the pharmacist. This physician-focused approach improves the care collaboration between physicians and pharmacists as well as alleviates the work burden in GP practices to allow physicians to treat more serious illnesses.

These special approaches in the healthcare system that focus on political aspects, pharmacies, consumers and physicians set positive incentives for self-care among the relevant stakeholders. Although each European country analysed in this study can benefit from stakeholder-specific approaches to enhance self-care, the best practice examples identified are not immediately transferable to another European country. The identified best practice examples should serve as a blueprint to facilitate the development of further ideas or as a guide for the implementation of new self-care related policies and activities in Europe. This means that adjustments or adaptations are necessary to tailor the best practice examples to suit the needs and economic, legal and cultural situation of the respective country.

7 Policy Recommendations Addressed to National Policy Makers to Release the Full Potential of Self-Care in the European Context

An essential conclusion from this study and a corresponding central recommendation to policy makers at national and European levels is as follows: The attention that has so far been paid to the topic of self-care is not in adequate proportion to the value and benefits generated by self-care. The scientific data presented in this study indicate that self-care is an important component of healthcare and should therefore be given greater political focus.

The results of the health economic analysis suggest, as described in the first part of the study, that it is reasonable to recognise and promote self-care more extensively in European countries as a complement and, in some cases, as a substitute to medical therapy. For this purpose, as it was concluded in the further course of the study, policy and regulatory measures are necessary on a national and European level. These should aim at modifying the legal or institutional framework or implementing certain information, incentive or steering systems.

In the following chapter, some general recommendations are given before more concrete proposals for measures at national level are formulated. All recommendations are based on the premise that there is no universal European approach to achieving an increase in self-care in all European countries. Instead, a set of measures is derived that must be discussed in each country to determine whether they can be implemented.

7.1 General Conclusions and Recommendations

In Europe, around 1.2 billion cases of minor ailments are currently experienced by patients and self-managed, often with the assistance of a pharmacist, with OTC medicines. Fast and easy access to OTC products is often a key factor in ensuring a high quality of care for people. In addition, the use of self-care products generates considerable economic and social benefits to individuals, health systems and society at large in Europe.

The present study has revealed that these positive effects could be increased by an additional 48% by further promoting self-care as an alternative to a physician's visit (*self-care-first*). Further positive effects of a health and economic nature could be achieved by more people practising self-care in certain indications for the treatment and prevention of health problems instead of remaining passive (*higher treatment rate*). With regard to both approaches, however, the potential for strengthening self-reliant health measures differs significantly from country to country. This is due to the different initial situations regarding the role of self-care in individual European countries.

Furthermore, the analysis also indicates that different national framework conditions at a legal, socioeconomic and cultural level determine the development of self-care in a country. These framework conditions can only be influenced politically to a very limited extent and only be achieved in the long term.

Despite this finding, the present study identified concrete measures and control approaches that are suitable for creating incentives for more self-care among patients, healthcare professionals and other stakeholders. In this way, efficiency reserves could be exploited and additional individual and societal benefits created through self-care, both in countries with an already well-developed self-care culture and in countries that are less developed in this respect.

As a result of these considerations, the political recommendation should focus on actively and consistently using appropriate incentives and steering instruments to strengthen the status of self-care in the national healthcare systems of all European countries. This recommendation is primarily addressed to the decision-makers in the individual countries, but secondarily also to policymakers at a European and global level. The existing national measures in Europe and their respective impacts differ. Therefore, these measures are examined separately in the following subchapter.

Meanwhile, a corresponding information situation, acceptance and appreciation of the topic of self-care among decision-makers is a necessary prerequisite for such initiatives both nationally and internationally. The fact that political commitments or even systematic agendas ("white papers") could only be found in very few countries (Chapter 6.1) indicates that there is still a considerable need for communication in this area. This leads to the fundamental recommendation to politicians, authorities, payers, patient organisations, healthcare professionals and all other parties involved in the healthcare system to pay more attention to this issue. In this sense, the data, facts and findings derived from the present study can make a significant contribution.

7.2 Self-Care Policy at National Level

At the international level, a wide variety of measures are in place to promote the population's willingness to take responsibility for their own health in the event of minor ailments. Corresponding measures that were identified as best practice in individual European countries in the course of this study are described in detail in Chapter 6.

It was demonstrated that political recommendations for a self-care policy cannot be made at the European level, but must always be tailored to a specific country. The selection of options for action that are suitable for a specific country and the prevailing framework conditions can be determined in a two-stage process. The definition of objectives at the first stage and the concrete selection of measures at the second stage are described below. Through this structured approach, concrete policy recommendations for the promotion of self-care can be generated for each individual European country.

7.2.1 Identification of Need for Action and Definition of Objectives

To strengthen the role of self-care, the starting point must be a review and interpretation of the initial situation in the country under consideration. Specifically, the current availability of OTC medicines and their actual use (also as an alternative to a physician's visit) must be determined. This determination of the status quo position (in the following referred to as “positioning”) relates to the market situation in the comparison of European countries described in Figure 11 (Chapter 4.2) as breadth (availability) and depth (degree of utilisation).

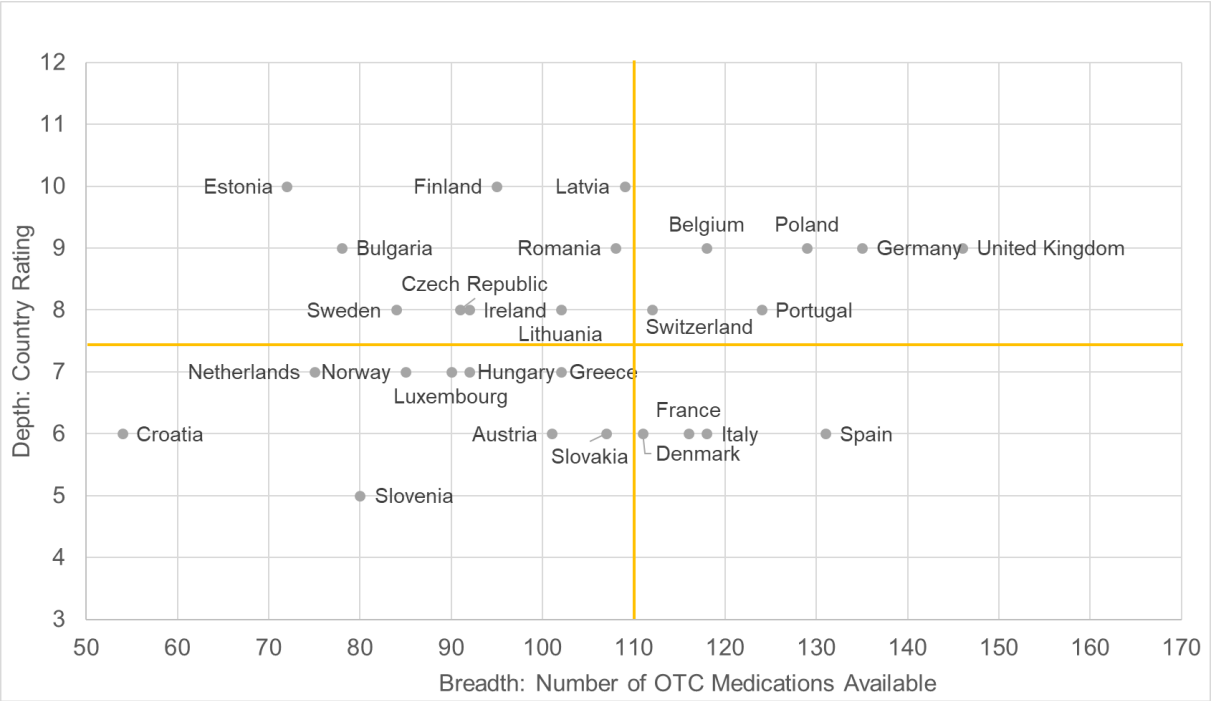

Figure 29: Positioning of specific countries in the European self-care landscape

The positioning of a specific country in this European self-care landscape can be used to determine the direction of development in which the potential for more self-care exists in each specific country. Starting from the status quo, the development strategy can aim for greater breadth, greater depth or balanced growth in both directions (Figure 29). If, for example, a relatively large number of substances is available over-the-counter in a country, but only little use is made of them in the context of self-care (e.g., Spain), priority would be given to corresponding behavioural incentives for patients and HCPs (depth). Conversely, the growth of OTC product availability (including Rx-to-OTC switches) would be favoured if there is a high willingness and use of self-care in a country (depth), but only a comparatively limited range of substances is available for this purpose (e.g., Estonia). In a country with a balanced ratio of depth and breadth (figuratively speaking: countries in the centre of the image or arranged along the bisecting line of the angle – e.g., Belgium, Greece, Switzerland), strategies that promote both the utilisation rate (uptake) and the availability of preparations are particularly promising, so that self-care grows in breadth and depth.

In each of the previously described cases, i.e. regardless of the identified priorities for a given country, the policy mix must be tailored precisely to these policy aims. The development of self-care in the direction of breadth or depth requires different steering measures and incentives directed at different actors. In addition, a further distinction must be made within the following categories.

I) Availability of OTC Products (Breadth)

The availability of a new substance or indication in a European country requires a regulatory reclassification from prescription to non-prescription status and the actual market launch in the respective country by the pharmaceutical company. Following the decision to switch that is granted by the authority, education of HCPs and advertising is essential to raise awareness as well as drive uptake on the new indication available without the prescription requirement. It is key that HCPs and students in medicine and pharmacy are adequately educated with regard to

responsible self-care and OTC medicine use as well as the benefits they provide on both an individual and societal level.

I a) Rx-to-OTC Switches

Releases from the prescription-only obligation that are operated decentrally in a country or centrally by the EMA are regularly carried out upon the initiative (application) of the pharmaceutical company. A necessary prerequisite for the promotion of such switches is therefore the improvement of the economic and regulatory incentives from the company's perspective.

Once the manufacturer has taken the initiative, the (national) regulatory authority must decide on the switch application. In order to promote positive decisions here, positive incentives must also be set at this level. In the case of the regulatory authority, these are not financial, but ultimately concern information that helps to align the switch with the goals and perspective of the regulatory authority. According to experience from market research, HCPs also make a decisive contribution to the actual success of switches. In this respect, behavioural incentives, e.g. through communicative measures, are also part of a promising switch strategy for these actors.

I b) Market Launches

The approval of a substance or a preparation as OTC does not mean that the corresponding OTC preparations are actually available in a country. An analysis of international markets has shown that, particularly in smaller countries, there is often the problem that the pharmaceutical companies have the corresponding approvals, but do not launch the preparations on the market. This can also be referred to as the “dilemma of small countries”. The improvement of financial and economic incentives from a company perspective is the instrument of choice here.

II) Utilisation of Self-Care (Depth)

Although the availability of OTC products is a necessary condition, it is yet not sufficient to ensure that consumers actually use OTC products in the context of self-care. In addition, it is always essential that the consumer decides to do so. This requires the corresponding willingness and the ability of the consumer to practise self-care. Provided this is the case, self-care (or self-medication) can replace previously untreated (or non-medicated) cases or replace a physician's visit. These two scenarios are discussed below under the terms *Treatment Rate* and *Self-Care First*, respectively.

II a) Treatment Rate of Minor Ailments

As the analysis (

) has demonstrated, a significant proportion of all minor ailments that occur today remain untreated. Among these potential treatment cases that remain untreated are also those for which an individual health benefit could arise from the use of OTC preparations. As a result, in certain cases, disease duration could

be shortened, mitigated or avoided entirely. This, in turn, will also result in efficiency gains at the economic and social levels.

Incentives for the enhanced utilisation of OTC preparations instead of nihilism primarily require corresponding incentives and, above all, an awareness of the self-care options among consumers and a better understanding of the minor ailment itself. Indirectly, however, the consumer decision will also depend on the communication behaviour of HCPs, especially their recommendation and counselling behaviour towards OTC preparations. In this respect, incentive and control instruments at the HCP level are also useful if the intention is to increase the treatment rate.

II b) Self-Care First

The consumer's decision-making situation with regard to the choice between self-care and a physician visit has already been described in detail in Chapter 3.2.1.1 of this study. Here, it is mainly the consumer who will only decide in favour of self-care if they are aware of this option and are adequately incentivised. In this case, the consumer's cost-benefit analysis is primarily based on the factors of money, time and rapid access to treatment on the one hand, and the expected health benefits on the other hand.

In addition, a decisive factor in favour of a physician's visit may be the necessity to obtain a sick leave certificate for employees. With regard to the benefits side, the level of information influences the decision-making process. Only an adequate level of knowledge enables consumers to practise self-care, both objectively and subjectively. In this respect, steering mechanisms, as already explained under II a), are again directed towards the HCP and directly towards the consumer.

The objectives and steering approaches regarding the breadth and depth of self-care in a country have been considered separately above. In fact, there is a strong interdependence between each of these aspects that needs to be taken into account. Switches and launches fail when people are not willing and/or able to practise self-care. As a result, all measures to increase depth also provide an incentive for more switches and launches (breadth). Conversely, the availability of OTC substances is the reason why self-care is possible in the first place. The following figure illustrates the described interdependencies.

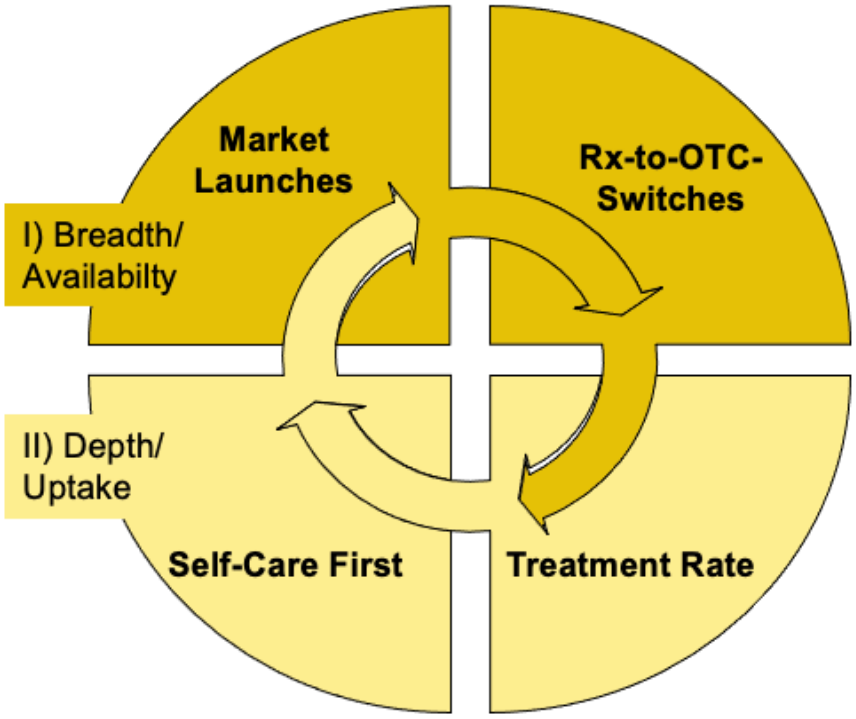

Figure 30: Interdependency between breadth and depth of self-care

7.2.2 Selection of a Country-Specific Set of Measures

In the previous section, four categories of self-care promotion were named (I a to II b) and the incentive levels and different actors (e.g. consumer, pharmacy, authorities) were identified for which incentives must be implemented in order to establish the conditions for more self-care.

These abstract steering approaches can now be assigned to practical instruments for promoting self-care, which are already being used successfully in some countries or at least represent highly promising ideas and concepts. Corresponding measures and innovative approaches were presented and discussed as best practice examples in Chapter 5.3. In Figure 31 below, concrete measures that fit the respective steering objectives according to categories I a.) to II b.) are assigned based on their incentive effects.

This overview, therefore, shows – according to a toolbox system – a selection of concrete measures which, on the basis of the present study, are generally suitable (i.e. independent of other political considerations) if certain steering goals are to be achieved. The countries and measures mentioned in the description below are examples that are representative of similar approaches in other European countries.

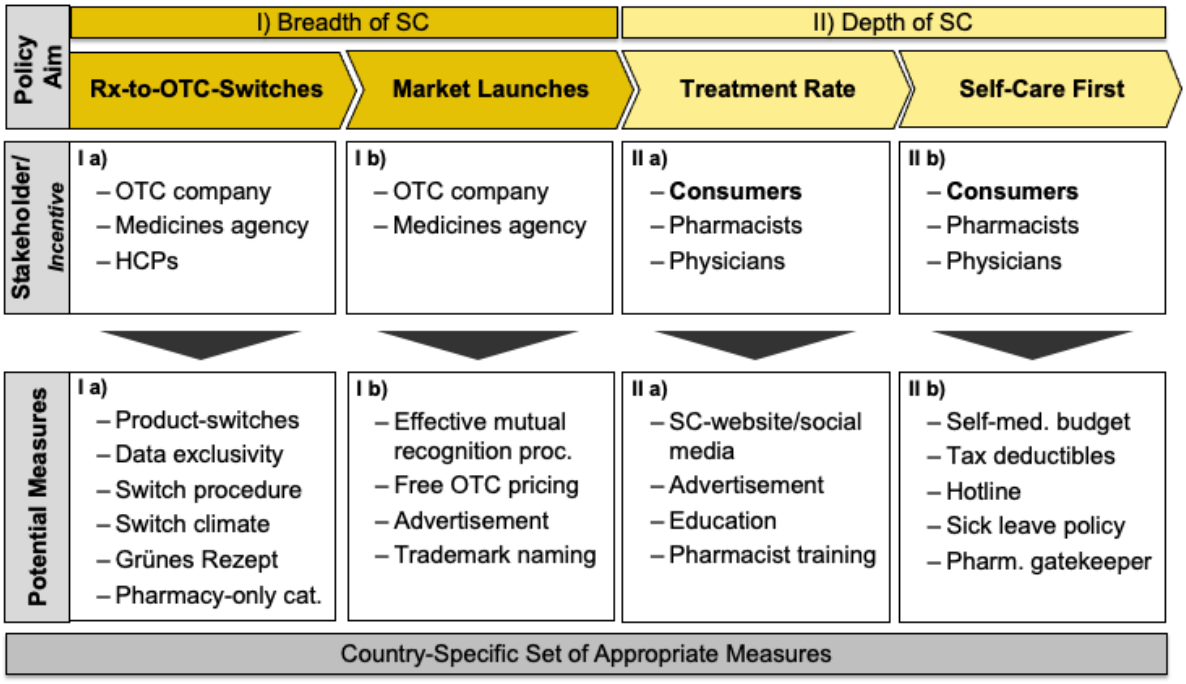

Figure 31: Process of derivation of country-specific self-care policy measures

An important finding of the study is represented in the fact that measures that have proven to be successful in one country or seem suitable from a theoretical point of view cannot simply be transferred to all other countries. Rather, the recommendation at this point is that the concrete selection must always be made against the background of the given framework conditions in the respective country. The socioeconomic conditions, the healthcare system and last but not least medical histories and cultural aspects including questions of mentality have to be taken into account. This process can only take place with the participation of experts at the national level. The existing regulatory framework and the resulting incentives of the actors must be taken into account as well as, for example, the willingness of the population to take responsibility for their own health and their level of knowledge on health issues. The following Figure 32 illustrates the described relationship between the selection of specific measures on the basis of the given country-specific framework conditions.

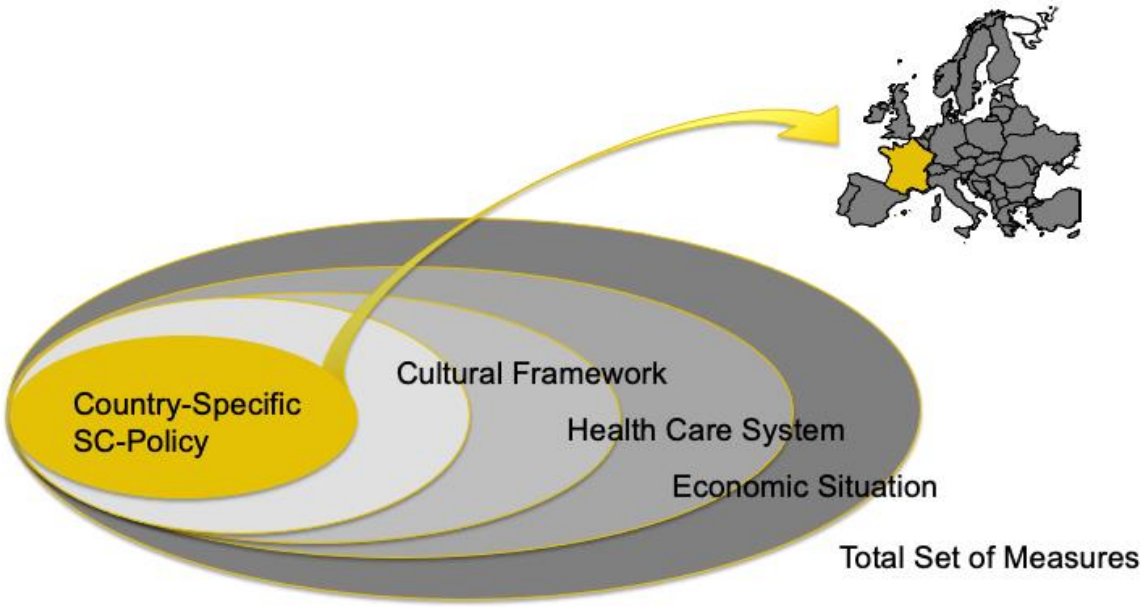

Figure 32: Deriving a country-specific set of policy measures

A recommendation with a higher degree of general applicability concerns the reclassification of active substances from the prescription-only obligation. Such switches are to be recommended as a high-priority pillar for a self-care policy in all countries that have a significant gap in the availability of OTC substances in comparison to other European countries. First and foremost, this concerns Croatia, Estonia, the Netherlands, Bulgaria, Sweden, Norway and Slovenia. However, the extent to which specific switches contribute to the promotion of self-care in the respective country depends not only on the number of OTC substances and indications available but also on the qualitative aspects of the range of OTC substances. For the concrete selection of important switch candidates, a structured procedure based on an algorithm is recommended. In this process, substance gaps are to be identified and prioritised according to their relevance to care or public health and economic significance as well as their appropriateness and suitability for self-care.[307]

For pharmaceutical companies to actively pursue switch proposals and receive positive decisions from the regulatory authorities, appropriate incentives must be created for both sides. On the side of the pharmaceutical company, these consist of economic incentives that make a switch appear financially worthwhile (exclusive product switches, data exclusivity, free OTC pricing). On the side of the authorities, a switch-friendly regulatory and procedural framework must be created and, last but not least, a political climate must be created that takes up the social rationale and significance of the topic of self-care. The white paper of the Finnish regulatory authority, Fimea, is pioneering in this respect. The considerations on the promotion of switches can also be applied in an equivalent way to the market launch of OTC preparations. However, the conceivable approaches here mainly concern the European level and are therefore addressed in the following chapter.

Another common characteristic of many countries that emerged in this study concerns the role of the pharmacy in the context of self-care. With a few exceptions (especially the Netherlands), pharmacies play a central role as the first point of contact for minor ailments, both factually and

[307] A corresponding approach was developed by the authors and applied for Austria: Bauer, C., May, U. (2017): Potentials and Opportunities for OTC-Switches in Austria. Data and Findings for the Support of Decision-Making by Companies and Politicians. Rheinbreitbach 2017.

in terms of consumer appreciation. Moreover, in countries with rather liberal dispensing rules for OTC products outside the pharmacy (the UK, Switzerland), policies aiming at strengthening the role of self-care focus on pharmacies and their role as gatekeepers. Scientific evaluations of concepts such as the MAS and the CPCS (NHS 111) in the UK or netCare in Switzerland have proven that these concepts are effective both in terms of health economics and in terms of patient care. In this context, comprehensive approaches of this kind, which aim to establish pharmacies as gatekeepers and the first point of contact for minor ailments, are in principle also suitable and recommended as a blueprint for many other countries in Europe.

The choice of the concrete incentive and control instruments that are combined is again dependent on the specific circumstances of the respective country. However, when comparing netCare, the CPCS (NHS111) and the MAS, it becomes evident that even in healthcare systems as different as those in Switzerland, the UK and Ireland, the basic elements of the approaches exhibit strong similarities. In all cases, individual behavioural incentives at both the consumer and pharmacy level are combined to create an overall supportive environment for self-care. The analysis of these systems suggests that similar approaches could be successful in many other countries. This is especially true for countries where pharmacies are traditionally well-positioned and highly regarded by the population, such as France, Germany and Italy.

In principle, it is undisputed and therefore applicable across all countries that a high level of information and knowledge among the population is a driving force for self-care. The impulses generated by these factors do not only concern the willingness of the patients to forego visits to the physician in favour of self-care. The greater use of OTC preparations for the purpose of prevention and alleviation of health complaints significantly correlates with health literacy, education, health campaigns and supportive tools such as hotlines. Provided that an underlying medical need exists, or undersupply is reduced by these means, positive health economic effects are also associated with such a situation. The associated recommendation is, in turn, to select those measures from the toolbox of possible measures (Figure 31) that appear to be feasible and implementable for a specific country.

7.3 Quintessence for European and National Health Policy

Chapter 7 presents policy recommendations to release the full potential of self-care at a national and European level. This is based on the entirety of the preceding scientific study results and thus serves as a comprehensive conclusion for the whole report. The quintessence derived from this is outlined below and does not include technical details in the sense of key findings as their complexity does not permit a brief summary. Reference has to be made to the entire detailed contents of Chapter 7.

It can be stated in general that from a clinical and health economic perspective, it is on the one hand counterproductive if people treat themselves or do not get treatment at all even though medical therapy would be required. On the other hand, it is likewise uneconomic and moreover counterproductive with a view to community and social interests, if people visit the physician, although self-care would be sufficient. The latter is the case because these patients use resources (e.g. physician time) that could be used more efficiently for other purposes.

The aim of health policy must therefore be to promote the right decision of the individual in favour of treatment by a physician (if necessary) or in favour of self-care (if sufficient). In all European countries, new information and incentive systems for consumers would be required in order to open up the efficiency reserves. The extent of these needed new approaches varies across countries and depends on their initial situation. Furthermore, the guiding role of pharmacists in the health system as well as their significance as primary care providers for minor

ailments should be strengthened. Moreover, the involvement of pharmacies as a decisive factor for the success of Rx-to-OTC switches is also shown in corresponding studies.

The extensive evidence base revealed in this study should serve as a foundation in the development of health policy in favour of the promotion of self-care. Moreover, numerous ideas, approaches and feasible proposals for a pro-active self-care policy exist and should be considered in the decision-making process. The key challenge will be to communicate the current state of knowledge to the expert audience and decision-makers of European healthcare systems. The focus of this communication should be placed on achieving approaches that are acceptable for the majority of people and can be adequately implemented into practice.

Through an adequate self-care policy resources can be freed up and considerable efficiency gains can be exploited. The success of such a policy can only be achieved if all involved stakeholders are adequately incentivised. These incentives should in any case aim to align the objectives of the individual actors with those of the society at large. The resources freed up through the adequate self-care policy play a significant role in this process as their distribution among the relevant actors determines their actions.

8 Limitations

This chapter aims to discuss the methodological and conceptual limitations of this present study as well as to highlight recommendations for further research. The limitations of the systematic literature review are first presented. This is followed by a discussion on the limitations regarding the health economic model and calculations.

The systematic literature review covered the topic of self-care in Europe on a broad level. Although a number of studies were identified on the economic impact of indication or therapy-specific Rx-to-OTC switches, the search strategy used did not include terms relating to specific minor ailments such as “migraine”, “cold and flu”, or “back pain” and thus may not have identified all existing literature on Rx-to-OTC switches in Europe. To gain a better understanding of the switch situation in Europe, further research could include indication- or therapy-specific search terms. However, Rx-to-OTC switches are only one aspect in the comprehensive topic of self-care and it is beyond the scope of this current study to examine the switch situation in Europe and at a national level in more detail.

Furthermore, the development and implementation of the health economic model have highlighted that, as in any economic model, certain premises and assumptions must be made both for the calculations of the status quo and, to a greater extent, for projections on future scenarios. Corresponding limitations are always stated when first appearing in this study and are in any case based on the current state of research and relevant literature.

Moreover, the potential costs associated with the misuse of OTC and Rx medicines were not considered in this study. Based on evidence, it was assumed that self-care is practised by the patient under either the guidance of a healthcare professional or by following product information. For prescription-only medicines, it was assumed that physicians prescribe according to adequate guidelines and in the interest of the national healthcare systems as well as patients. The latter can be classified as a restrictive assumption that leads to rather conservative results. This is due to the fact that potential effects of over-, under- and misuse of prescription medicines are in consequence not considered.

Another limitation is represented in the fact that the data of the European OTC markets are not available in comparable units with regard to the legal status of non-prescription medicines. To enable comparability of content across countries despite this limitation, the missing values were simulated on the basis of the available data, which is transparently explained in Appendix IV.[308]

Other limitations relate to the Country Cluster methodological approach used to analyse the 30 different European countries. Country Clusters were formed based on certain identified parameters. Taking into consideration the similarities that countries of the same Country Cluster share, cluster-specific averages were formed for some values included in the economic calculations. Such cluster-specific averages may lead to the finding that individual values slightly deviate from the values in single countries or in clusters containing only one country. Apart from cluster-specific averages, it was necessary to calculate some European averages due to a lack of data on indirect and intangible time costs. These time costs include patient travel time and waiting time, where existing data does not cover all 30 European countries under consideration.

Another limitation can be attributed to the complex nature and considerable differences between national remuneration systems for physicians and patient contribution systems. The

[308] Please refer to Appendix IV for additional information.

differences in national remuneration systems for physicians make it impossible to point out certain influences on physician income that relate to the treatment of fewer patients. This is the reason why the physician cost was considered as income per minute/hour of working time that is based on average income and working time. Additionally, when examining the cost impact from the patient perspective, patient contribution per Rx prescription under the national healthcare system coverage varies according to country and patient group (e.g. elderly, low-income and young children). Therefore, an estimation of the patient contribution per Rx prescription was made based on the average amounts identified in each of the 30 countries. This European average may therefore not reflect the total monetary benefits that can be realised by specific groups of patients under special schemes in the healthcare system of their respective countries.

9 Conclusion

The preceding analysis has revealed that the topic of the economic and social impact on individuals and society of self-care in Europe is complex and multifaceted. By systematically answering the scientific research questions, it was first observed through the systematic literature research that only a limited number of studies on the economic and social impact of self-care in Europe is currently available. The majority of these studies focus on Western or Southern European countries. However, almost half of the publications concerning behaviour and attitudes towards self-care were centred on Eastern European countries. The corresponding surveys and questionnaires on views towards self-care indicate an emerging interest to foster a self-care culture and increase the uptake of self-care in countries such as Croatia, Estonia, Poland, Slovakia and Slovenia. Overall, current evidence on the topic of self-care in Europe commonly reports reductions in physician visits and the number of prescription medicines through Rx-to-OTC switches and self-care behaviour.

Based on the results of the systematic literature review, it became evident that more research on the social and economic value of self-care in Europe is needed. Due to the limited number of existing national studies on the value of self-care in European countries, it was first necessary to collect data from each country before a thorough economic analysis could be carried out on a European level. Moreover, this further research incorporated the knowledge of country experts on the topic of self-care which was evaluated through expert interviews. This allowed the comparison of information and the discussion of specific data points to ensure the relevance, quality and credibility of country-specific data collected in the course of this present study.

Economic and Social Impact of Self-Care in the Status Quo in Europe

Against the background of a thorough examination of the economic and social impact of self-care in the status quo in Europe, the following could be found. Presently, around 1.2 billion cases of minor ailments are treated by patients themselves with OTC medicines every year in Europe (3.3 million per day). Given the prevalent health market environment in the European countries, it was elaborated that the current practices of self-care and self-medication produce a net saving of EUR 23.2 billion p.a. in expenses for medical services and products. These costs would otherwise be incurred by the national healthcare systems. Moreover, a further EUR 10.41 billion of expenditure is avoided due to time gained from saved physician's visits and the lowered sick leave-associated losses of work productivity and man-hours. Statistically speaking, it can be concluded that each euro spent by European consumers on self-medication translates to a net saving equivalent to EUR 6.70 of otherwise required economic resources for the healthcare systems and the national economies. This consists of savings of EUR 4.60 for the healthcare systems and EUR 2.10 for the national economies. Regarding a single case, self-care saves an average of EUR 14.14 for the national economy and 1.5 hours of patients' time. While patients gain time, they additionally save EUR 2.18 in each case of self-care compared to a visit to the physician.

In conclusion, healthcare professionals and consumers alike gain substantial benefits in terms of time spent and appointments allocated to the examination and treatment of minor ailments, thus freeing up these finite resources for more urgent or complex medical cases. If self-medication were not available, about 120,000 more physicians would be required in Europe or, alternatively, each physician would have to work 2.4 hours longer per day. A targeted approach promoting an expanded self-care behaviour by consumers may lead to significant future gains for the efficiency of healthcare systems. As expected, it could be confirmed that direct and indirect cost per minor ailment case vary widely between the European countries. Accordingly,

direct medical costs saved by treating minor ailment cases with self-medication instead of visiting a GP differ in Europe.

Future Scenarios with Regard to Self-Care and its Potential Uptake

In the further course of this present study, the focus was now placed on examining future scenarios with regard to self-care and its potential uptake. Due to the fact that the health economic analysis of the status quo had already revealed that self-care releases considerable resources on a social and economic level in the status quo, it was evident that these effects could be further increased by promoting self-care. In the model calculation carried out, an expansion of self-care was only considered on minor ailments to the extent that this is possible from a clinical point of view without a loss in the quality of care. It was found that the share of minor ailments that are currently treated by self-medication varies from 55% in Poland to less than 20% in Slovenia, 19% in both Portugal and Sweden, 16% in Spain and 13% in Norway. Conversely, this means that between 45% and more than 80% of all minor ailments are not treated or referred to a GP. This leads to two basic directions for the growth of self-care. One is the use of OTC preparations for previously untreated health disorders. This would be clinically indicated in cases where there has been an undersupply to date. Secondly, the further substitution of GP contacts by self-care is also considered here. This approach was linked to the calculations of the social and economic value of self-care in the status quo.

Based on the current conditions in the countries considered, different growth potentials for self-care were derived in each case. According to this, the share of GP consultations that could be substituted by self-care was found to lie between 10% and 25% in the different considered countries. Depending on the specific initial situation of each country, a growth e.g. through Rx-to-OTC switches ("breadth") or through a higher utilisation ("depth") of self-care was considered with different percentage weighting. Moreover, it can be concluded that based on these country-specific development potentials, a total of 567.3 million additional cases of minor ailments could be treated by self-care per year in Europe. This corresponds to about one additional self-care case per European citizen. On this basis, it was calculated that self-care could release additional resources worth around 18.8 billion p.a. for society. In particular, 58,000 physicians could be freed up for other tasks in the healthcare systems. Alternatively, each GP currently employed in Europe could gain about one hour of time per working day. This time gained through an enhanced role of self-care could be used for patients with more severe health problems or as leisure time.

Factors Determining the Current Level of Use and Relevance of Self-Care

This study further aimed to identify whether there are specific factors that determine the current level of use and relevance of self-care (“uptake”) in the different European countries. For this purpose, it was first necessary to define the objectively measurable parameters that can be used to determine the varying national levels of self-care uptake. Taking these parameters into account, a rating model on the basis of four specific criteria reflecting national markets was then developed. This was used to establish a rating among the European countries with regard to the current status of self-care. The rating in turn provides the basis for discussing which measures and instruments are suitable for promoting the role of self-care and potential obstacles.

The results showed that the relevance of self-care, defined by their uptake, varies greatly in the European countries. Especially the three neighbouring countries, Finland, Estonia and Latvia, reach the highest rating value. There was no consistent pattern or characteristics between the groups of countries with a high, medium, and low uptake of self-care. Rather, it became apparent that there are potentially different explanations that can be associated with the degree of self-care importance at each national level.

Moreover, it can be concluded that in many cases, it is the overriding socioeconomic or legal conditions as well as socio-cultural conditions that have a decisive influence here. For example, limited access of the population to the public health system (e.g. access to GP) can be a driver for self-care (e.g. Bulgaria, Romania). However, the self-care enhancing effect that results from hurdles which prevent patients from seeing a GP are rather undesirable from a health policy perspective. In some countries, a high acceptance and appreciation of public pharmacies (e.g. Belgium, Germany) seems to have a positive effect on the population's willingness to practise self-care. Certain self-care policies could only be identified in three of those countries with high self-care uptake. It can therefore be assumed that an active self-care policy or targeted incentives among consumers and HCPs in these countries are causally related to the high value of self-care (e.g. Finland, the United Kingdom, Poland).

Regardless of these findings, the health economic study revealed that empirical evidence proves that certain concrete measures or incentives have a positive steering effect with regard to self-care in their respective countries. This means that within a specific range of self-care uptake determined by other (subordinate) factors and framework conditions, the promotion of self-care is possible, makes sense and should be taken into consideration. For this reason, it was considered appropriate to identify corresponding steering instruments. Finally, the insights gained in this way provided the basis for identifying best practice examples for a self-care policy in Europe and their transferability to other countries was discussed.

Best Practice Examples of Self-Care Enhancing Approaches in European Countries

Furthermore, approaches that focus on political commitment, pharmacies, consumers and physicians to enhance self-care were identified. These approaches were selected from a range of countries across Europe, and it was found that the important role of each stakeholder for self-care can be strengthened through individually targeted and structured system approaches.

The analysis revealed that integrative national self-care policies are essential to provide a framework for self-care. They guide relevant stakeholders to harness the significant potential of self-care and benefit from efficiency gains in European healthcare systems. Despite the importance of such political commitments to self-care, European examples of white papers and special legislations which integrate self-care into healthcare policies are limited. However, some examples of guidelines, white papers and legislation on self-care could be found in Ireland, Finland, Switzerland and the UK.

Apart from the evident need for more explicit political commitment to self-care by European governments, the involvement of pharmacies, consumers and physicians was also found to be essential to enhance self-care. In particular, pharmacies, respectively pharmacists and pharmacy staff, play a significant role as they are often the initial contact point for patients with minor ailments. Evidence demonstrates that pharmacists have the relevant competencies to triage patients and act as gatekeepers to ensure that patients are guided to the most appropriate level of healthcare provision. It could also be found that structured systems, including netCare, the MAS and CPCS, that combine behavioural incentives on the part of patients, pharmacists and physicians and support both patient and HCP education are particularly promising.

It can be stated that noteworthy consumer-focused approaches include self-medication budgets, such as the annual EUR 50 budget provided by various French complementary health insurers, which eliminate the financially motivated patient choice of a GP consultation over self-care. Sick leave policies also set a positive impulse for consumers to choose self-care as the lack of need for a sick leave certificate, such as in Norway and the UK, removes the need for physician consultation in cases where individuals can self-treat on their own. Additionally, sources of health information and tools, including self-care hotlines (e.g. NHS 111) and self-

care websites, provide low-threshold connection points to healthcare advice for minor ailments and improve consumer awareness of the possibilities of self-care.

Furthermore, it was taken into account that physicians also play a significant role in enhancing self-care and two best practice examples could be identified in Europe in this study. The first example is the German “Grünes Rezept” which provides patients with a form of written advice from a physician on non-reimbursable OTC products. It promotes a positive patient learning experience, strengthens the image of OTCs and allows physicians to guide and monitor their patient’s self-care. The second example is the GP Referral Pathway in England. It provides GPs with the option of referring patients to the pharmacy for a minor ailment consultation and improves the collaboration between physicians and pharmacists in promoting self-care.

These identified special approaches in the healthcare system that focus on political aspects, pharmacies, consumers and physicians set positive incentives for self-care among the relevant stakeholders. Although each European country analysed in this study can benefit from stakeholder-specific approaches to enhance self-care, the best practice examples are not immediately transferable to another European country. They should serve as a blueprint to facilitate the development of further ideas or as a guide for the implementation of new self-care related policies and activities in Europe. This means that adjustments or adaptations are necessary to tailor the best practice examples to suit the needs and economic, legal and cultural situation of the respective country.

Quintessence for European and National Health Policy

It can conclusively be stated that from a clinical and health economic perspective, it is on the one hand counterproductive if people treat themselves or do not get treatment at all even though medical therapy would be required. On the other hand, it is likewise uneconomic and moreover counterproductive with a view to community and social interests, if people visit the physician, although self-care would be sufficient. The latter is the case because these patients use resources (e.g. physician time) that could be used more efficiently for other purposes.

The aim of health policy must therefore be to promote the right decision of the individual in favour of treatment by a physician (if necessary) or in favour of self-care (if sufficient). In all European countries, new information and incentive systems for consumers would be required in order to open up the efficiency reserves. The extent of these needed new approaches varies across countries and depends on their initial situation. Furthermore, the guiding role of pharmacists in the health system as well as their significance as primary care providers for minor ailments should be strengthened. Moreover, the involvement of pharmacies as a decisive factor for the success of Rx-to-OTC Switches is also shown in corresponding studies.

The extensive evidence base revealed in this study should serve as a foundation in the development of health policy in favour of the promotion of self-care. Moreover, numerous ideas, approaches and feasible proposals for a pro-active self-care policy exist and should be considered in the decision-making process. The key challenge will be to communicate the current state of knowledge to the expert audience and decision-makers of European healthcare systems. The focus of this communication should be placed on achieving approaches that are acceptable for the majority of people and can be adequately implemented into practice.

Through an adequate self-care policy resources can be freed up and considerable efficiency gains can be exploited. The success of such a policy can only be achieved if all involved stakeholders are adequately incentivised. These incentives should in any case aim to align the objectives of the individual actors with those of the society at large. The resources freed up through the adequate self-care policy play a significant role in this process as their distribution among the relevant actors determines their actions.

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11 Appendices

Appendix I: Summary of Publications Included in the Systematic Literature Review

Category A: Evidence on the social and economic value of self-care			
Reference	**Year**	**Origin of data**	**Estimated savings & observations**
Country-specific Rx-to-OTC switches			
AESGP (2004): The Economic and Public Health Value of Self-Medication. AESGP, Brussels 2004.	2004	AT, FR, DE, IT, PT, ES, UK	• Over EUR 11.5 billion in total savings to public funds and national economics (from shift of prescribed items to self-medication) • EUR 16.4 billion for the EU (25 countries) • Maximum benefit of more self-care would be gained by a reduction in costs in the secondary and primary care sectors
May, U., Bauer, C. (2017): Potentials and Opportunities for OTC-Switches in Austria.	2017	AT	• EUR 32,301,997 with switch for the 13 top switch candidates in Austria in 2016
May, U., Bauer, C. (2017): Pharmacy-Based Self-Care of Minor Ailments – a Health Economics Focused Perspective on Benefits and Potentials. In: Gesundheitsökonomie & Qualitätsmanagement. 22(S 01).	2017	DE	• EUR 21 billion p.a. for SHI (status quo); EUR 2.7 billion for the SHI and EUR 750 million p.a. for the national economy (future scenario) • Every German GP could save up to two working hours per day based on the assumption that a share of the current physician consultations could be substituted by self-care • One euro spent by consumers on self-medication translates to a net saving of about EUR 14 for the SHI and EUR 4 for the national economy
Milonas, C., Milonas, A., Kouvelas, D., Dokios, G, Maniadakis, N. (2012): The Economic Health Value from Rx to OTC Switch in Greece. In: Value in Health. 15(7).	2012	EL	• Total annual savings of EUR 170 million for social funds and EUR 78.96 million for the economy • A switch would reduce the number of medical visits by 1.8 million and saves 1.28 million days of work • An increase of individual per capita expenditure by EUR 9.4 due to a switch to OTC could benefit the national economy by EUR 249 million
Otto, M.H., Pillarella, C., Jommi, C. (2018): The Economic Impact of. Switch From Prescription-Only to Non-prescription Drugs in Italy. In: Frontiers in Pharmacology. 9(1069).	2018	IT	• Societal savings ranging from EUR 1 to 2.1 billion • Delisting of reimbursable drugs would imply an increase in out-of-pocket payment ranging from EUR 17.5 to 21 per capita yearly • Rx-to-OTC switch of selected medicines produces EUR 844 million savings in public spending, which could be allocated to new and cost-effective medicines for severe diseases and/or unmet needs

Schneider-Ziebe, A., May, U. (2019): The treatment of migraine patients with triptans – is there a need for further Rx-to-OTC switches? In: Gesundheitsökonomie & Qualitätsmanagement. 25(01).	2019	DE	• In 94% of all cases, the migraine was diagnosed by a GP • Average number of days of incapacity to work per calendar quarter is 2.9 days, with up to 20 days in some cases • In the case of an upcoming migraine attack, about 49% of respondents choose a pharmacy as their first point of contact. However, if an attack begins, patients often use Rx about twice as often as OTC medicines • Most patients suffer from symptoms which limit their productivity, which makes an immediate treatment necessary and most know well about their disease and feel able to treat themselves in the context of self-medication once they are diagnosed by a physician. • A larger variety of prescription-free triptans would significantly increase the number of patients with access to OTC triptans

Category B: Evidence on the measures and frameworks for self-care				
Reference	**Year**	**Origin of data**	**Approach or measure**	**Main findings**
Self-Care Enhancing Approaches/Measures				
Baqir, W., Learoyd, T., Sim, A., Todd, A. (2011): Cost analysis of a community pharmacy 'minor ailment scheme' across three primary care trusts in the North East of England. In: Journal of Public Health. 33(4).	2011	UK	Minor Ailment Scheme (MAS)	• From 396 users of the MAS, 58.1% would have made an appointment with their GP if the MAS was not in place and a further 39.1% would have bought a medicine from the pharmacy • MAS release NHS resources (especially in relation to GP consultations) by preventing (or minimising) patient use of alternative and more costly branches of the NHS
Erni, P., von Overbeck, J., Reich, O., Ruggli, M. (2016): netCare, a New Collaborative Primary Health Care Service Based in Swiss Community Pharmacies. In: Research in Social and Administrative Pharmacy. 12(4).	2016	CH	netCare	• 60% of netCare patients had no GP or the GP was unavailable and 50% said that they would have chosen the GP or an emergency department if netCare had not been available • The pharmacist handled 76% of the cases alone and 17% cases required a telemedicine consultation • 20% of the patients were lost to follow-up; however, of the remaining patients, 84% reported significant or complete remission of symptoms as well as good tolerability of the medication • Results suggest that patients used the netCare service as a substitute for a physician or emergency room consultation
I5 Health, NHS (2015): Non-Medical Prescribing (NMP). An Economic Evaluation. NHS Health Education North West, London 2015.	2015	UK	Non-Medical Prescribing (NMP)	• Savings of GBP 800 million annually (status quo) • The addition of one NMP practitioner into certain GP surgeries indicate value contributions of circa GBP 270 million annually • A more focussed use of the NMP initiative can have significant positive effects on both patient care and finances; in respect of the latter, values of up to GBP 1 million are obtainable • The Non-Medical Prescribing model in England enhances patient experience without endangering patients, improves overall performance and brings about significant economies • A more focussed use, encouraged by commissioners can have significant positive effects on both patient care and finances

Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.	2015	EU	• NHS Choices • Minor Ailment Scheme • NMP/PIP • Grünes Rezept • Latvian tele-helpline • Améli-Santé web-portal • zelfzorg.nl web-portal	• **Minor Ailment Scheme:** from a system perspective, the net benefit various depending on the ailment as well as shift rate from GBP 22.00 to 36.61 pounds per shift case. • **NMP/PIP initiative**: net societal benefits is negative and ranges from GBP 8.22 to 12.02 for shift rates of 5%, 10%, and 20%. • **NHS Choices** is an internet-based information portal which requires a minimum shift rate of 4.4% of achieve a positive net benefit from a societal perspective. It results in average savings up to GBP 43.70 per shift case
Schneider, P., Renner, A.-T., Bobek, J., Vogler, S. & Ostermann, H.	2017	UK	Minor Ailment Scheme (MAS)	• A shift from GP contact plus pharmacy consultation to pharmacy consultation results in patients using two OTC-products instead of one prescription-only medicine and one OTC product • Pharmacies negatively affected (GBP -4.07 to -4.36 for each shift case) as the remuneration for pharmacies for providing MAS services does not compensate for additional costs to pharmacies (i.e. more time needed for consultations and training costs) • Physicians negatively affected (GBP -36.27 for each shifted case) as MAS leads to reduced physician time. However, freed resources could be invested in patients with more severe illness • 22.00 to 36.61 per shift case in savings for the health care system due to reduced GP payments for treating minor ailments and changes in dispensed medications
Trottmann, M., Telser, H. (2015): Cost effectiveness of a new collaborative primary health care service based in Swiss community pharmacies. Polynomics AG, Olten 2015.	2015	CH	netCare	• The netCare service is substantially less costly than the comparators (difference ranges from –6 to –41%) • The program could provide patients with a convenient and low-cost alternative for care, especially at weekends when GP practices are closed

Category B: Evidence on the measures and frameworks for self-care			
Reference	**Year**	**Origin of data**	**Main findings**
Self-care enhancing policy proposals/recommendations			
AFIPA (2020): 2019 AFIPA Barometer of Self-Care Products: The Dynamics of Self-Care at a Standstill and an Absent Political Will.	2020	FR	• A pharmacy-based healthcare pathway, relying on the pharmacists' expertise to ensure patient safety and access to primary care • Strengthen capacity of HCS to ensure appropriate self-care product use • Integrate selfcare products available in pharmacies in policies to organise care • Recognise value of production capacities in Europe and France and promote them
Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.	2010	UK	• A recommendation for self care must become what consumers expect to hear when they consult their GP for minor illness • Physicians in general practice need 'permission' to meet that expectation and not prescribe for minor health problems
Bauer, C., May, U. (2017): Potentials and Opportunities for OTC-Switches in Austria. Data and Findings for the Support of Decision-Making by Companies and Politicians, Vienna 2018.	2017	AT	• Rx-to-OTC switches are a central incentive for individual health responsibility and self-care • There is no political backing and no active support for the topics "self-care" in general and "switch" in particular in Austria • The responsibilities of pharmacists could be expanded and represent a great health-economic potential
EPPOSI (2013): The Epposi Barometer: Consumer Perceptions of Self Care in Europe. Quantitative Study 2013. Epposi, Belgium 2013.	2019	DK, FI, FR, DE, IT, NL, PL, UK, SK, ES	• Health literacy is pivotal • There is a need for more use of appropriate alternatives to GPs (who remain the first option for minor ailments), including pharmacists and nurses
European Commission (2017): Pilot project on the promotion of self-care systems in the European Union 2014-2017. PiSCE. European Union 2017.	2017	Europe	• Establish a framework that will encourage exchange of best practices on self-care • Secure an Engagement Platform to support national/regional initiatives on self-care • Include self-care in school education and lifelong learning • Include skills to support self-care as part of curriculum in HCP education/training • Integrate new technologies to support people's self-care • Embed self-care in health literacy initiatives
Gauld, N. Kelly, F.S., Kurosawa, N., Bryant, L.J.M., Emmerton,	2019	DE	• Improve aspects of the process and committee consideration • More data collection (pre-reclassification in applications and post-reclassification)

L.M, Buetow, S.A. (2014): Widening Consumer Access to Medicines through Switching Medicines to Non-Prescription: A Six Country Comparison. In: PLoS One. 9(9).			• Sufficient market exclusivity linked to data collection could aid the generation of evidence to aid committee considerations and encourage more applications of high quality
IOBE (2017): Η αντίληψη φαρμακοποιών και πολιτών για τα οφέλη της αυτοφροντίδας-αυτοθεραπείας και τη χρήση των ΜΗ.ΣΥ.ΦΑ. IOBE, Athens 2017.	2017	EL	• Citizens today are not fully aware of the possibilities offered by self-medication. Thus, it is essential to inform and educate them about self-medication • Information, specialisation and training of health professionals, pharmaceutical companies through seminars and health care professionals (doctors, nurses and pharmacists) on medical developments with side effects is important • The pharmacist must be informed and constantly enrich their knowledge about the ingredients, actions and side effects of all non-prescription medicines • It would be advantageous to liberalise prices and (possibly) expand the list of non-prescription medicines
IPU, IPHA (2018): Self Care Taking Charge of Your Health. IPU & IPHA, Dublin 2018.	2018	IE	• Expand the role of the pharmacist • Expand range of medicines made available to patients through switching • The concept of self-care should be actively encouraged and promoted among healthcare professionals • Patients should have access to good quality, trustworthy information so that they can seek care at the appropriate level and, thus, enhance their independence within the healthcare system
Ostermann, H., Renner, A.-T., Bobek, J., Schneider, P., Vogler, S. (2015): A cost/benefit analysis of self-care systems in the European Union. Final report. Vienna, 2015.	2015	EU	• Self-care should be accompanied with enhanced patient empowerment, improved patient information and an appropriate organisation and financial health care framework • Promoting self-care also has an impact on health professional and their collaboration, as pharmacists, for instance, will play an increasingly important role as first contact points. This implies a change in the definition of pharmacists, expanding from a “dispenser” to an integrated health care professional offering counselling, advices and new pharmacy services • Self-care allows physicians to focus on patients with serious illnesses in such a setting, and, at the same time, they will be required to be more strongly involved in collaborative care

			• NHS Choices (telephone hotline) does not require a high amount of adoption and/or investment at the pharmacist level on the one hand and features relatively low operating costs
PAGB (2018): A long-term vision for self care: interim white paper. PAGB, London 2018.	2019	UK	• Introduce 'recommendation' prescriptions for GPs to issue to patients • Roll out the NHS 111 pilot schemes to improve signposting to self care • Include self care, and methods of supporting people to self care, as a key requirement in the professional training curricula for GPs and other HCPs • Continue to invest in and expand NHS England and PHE's joint *Stay Well Pharmacy* campaign to maximise health literacy • Enable community pharmacists to refer to other healthcare professionals • Give community pharmacists 'write' access to patient medical records so any medication or advice offered can be recorded consistently
PAGB (2019): A Self Care White Paper: supporting the delivery of the NHS Long Term Plan. PAGB, London 2019.	2019	UK	
PAGB (2016): Self Care Nation. Self care attitudes and behaviours in the UK. London 2016.	2016	UK	• Raise awareness of each individual's NHS footprint • Increase awareness of the expertise of pharmacists • Ensure consistent messaging about self care and signposting to appropriate health services • Improve health literacy and promote self care
Schneider, P., Renner, A.-T., Bobek, J., Vogler, S., Ostermann, H. (2017): Economic Evaluation of Minor Ailment Schemes (MAS) in the UK. In: Gesundheitsökonomie & Qualitätsmanagement. 22.	2017	UK	• Under specific conditions, some stakeholders might not be winners of the self-care initiative. Thus, information activities are required to get stakeholders on board that might potentially be disadvantaged • Dissemination activities targeted at patients are relevant in order to achieve a sufficient high participation rate • Self-care initiatives such as MAS cannot be "copied" identically from one country to another since the policy context, including the legal framework and the "culture", differ between countries. In order to transfer initiatives to other countries it requires a thorough analysis of the health care setting to which a policy is transferred. • Self-care allows physicians to focus on patients with serious illnesses in such a setting, and, at the same time, they will be required to be more strongly involved in collaborative care.

Category C: Evidence on the attitudes and behaviours towards self-care				
Reference	**Year**	**Origin of data**	**Influencing factors**	**Main findings**
AFIPA (2020): 2019 AFIPA Barometer of Self-Care Products: The Dynamics of Self-Care at a Standstill and an Absent Political Will. AFIPA, Paris 2020.	2020	FR	N/A	• In 2019, self-care is stagnating with zero growth at €3.7 billion • Growth in medical devices for selfcare (+5.6%) and dietary supplements (+5.6%) nevertheless managed to offset the decline in self-medication medicines (-4%) • Despite an a priori favourable context - controlled prices and a developing market in the other OECD countries – self-care in France is faced with impacting regulatory decisions (e.g. re-screening, withdrawal of free access)
AFIPA (2020): Make selfcare products a lever for resilience and access to proximity care in France. AFIPA, Paris 2020.	2020	FR	Accessibility; Reinforcement; Affordability	• Confidential report
AFIPA, Harris Interactive (2019): Automédication: marché mature ou marché d'avenir? PowerPoint presentation. Retrieved from: https://www.afipa.org/wp-content/uploads/2019/07/Etude-AFIPA-HARRIS.pdf (12.10.2020)	2019	FR	Reinforcement; Affordability; Knowledge and Skills; Accessibility	• 80% of the respondents say that they bought self-care medicines in 2018 and 59% choose self-care products in pharmacies with the advice of a pharmacist • 43% practice self-care at the onset of symptoms, 39% start a few days later, 8% when symptoms intensify while waiting for a GP consultation, and 2% as additional treatment to that prescribed by the GP • Why self-care products are purchased: the health problem is only minor (46%), familiar with the problem and solution (44%), have the products available at home (36%), speed of treatment or symptom relief (26%), and no time to visit the GP (23%) • 25% perceive self-care to be only for some diseases, 16% think it is dangerous, and 13% said that it is convenient • 61% said that self-medication should be banned for some patients (e.g. chronic diseases, the elderly, and children) • The pharmacist is expected to confirm the appropriateness of selected self-care products and to compensate for patients' lack of confidence in their ability to self-medicate

Assosalute (2019): Numeri e indici dell'automedicazione. Edizione 2019. Federchimica Assosalute, Milan 2019.	2019	IT		• The number of brands of non-prescription drugs on the market in 2018 is 1,419 • Of these, 57.6% are self-medication medicines
Banks, I. (2010): Self Care of Minor Ailments: A Survey of Consumer and Healthcare Professional Beliefs and Behaviour. In: SelfCare. 1.	2010	UK	Reinforcement	• Only 14% of respondents sought advice from the pharmacy for minor ailments • If the problem is a new one, 52% of respondents claimed to have tried self care first and only consulting a GP if self-care is not effective
Brossard, P., Derré, J.-F. (2014): 2ÈME OBSERVATOIRE EUROPÉEN SUR L'AUTOMÉDICATION EN 2013. PowerPoint presentation. AFIPA & Celtipharm, Paris 2014.	2014	FR	N/A	• In 2013 and unlike other European countries, the responsible self-medication in France has experienced a recession (i.e. lower than the European average) • Conditions are favorable for development of self-medication: Ex: Price level in France lower than the European average • Self-medication in France cannot develop without real political impetus and a real willpower of the public
Eichenberg, C., Auersperg, F., Rusch, B.D., Brähler, E. (2015): Selbstmedikation: Eine bundesdeutsche Repräsentativbefragung zu Motiven, Anlässen und Informationsquellen für den Konsum rezeptfreier Medikamente. In: Psychother Psych Med. 65.	2015	DE	Reinforcement; Social Influences; Accessibility	• 94.9% did treat at least one of the 25 symptoms included in the survey with non-prescription medicine before potentially seeing a doctor (most commonly cold symptoms and headaches) • The most common place to obtain information about OTC products is pharmacies • Most do not want to see a doctor over minor issues • Long waiting times and limited opening hours are also reasons • The majority of the respondents had good experiences with self-medication. However, some of the participants keep their OTC use from their treating physicians
EPPOSI (2013): The Epposi Barometer: Consumer Perceptions of Self Care in Europe. Quantitative Study 2013. Epposi, Belgium 2013.	2013	DK, FI, FR, DE, IT, NL, PL, UK, SK, ES	Skills or Knowledge; Reinforcement; Social Influences	• The lower the perceived knowledge, skills and capacities for self-care, the higher the dependence on healthcare professionals for information •

Fielding, S., Porteous, T., Ferguson, J., Maskrey, V., Blyth, A., et al. (2015): Estimating the burden of minor ailment consultations in general practices and emergency departments through retrospective review of routine data in North East Scotland. In: Family Practice. 32(2).	2015	UK	N/A	• Of the 494 GP and 550 ED consultations assessed, 13.2% and 5.3%, respectively, were categorised as minor ailments suitable for management in community pharmacies • 59% (65/110) of all GP consultations deemed to be minor ailments • Applied to national data, these estimates would equate to approximately 18 million GP and 6,500,000 ED consultations that could be redirected to community pharmacy, equating to approximately EUR 1.1 billion in resources
Grebenar, D., Nham, E., Likic, R. (2019): Factors influencing pharmacists' over-the-counter drug recommendations. In: Postgraduate Medical Journal. 96(1133).	2019	HR	Reinforcement; Skills or Knowledge	• Important factors influencing pharmacists' recommendation: composition of the OTC product and its active component, scientific evidence of effectiveness, feedback from patients and information from professional journals • Medical factors had greater importance for pharmacists' OTC recommendation than marketing/social factors
Gruchała, K., Zimmermann, A., Kawczak, P. (2016): Rx-to-OTC Switch and Double Registration Occurrence in Poland - an Illuminative Case Study. In: Acta Poloniae Phamaceutica - Drug Research. 73(1).	2016	PL	N/A	• OTC medicines are used by 60% to 90% of Polish citizens and one in four medicines sold is of the non-prescription variety
Haramiova, Z., Kobliskova, Z., Soltysova, J. (2017): Purchase of prescription and OTC medicines in Slovakia: factors influencing patients' expectations and satisfaction. In: Brazilian Journal of Pharmaceutical Sciences. 53(1).	2017	SI	Reinforcement; Social Influences	• Recommendation by a physician was the most important factor influencing the purchase of prescription medicines (96.3%) and recommendation by a pharmacist was the most important factor influencing the purchase of OTC medicines (88.2%) • Study participants showed high satisfaction with the community pharmacists' willingness and approach (96.1%) as well as with the community pharmacy services (96.4%) • Most of the surveyed participants (91.3%) considered the pharmacists to be experts on drugs and trusted them. Pharmacist's guidance on the selection of appropriate medicines (97.2%) and professional counselling (97.8%) were significant expectations mostly in regards to OTC medicines

IOBE (2017): Η αντίληψη φαρμακοποιών και πολιτών για τα οφέλη της αυτοφροντίδας-αυτοθεραπείας και τη χρήση των ΜΗ.ΣΥ.ΦΑ. IOBE, Athens 2017.	2017	EL	Affordability; Accessibility; Skills or Knowledge; Social Influences	• 47% seldomly practice self-medication, 15% very often within a year, while 24% quite often and only 11% never • Advantages of self-medication: it is a more immediate action compared to a visit to a physician (56%), it is a cheaper option than a visit to a physician (31%) it is an option which saves time due to the workload of citizens (14%) • In case of illness or in the early stages of a mild illness more than half of the citizens (54.4%) answered that the first action they take is to wait to see if they will feel better, 14.5% take medicine when they start not feeling well and 11.6% visit GP • Almost 7 out of 10 citizens show confidence (quite a lot) in NON-SYFA (non-prescription medicines) • Regarding information, 42% choose the advice of the pharmacist as the main source of information, 21% prefer to ask the physician, 17% read the instructions on the packaging of the medicine and 13% take by itself the decision based on his previous experience • 54% are informed about the purchase of a non-prescription medicine from the promotional material of the pharmacy, 32% by TV advertisement, 6-8% by digital and print advertising • About 3 in 10 always consult their doctor for the purchase of non-prescription medicine while 8 out of 10 always consult the pharmacist • The main reason that citizens do not seek the advice of the pharmacist on health issues and the use of non-prescription medicines is that they trust their doctor more (41%) and because they believe that pharmacists are not as trained and educated as doctors (33%) • Almost all the citizens who participated in the research state that they are quite and very happy with the advice provided by the pharmacist regarding the purchase of non-prescription medicines • Regarding the opening hours of the pharmacies, almost all respondents state that they are satisfied

IPU, IPHA (2018): Self Care Taking Charge of Your Health. IPU & IPHA, Dublin 2018.	2018		Reinforcement; Skills or Knowledge	• 92% of respondents indicated that they like to be involved in decisions about their own health and medicines that they take • Perceptions of the pharmacy are particularly positive with a majority of those surveyed indicating that they are prepared to try something recommended by the pharmacist. For most, the pharmacist is an important intermediary in their self-help or wellness routine • 59% of the adult population visit a pharmacy at least once a month. As many as 22% do so fortnightly and 11% of the full adult population, or 426,000 adults, do so weekly • Conversely, 1% see a physician weekly, as many as 4% fortnightly and 17% at least once a month • Important contributors to decision on what to buy: staff attitude, interaction with staff, past relationship with the pharmacy and advice from the counter staff or pharmacy assistants • Trust of the pharmacist was considered to be very important to 84% of patients in purchasing OTC medicines
Jukić, V.M. (2007): Self-Medication in Croatia. Where are we today and what is the future? PowerPoint presentation. Pharmacon 2007, Durovnik. Retrieved from: https://www.slideshare.net/inemet/final-self-medication-in-croatia-du-26507 (24.08.2020)	2007	HR	Accessibility; Social Influences	• Patients are more easily able to access pharmacists for health advice without administration barriers than to visit the hospital. Pharmacists are able to offer better personal contact with the patient. Patients are able to openly communicate with the pharmacist • When asked "Who recommended you to use OTC product", 31% answered pharmacist, 28% advertising, TV, 20% own choice, 17% friend/neighbour, and 4% doctor.
KANTAR, Kramer, P., Bouwmann, J. (2019): Gebruik van de bijsluiter bij zelfzorggeneesmiddelen. PowerPoint presentation. KANTAR & Neprofarm, 2019.	2019	NL	N/A	• All respondents buy OTC medicines from time to time • If there is a new complaint and the individual would like to manage it themselves, then 54% look for information on the internet, while 36% check what is available from their druggist, 28% visit their GP, 22% visit the community pharmacy
KANTAR, Kramer, P., Cremers, L. (2020): Zelfzorgadvies door	2020	NL	Reinforcement; Skills or Knowledge	• Before COVID-19, GPs saw an average of 450 patients per month. Of these, 28% patients suffered from a minor ailment and 33% of these patients received a prescription medicine.

huisartsen. PowerPoint presentation. KANTAR, 2020.				Since the outbreak of COVID-19, GPs have seen significantly fewer patients, an average of 310 per month. Of these, 27% suffered from a minor ailment and 41% of these patients received a prescription medicine. • 29% GPs think that patients with minor ailments come to the practice for a prescription medicine • 95% GPs indicate that patients come for a consultation because they are unsure and want reassurance for their illness • The most common arguments of GPs for prescribing a prescription drug in some cases are related to having a better understanding / more control over what the patient is taking, that the drug may be reimbursed and that some GPs believe that the prescription drug is has a more powerful effect
Klemenc-Ketis, Z., Hladnik, Z., Kersnik, J. (2011): A Cross Sectional Study of Sex Differences in Self-Medication Practices among University Students in Slovenia. In: Collegium Antropologicum. 35(2).	2011	SI	N/A	• 92.3% reported the use of self-medication in the past year • More women than men acquired the medicines for self-medication in pharmacies (92.7% vs 82.2%) • Women used self-medication only with the advice of physicians or pharmacists and thought that increasing drug dosage can be dangerous, that in case of side effects physicians' help must be sought, that no drug can be used during pregnancy, and that self-treatment can mask the symptoms and signs of diseases
Klemenc-Ketis, Z., Kersnik, J. (2011): The Effect of Demographic Characteristics on Self-Medication Patterns: A Cross-Sectional Nationwide Study from Slovenia. In: Collegium Antropologicum. 35(4).	2011	SI	Social Influences	• 94.9% reported the use of self-medication in the past year • The majority of the respondents (274, 77.2%) practiced self-medication when symptoms emerged. When symptoms lasted for one week or less, 210 (56.5%) of the respondents practising self-care visited their doctor • The most common reasons for self-medication include: doctors do not want to talk about it or because the proposed treatment from their doctors was inefficient and preventative reasons • Most respondents (209, 52.1%) supported and used it in everyday life. Additional 84 (20.9%) of the respondents supported it but did not use it in everyday life. Only 43 (10.7%) of them did not support it. 267 (67.1%) of respondents believe that self-medication is safe only with appropriate information

Klemenc-Ketis, Z., Mitrovic, D. (2017): Patients' use of and attitudes towards self-medication in rural and remorte Slovenian family medicine practices: a cross-sectional multicentre study. In:Rural and Remote Health. 17(2).	2017	SI	Social Influences	• 80.9% practice self-medication • Information on self-medication were obtained from pharmacists, relatives, books and media • One of the reasons for self-medication was "burdening physicians"
Lebanova, H., Balkansi, S., Naseva, E., Getov, I.N. (2020): What does self-medication counseling in Bulgarian community pharmacies look like - a field study. In: Pharmacia. 67(4).	2020	BG	Reinforcement; Accessibility	• 92.6% ask for pharmacists' advice before buying OTC products • The main reasons for purchasing OTC medicines are for mild conditions (80.7%), to save time (63.9%) and because they are unable to consult a physician (61.9%) • Duration of consultation for an OTC product is 5 to 10 minutes • Barriers to OTC medicine use and associated consultation by the pharmacist include: unwillingness from the patient (72.5%), lack of time (27.5%), lack of confidentiality (26.6%)
Maguire, T.A. (2012): Ibuprofen: a model medicine for self-care of common conditions. In: The International Journal of Clinical Practice. 67(178).	2012	UK	Skills or Knowledge	• Within four years of switching, ibuprofen had 25% of the OTC analgesic market and was a main choice for community pharmacists when recommending treatment for mild to mod pain – this is no longer the case • Pharmacists need to review their current knowledge of the evidence on ibuprofen and should adopt a more holistic approach (educational and supportive role) beyond patient symptoms and product specification
PAGB (2016): Saving time, reducing demand. Poster. PAGB, London 2016.	2016	UK	N/A	• GP appointments for minor ailments costs the NHS GBP 2 billion per year and 80% of patients said that they would have self cared for a minor ailment rather than a GP visit if they had known the cost to the NHS • 57 million GP appointments are made for self-treatable conditions annually and this is equivalent to 684 million hours of GP time • An average duration of 12 minutes per GP consultation • 6% of GP consultations could be dealt with through self care • 13 days is the average wait to get an appointment with the GP

PAGB (2016): Self Care Nation. Self care attitudes and behaviours in the UK. London 2016.	2016	UK	Skills or Knowledge; Social Influences; Affordability	• 92% agree that it is important for people to take more responsibility for their own health to ease the burden on the NHS and many are confident to self-treat • 34% visited a GP about self-treatable conditions • Respondents believe the benefits of self-care include: quicker than seeing a GP (69%), easier and more convenient (60%), don't have to take time off work for an appointment (46%) and it's cheaper than paying for a prescription (54%) • 47% would not visit the pharmacy in the first instance for advice or medication for a self-treatable condition because: lack of confidence, felt that pharmacists weren't as qualified as GPs, feel entitled to visit the GP when they want • If a GBP 50 fee was applied for a GP appointment, 46% would only visit the GP if they thought it was essential and 33% would be more inclined to visit a pharmacist in the first instance
Papakosta, M., Zavras, D., Niakas, D. (2013): Investigating factors of self-care orientation and self-medication use in a Greek rural area. In: Rural and Remote Health. 14.	2012	EL		• 80% were found to be self-care oriented but this was not found to affect the use of medical services • 54.7% had used prescription medicines without a GP's prescription • High percentages of self-care orientation and self-medication with prescription medicines highlight the need to educate individuals in rural areas about the safe and rightful use of medicines
Patiëntenfederatie Nederland (2020): Zelfzorg. Retrieved from: https://www.patientenfederatie.nl/downloads/monitor/670-patientenmonitor-zelfzorgmiddelen/file (15.11.2020).	2020	NL	Social Influences	• In the past 2 years, 57% have sought a solution for a short-term complaint or condition without first contacting a healthcare provider • Almost half practice self-care for both short-term and chronic complaints, 18% only for short-term complaints, 20% only for chronic complaints, 13% do not engage in self-care • 21% find it important to visit a healthcare provider as less frequently as possible • 85% would treat their illness exactly how they previously did. Those who would do it differently mainly indicated that they would go to a healthcare provider immediately or sooner

Pillay, N., Tisman, A., Kent, T., Gregson, J. (2010): The economic burden of minor ailments on the national health service (NHS) in the UK. In: SelfCare.	2010	UK	N/A	• Of 57 million consultations, 90% were for minor ailments alone and 88% were for conditions judged suitable for self-care • In 90% of consultations, the patient received a prescription, accounting for GBP 371 million of the estimated total GBP 2 billion NHS resource spent annually on GP minor ailment consultations • The treatment of minor ailments within primary care accounts for 20% of total available GP workload
Seiberth, J.M., Moritz, K., Vogel, C.F., Bertsche, T., Schiek, S. (2020): Public's perspectives on guideline-recommended self-medication consultations in German community pharmacies. In: Health and Social Care in the	2020	DE	Skills or Knowledge; Reinforcement	• 92% of the 963 respondents stated they were generally satisfied with self-medication consultations in community pharmacies • Around one-fifth of all respondents claimed that they would like to be asked more health-related questions (22%) and receive more information on non-Rx medicines (20%) • Privacy issues (39%) and reluctance to talk about some medical conditions (43%) were the most frequent reasons for declining self-medication consultation • Customers expect high-quality counselling on self-medication (i.e. guideline-recommended information)
Shivo, S., Klaukka, T., Martikainen, J., Hemminki, E. (2000): Frequency of daily over-the-counter drug use and potential clinically significant over-the-counter prescription drug interactions in the Finnish adult population. In: European Journal of Clinical Pharmacology. 56(6-7).	2000	FI	N/A	• 17% of the population had used OTC drugs and 15% had used OTC vitamins during the 2 days prior to the interview
Simoens, S., Lobeau, M., Verbeke, K., van Aerschot, A. (2009): Patient experiences of over-the-counter medicine purchases in Flemish community pharmacies. In: Pharmacy World & Science. 31(4).	2009	BE	Skills or Knowledge; Reinforcement	• Patients did not seem to agree with distribution channels for OTC medicines other than the community pharmacy • About one-third of patients did not wish the physician to be informed of their OTC use • More than 75% of patients felt that pharmacists provided sufficient information

Smogavec, M., Softič, N., Kersnik, J., Klemenc-Ketiš, Z. (2010): An overview of self-treatment and self-medication practices among Slovenian citizens. In: Zdravniški Vestnik. 79(11).	2010	SI	N/A	• 51 % of the respondents have used some form of self-treatment in the previous year • 83.1 % of them got the drugs for self-medication from the pharmacist but 23.0 % of them got the drugs for self-medication from their friends and relatives
Stippler, A., Eckstein, N., Kroth, E. (2019): To switch or not to switch—first Germany-wide study from the perspective of pharmacists in the European environment. In: Journal of Public Health: From Theory to Practice. 29(1)	2019	DE	N/A	• 93% respondents state yes or rather yes that their pharmacies can accomplish the necessary extra investments (e.g. training, additional consultation areas, additional personnel) to manage more Rx-to-OTC switches • 44% pharmacists support further switches and 41% support further switches with restrictions (i.e. that there has to be adjustments within the pharmacy or the indication) • 27% asses the expansion of self-medication as an economic advantage, while 55% assess it as partly an advantage • German pharmacists and pharmacy assistants are very supportive of a range of possible switches
Tsakanikas, A., Athanasiadis, A. (2018): Self-medication and self care awareness: Empirical evidence from Greece. PowerPoint presentation. Amsterdam 2018.	2018	EL	Reinforcement; Accessibility	• 9 in 10 consumers have used self-medication at least once during the previous year • 54.4% usually wait to see if they get better before taking medicine • 6 out of 10 consumers always ask the pharmacist before buying an OTC • 55.6% believe that self-medication is a quicker response than visiting a doctor • 9 out of 10 consumers were satisfied with the pharmacist's advice about OTC medicines. • 98% pharmacists stated that they can respond to a possible role of a primary health care advisor. 43.2% and 41.2% prefer to receive education or training on self-care and self-medication from pharmaceutical associations or from pharmaceutical companies, respectively. 8 out of 10 pharmacists believe that they have good knowledge of OTC.

Van den Eynde, L., Verhoogen, L. (2018): BACHI: Consumer Research OTC Products. PowerPoint presentation. BACHI 2018.	2018	BE	Reinforcement; Skills or Knowledge; Affordability	• 91% respondents buy OTC medication at least once a year • OTC medication is usually bought with a prescription or advice by 35% respondents. Pharmacy is the most popular channel to buy OTC (91%) • Following the purchase of an OTC product, 86% respondents prefer to request or obtain more information through the pharmacy, 69% through the doctor and 50% through the supplier's or brand website • For 57% of Belgians, the price of the OTC product is important. 69% are not prepared to pay more for OTC than for Rx • 80% agree that pharmacists often have at least an equally good knowledge of the effects of OTC products as doctors; however, 51% only trust the opinion of a doctor, even if it concerns OTC medicines • A recommendation by the pharmacist (76%) or doctor (71%) gives consumers the most confidence for the first purchase. • 52% agree that OTC products should only be sold in pharmacies
Villako, P., Volmer, D., Raal, A. (2012): Factors influencing purchase of and counselling about prescription and OTC medicines at community pharmacies in Tallinn, Estonia. In: Acta Poloniae Phamaceutica - Drug Research. 69(2).	2012	EE	Affordability; Reinforcement	• Price strongly affected 25% of pharmacy customers, but advertisements were considered with less influence for purchase decisions • Professional counselling in pharmacies was expected for both, prescription and OTC medicines. 68% expressed their content with the services provided and 60% with the drug information presented by pharmacists. 56% trusted pharmacists • 72% said it was important to have an appropriate selection of medicines and 44% were looking for private consultations
Welle-Nilsen, L.K., Morken, T., Hunskaar, S., Granas, A.G. (2011): Minor ailments in out-of-hours primary care: An observational study. In: Scandinavian journal of primary health care. 29(1).	2011	NO	N/A	• 76% of the minor ailments were cough fever, sore throat, upper respiratory tract infection and earache • 28% of all observations were “concluded minor ailments”, which took up 18% of the physicians’ total consultation time • The overall average consultation time was 13 minutes • More than a quarter of the observed consultations were partly or totally spent on addressing minor ailments (by physicians)

Appendix II: Database of Individual Country-Specific Data

Key to Appendix II		
	Calculated individual country-specific value	Calculation based on country-specific primary data from databases
Italic	European constant value	Estimated average based on data from several country-specific basic data

Austria			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	8,858,775	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	83,871	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	398,680,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.40%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	4,682	2019	https://stats.oecd.org/
Number of pharmacies	1,380	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	101	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	326,836,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	36,894.04		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	99.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1728

Patient contribution per Rx prescription (EUR) under SHI coverage	6.30	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1728
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	7,163	2018	https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	43.70	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9
Average number of GP working days per year	233	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	141,751	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.74		Calculation
Average working time of each GP per day (min)	524.40		Calculation
Overall physician contacts	58,467,915.00		Calculation
Number of patients treated per day	35.03		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	36.00	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	262.08		Calculation
Average number of days of incapacity to work per year	13.1	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	36.4	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en

Average number of hours worked per day	7.28		Calculation
Average minutes of incapacity to work per year	5,722.08		Calculation
Number of employed inhabitants	4,354,900.00	2019	https://stats.oecd.org/index.aspx?r=118071&errorCode=403&lastaction=login_submit
Employment rate	0.49		Calculation
Time cost of patients			
Average number of physician consultation per person	6.6	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Patient GP consultation time per physician contact (MIN)	11.7	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	78.2		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Belgium			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	11,455,519	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	30,528	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	473,090,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.30%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	4,274.00	2019	https://stats.oecd.org/
Number of pharmacies	4,841	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	118	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	392,129,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	34,230.57		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	98.70%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	5.40	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1728
Patient contribution per Rx prescription (EUR) under SHI coverage	0 - 60%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 75%, 50%, 40%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	13,178	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	51.10	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	231	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	148,436.00	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	10.22		Calculation
Average working time of each GP per day (min)	613.20		Calculation
Overall physician contacts	82,479,736.80		Calculation
Number of patients treated per day	27.09		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	40.7	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	302.81		Calculation
Average number of days of incapacity to work per year	13.80	2017	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	37.2	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.44		Calculation
Average minutes of incapacity to work per year	6160.32		Calculation
Number of employed inhabitants	4,832,000	2019	https://stats.oecd.org/
Employment rate	0.42		Calculation
Time cost of patients			

Average number of physician consultation per person	7.2	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Patient GP consultation time per physician contact (MIN)	17.7	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	84.2		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Bulgaria			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	7,000,039	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	110,879	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	60,680,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	8.10%	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS
Average expenses on healthcare per capita per year	1,311	2018	https://ec.europa.eu/health/sites/health/files/state/docs/2019_chp_bulgaria_english.pdf
Number of pharmacies	3,282	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	78	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	45,043,000,000	2017	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	6,434.68		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	88.20%	2013	https://ec.europa.eu/health/sites/health/files/state/docs/health_glance_2016_rep_en.pdf
Patient contribution per physician visit under SHI coverage	1.48	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1730
Patient contribution per Rx prescription (EUR) under SHI coverage	0% - 100%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100%, 75%, 50%, 40%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	4,199	2018	https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	39.20	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	229	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	50,408	2020	https://www.erieri.com/salaryreport/report
Average working time of each GP per day (hours)	7.84		Calculation
Average working time of each GP per day (min)	470.40		Calculation
Overall physician contacts	44,100,245.70		Calculation
Number of patients treated per day	45.86		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	6.00	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	48.60		Calculation
Average number of days of incapacity to work per year	19	2019	https://www.noi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/SPRAVKA_bolnichni_template-2019.pdf
Average working hours per person (per week)	40.5	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	8.1		Calculation
Average minutes of incapacity to work per year	9,234.00		Calculation

Number of employed inhabitants	3,233,100	2019	https://www.nsi.bg/en/content/6500/employed-and-employment-rates-national-level-statistical-regions-districts
Employment rate	0.46		Calculation
Time cost of patients			
Average number of physician consultation per person	6.3	2018	https://data.europa.eu/euodp/de/data/dataset/dDP5xQ42X143uDiqS10vPg
Patient GP consultation time per physician contact (MIN)	17.6	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	84.1		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Croatia			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	4,076,246.00	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	56,594	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	53,940,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.79%	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS
Average expenses on healthcare per capita per year	763.79	2017	https://knoema.com/atlas/Croatia/Health-expenditure-per-capita
Number of pharmacies	1,181	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	54	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	46,058,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	11,299.12		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2014	https://ec.europa.eu/health/sites/health/files/state/docs/health_glance_2016_rep_en.pdf
Patient contribution per physician visit under SHI coverage	1.32	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=2294
Patient contribution per Rx prescription (EUR) under SHI coverage	1.32 per prescription + 0 - 100% of the cost	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=2295
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	2,478	2018	https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	39.77	2020	European Average due to missing country-specific data
Average number of GP working days per year	228	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	53,511.71	2020	https://www.erieri.com/salaryreport/report
Average working time of each GP per day (hours)	7.95		Calculation
Average working time of each GP per day (min)	477.24		Calculation
Overall physician contacts	25,680,349.80		Calculation
Number of patients treated per day	45.45		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	11.10	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	88.13		Calculation
Average number of days of incapacity to work per year	18.27	2016	https://bib.irb.hr/datoteka/952243.4_Cikes_Maskarin-Ribaric_Crnjar.pdf
Average working hours per person (per week)	39.7	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.94		Calculation
Average minutes of incapacity to work per year	8,703.83		Calculation
Number of employed inhabitants	1,655,000	2019	https://stats.oecd.org/
Employment rate	0.41		Calculation

Time cost of patients			
Average number of physician consultation per person	6.3	2014	https://gateway.euro.who.int/en/hfa-explorer/#Wi39aBKEA0
Patient GP consultation time per physician contact (MIN)	11.5	2004	https://bmjopen.bmj.com/content/bmjopen/7/10/e017902.full.pdf
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	78.0		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Cyprus			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	875,899	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	9,251	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	21,940,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.68%	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS
Average expenses on healthcare per capita per year	1,472	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD
Number of pharmacies	524	2020	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	-	-	-
Net total income per year (EUR)	18,758,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	21,415.71		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2019	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1731 ; https://www.gesy.org.cy/sites/Sites?d=Desktop&locale=en_US&lookuphost=/en-us/&lookuppage=hiopresentationspage
Patient contribution per physician visit under SHI coverage	0.00 - 15.00	2019	https://www.gov.uk/guidance/healthcare-in-cyprus; https://www.gesy.org.cy/sites/Sites?d=Desktop&locale=el_GR&lookuphost=/el-gr/&lookuppage=hiopdservicesfaq
Patient contribution per Rx prescription (EUR) under SHI coverage	0.50 - 15.00	2020	https://www.gov.uk/guidance/healthcare-in-cyprus
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	912	2018	https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	37.50	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	227	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	55,000	2020	http://www.salaryexplorer.com/salary-survey.php?loc=56&loctype=1&job=885&jobtype=3
Average working time of each GP per day (hours)	7.50		Calculation
Average working time of each GP per day (min)	450.00		Calculation
Overall physician contacts	1,839,387.90		Calculation
Number of patients treated per day	8.88		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	15.30	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	120.26		Calculation
Average number of days of incapacity to work per year	-	-	-
Average working hours per person (per week)	39.3	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.86		Calculation
Average minutes of incapacity to work per year	-	-	-
Number of employed inhabitants	416,378.00	2019	https://stats.oecd.org/

Employment rate	0.48		Calculation
Time cost of patients			
Average number of physician consultation per person	2.1	2018	https://data.europa.eu/eu-odp/de/data/dataset/dDP5xQ42X143uDiqS10vPg
Patient GP consultation time per physician contact (MIN)	18.3	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	84.8		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Czech Republic			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	10,649,800	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	78,867	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	223,950,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	7.80%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,557	2019	https://stats.oecd.org/
Number of pharmacies	2,551	2020	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	91	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	165,733,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	15,562.08		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=2294
Patient contribution per Rx prescription (EUR) under SHI coverage	0.00 - 1.14	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	6,981	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	36.20	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	228	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	69,623.00	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.24		Calculation
Average working time of each GP per day (min)	434.40		Calculation
Overall physician contacts	87,328,360.00		Calculation
Number of patients treated per day	54.87		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	13.60	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	108.80		Calculation
Average number of days of incapacity to work per year	16.3	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	40	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	8		Calculation
Average minutes of incapacity to work per year	7,824		Calculation
Number of employed inhabitants	5,303,100	2019	https://stats.oecd.org/
Employment rate	0.50		Calculation
Time cost of patients			
Average number of physician consultation per person	8.2	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT

Patient GP consultation time per physician contact (MIN)	10.9	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	77.4		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Denmark			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	5,806,081	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	43,094	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	310,000,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.00%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	5,389	2019	https://stats.oecd.org/
Number of pharmacies	492	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	111	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	270,307,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	46,555.84		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1734
Patient contribution per Rx prescription (EUR) under SHI coverage	0% - 100% (up to cap of 130.00); 15% - 50% (up to cap 500.00); 0% (from 500.00)	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 85%, 75%, 50%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	4,649	2018	https://ec.europa.eu/eurostat/statistics-explained/pdfscache/37382.pdf
Average number of GP working hours per week	40.90	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	225	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	180,866.00	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.18		Calculation
Average working time of each GP per day (min)	490.80		Calculation
Overall physician contacts	22,063,107.80		Calculation
Number of patients treated per day	21.09		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	46.30	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	308.36		Calculation
Average number of days of incapacity to work per year	8.5	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	33.3	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	6.66		Calculation
Average minutes of incapacity to work per year	3,396.6		Calculation
Number of employed inhabitants	2,877,700	2019	https://stats.oecd.org/
Employment rate	0.50		Calculation
Time cost of patients			

Average number of physician consultation per person	3.8	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	14.3	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	80.8		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Estonia			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	1,324,820	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	45,228	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	28,040,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.80%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,436	2019	https://stats.oecd.org/
Number of pharmacies	494	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	72	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	23,112,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	17,445.39		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	94.50%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1735
Patient contribution per Rx prescription (EUR) under SHI coverage	Fixed co-payment (1.27 - 3.19) and a percentage co-payment of 0%, 10%, 25% or 50%	2016	https://www.euro.who.int/__data/assets/pdf_file/0006/306186/Availability-medicines-Estonia-analysis-existing-barriers-options-address-them.pdf?ua=1
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100%, 90%, 75%, 50%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	964	2018	https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	37.80	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	230	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	57,801	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.56		Calculation
Average working time of each GP per day (min)	453.60		Calculation
Overall physician contacts	7,418,992.00		Calculation
Number of patients treated per day	33.46		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	13.50	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	102.87		Calculation
Average number of days of incapacity to work per year	9	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	38.1	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.62		Calculation
Average minutes of incapacity to work per year	4,114.8		Calculation
Number of employed inhabitants	671,400.00	2019	https://stats.oecd.org/
Employment rate	0.51		Calculation

Time cost of patients			
Average number of physician consultation per person	5.6	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	16.4	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	82.9		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Finland			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	5,517,919	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	338,145	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	240,560,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	9.10%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	3,953	2019	https://stats.oecd.org/
Number of pharmacies	815	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	95	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	196,474,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	35,606.54		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	20.60	2020	https://stm.fi/terveydenhuollon-maksut
Patient contribution per Rx prescription (EUR) under SHI coverage	Full cost of medicine must be paid upfront at the pharmacy. Reimbursement claims can be made (100%, 65%, 40%) for medically necessary care	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1736
Average patient contribution per Rx prescription	*1.50*		Estimated average

(EUR) under SHI coverage			
Rx reimbursement rates	100%, 65%, 40%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	6,837	2018	https://ec.europa.eu/eurostat/statistics-explained/pdfscache/37382.pdf
Average number of GP working hours per week	35.80	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	225	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	155,989	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.16		Calculation
Average working time of each GP per day (min)	429.60		Calculation
Overall physician contacts	24,278,843.60		Calculation
Number of patients treated per day	15.78		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	34.80	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	254.74		Calculation
Average number of days of incapacity to work per year	9.7	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	36.6	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.32		Calculation
Average minutes of incapacity to work per year	4,260.24		Calculation
Number of employed inhabitants	2,565,600.00	2019	https://stats.oecd.org/

Employment rate	0.46		Calculation
Time cost of patients			
Average number of physician consultation per person	4.4	2019	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	23.8	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	90.3		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

France			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	67,012,883	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	643,801	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	2,425,710,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	11.20%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	4,038	2019	https://stats.oecd.org/
Number of pharmacies	20,966	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	116	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	2,026,001,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	30,233.01		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	99.90%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	8.50	2019	https://www.ameli.fr/assure/remboursements/reste-charge/ticket-moderateur
Patient contribution per Rx prescription (EUR) under SHI coverage	0.50 per box	2020	https://www.commonwealthfund.org/international-health-policy-center/countries/france
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 65%, 30%, 15%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	59,399	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	44.4	2019	https://fr.statista.com/statistiques/1008183/medecins-organisation-temps/
Average number of GP working days per year	225	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	130,566	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.88		Calculation
Average working time of each GP per day (min)	532.80		Calculation
Overall physician contacts	395,376,009.70		Calculation
Number of patients treated per day	29.58		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	37.30	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	279.00		Calculation
Average number of days of incapacity to work per year	8.8	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	37.4	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.48		Calculation
Average minutes of incapacity to work per year	3,949.44		Calculation
Number of employed inhabitants	27,176,100.00	2019	https://stats.oecd.org/
Employment rate	0.41		Calculation
Time cost of patients			

Average number of physician consultation per person	5.9	2017	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Patient GP consultation time per physician contact (MIN)	16	2002	https://bmjopen.bmj.com/content/bmjopen/7/10/e017902.full.pdf
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	82.5		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Germany			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	83,019,213	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	357,022	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	3,449,050,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	11.70%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	4,823	2019	https://stats.oecd.org/
Number of pharmacies	19,075	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	135	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	2,903,004,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	34,967.86		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	89.40%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1738
Patient contribution per Rx prescription (EUR) under SHI coverage	10%, min. 5.00 max. 10.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1738
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	58,940	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	49.60	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9
Average number of GP working days per year	231	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	165,449	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	9.92		Calculation
Average working time of each GP per day (min)	595.20		Calculation
Overall physician contacts	821,890,208.70		Calculation
Number of patients treated per day	60.37		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	35.90	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	249.86		Calculation
Average number of days of incapacity to work per year	20	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	34.8	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	6.96		Calculation
Average minutes of incapacity to work per year	8,352		Calculation
Number of employed inhabitants	42,395,700.00	2019	https://stats.oecd.org/#
Employment rate	0.51		Calculation
Time cost of patients			

Average number of physician consultation per person	9.9	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Patient GP consultation time per physician contact (MIN)	10.6	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*35*		Estimated average
Patient travel time per physician contact (MIN)	*24*		Estimated average
Total patient time spent for a GP visit (MIN)	69.6		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Greece			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	10,724,599	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	131,957	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	187,460,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	7.80%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,362	2019	https://stats.oecd.org/
Number of pharmacies	9,500	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	102	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	154,856,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	14,439.33		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00 - 5.00	2015; 2020	http://www.hope.be/wp-content/uploads/2015/11/99_2015_HOPE-REPORT_Out-of-pocket-payments-in-healthcare-systems-in-the-European-Union.pdf
Patient contribution per Rx prescription (EUR) under SHI coverage	0% - 25%	2019	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1739
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 90%, 75%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	3,642	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	38.20	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	229	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	81,781	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.64		Calculation
Average working time of each GP per day (min)	458.40		Calculation
Overall physician contacts	35,391,176.70		Calculation
Number of patients treated per day	42.43		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	16.60	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	138.44		Calculation
Average number of days of incapacity to work per year	14.7	2014	https://stats.oecd.org/index.aspx?queryid=30123
Average working hours per person (per week)	41.7	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	8.34		Calculation
Average minutes of incapacity to work per year	7,355.88		Calculation
Number of employed inhabitants	3,911,000.00	2019	https://stats.oecd.org/
Employment rate	0.36		Calculation
Time cost of patients			

Average number of physician consultation per person	3.3	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Patient GP consultation time per physician contact (MIN)	14.7	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	81.2		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Hungary			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	9,772,756	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	93,028	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	143,830,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.40%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	855.99	2019	https://stats.oecd.org/
Number of pharmacies	2,304	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	92	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	118,938,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	12,170.36		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	94.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1740
Patient contribution per Rx prescription (EUR) under SHI coverage	Depending on the medication, the patient is either charged a reduced fee (10% 75%) or must pay the full price	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1740
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100%, 90%, 80%, 70%, 55%, 50%, 25%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	7,069	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	37.70	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	228	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	54,549	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.54		Calculation
Average working time of each GP per day (min)	452.40		Calculation
Overall physician contacts	104,568,489.20		Calculation
Number of patients treated per day	64.88		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	10.70	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	84.53		Calculation
Average number of days of incapacity to work per year	8.8	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	39.5	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.9		Calculation
Average minutes of incapacity to work per year	4,171.2		Calculation
Number of employed inhabitants	4,512,200.00	2019	https://stats.oecd.org/
Employment rate	0.46		Calculation

Time cost of patients			
Average number of physician consultation per person	10.7	2019	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E68AA392.internet8712
Patient GP consultation time per physician contact (MIN)	8.2	**2020**	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	74.7		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Ireland			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	4,904,240	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	70,273	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	356,050,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.80%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	4,843.60	2019	https://stats.oecd.org/
Number of pharmacies	1,876	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	92	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	187,608,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	38,254.25		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00 (40% of population); 50.00-60.00 (60% of population)	2019	https://www.oecd.org/els/health-systems/Coverage-Cost-sharing-and-exemptions.xlsx
Patient contribution per Rx prescription (EUR) under SHI coverage	2.00 per prescription item	2019	https://www.euro.who.int/en/health-topics/Health-systems/health-systems-financing/publications/2020/can-people-afford-to-pay-for-health-care-new-evidence-on-financial-protection-in-ireland-2020
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	4,081	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	41.20	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	232	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	154,912	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.24		Calculation
Average working time of each GP per day (min)	494.40		Calculation
Overall physician contacts	28,444,592.00		Calculation
Number of patients treated per day	30.04		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	31.60	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	230.68		Calculation
Average number of days of incapacity to work per year	9.4	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	36.5	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.3		Calculation
Average minutes of incapacity to work per year	4,117.2		Calculation
Number of employed inhabitants	2,322,500.00	2019	https://stats.oecd.org/
Employment rate	0.47		Calculation

Time cost of patients			
Average number of physician consultation per person	5.8	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Patient GP consultation time per physician contact (MIN)	12.8	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	79.3		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Italy			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	60,359,546	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	301,340	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	1,787,660,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	8.70%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	2,565	2019	https://stats.oecd.org/
Number of pharmacies	19,331	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	118	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	1,489,378,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	24,675.10		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2018; 2020	https://www.altroconsumo.it/salute/diritti-in-salute/speciali/medico-di-base#
Patient contribution per Rx prescription (EUR) under SHI coverage	Tier 1: € 0.00 for generics (patient pays the difference between reference price and market price for brand-name drugs). Additional co-payments of 1.00-2.00 per box in some regions	2020	https://www.commonwealthfund.org/international-health-policy-center/countries/italy
Average patient contribution per Rx prescription	*1.50*		Estimated average

(EUR) under SHI coverage			
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	42,987	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	33.50	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	229	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	124,576	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	6.70		Calculation
Average working time of each GP per day (min)	402.00		Calculation
Overall physician contacts	410,444,912.80		Calculation
Number of patients treated per day	41.69		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	27.90	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	207.02		Calculation
Average number of days of incapacity to work per year	18.1	2015	http://www.cgiamestre.com/wp-content/uploads/2017/02/ASSENZEPUBBLICOPRIVATO.pdf
Average working hours per person (per week)	37.1	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.42		Calculation
Average minutes of incapacity to work per year	8,058.12		Calculation

Number of employed inhabitants	23,359,900.00	2019	https://stats.oecd.org/
Employment rate	0.39		Calculation
Time cost of patients			
Average number of physician consultation per person	6.8	2013	https://gateway.euro.who.int/en/hfa-explorer/#Wi39aBKEA0
Patient GP consultation time per physician contact (MIN)	13.4	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	79.9		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Latvia			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	1,919,968	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	64,589	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	30,480,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.30%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	992.90	2019	https://stats.oecd.org/
Number of pharmacies	840	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	109	2018	https://melclass.edqm.eu/prescriptions/list_medicines?param_class=Not+subject+to+prescription&param_country=LV&cb_display_country=on
Net total income per year (EUR)	23,547,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	12,264.27		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	1.00 - 2.00	2019	http://www.vmnvd.gov.lv/lv/veselibas-aprupes-pakalpojumi/pacienta-lidzmaksajumi/pacienta-lidzmaksajumu-apmeri-2020-gada
Patient contribution per Rx prescription (EUR) under SHI coverage	0% to 50%	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1743
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100%, 75%, 50%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	1,411	2018	https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	38.90	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	229	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	20,021	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.78		Calculation
Average working time of each GP per day (min)	466.80		Calculation
Overall physician contacts	11,519,808.00		Calculation
Number of patients treated per day	35.65		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	10.40	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	80.29		Calculation
Average number of days of incapacity to work per year	14.9	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	38.6	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.72		Calculation
Average minutes of incapacity to work per year	6,901.68		Calculation
Number of employed inhabitants	910,000.00	2019	https://stats.oecd.org/

Employment rate	0.47		Calculation
Time cost of patients			
Average number of physician consultation per person	6	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	17.5	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	84.0		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Lithuania			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	2,794,184	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	65,300	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	48,430,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.80%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,179	2019	https://stats.oecd.org/
Number of pharmacies	1,317	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	102	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	41,212,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	14,749.21		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	98.10%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1744
Patient contribution per Rx prescription (EUR) under SHI coverage	0% - 50% for medicines listed in national price list of subsidised medicines	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1744
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 90%, 80%, 50%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	2,560	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	35.20	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	227	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	18,686	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.04		Calculation
Average working time of each GP per day (min)	422.40		Calculation
Overall physician contacts	27,662,421.60		Calculation
Number of patients treated per day	47.60		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	9.50	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	73.72		Calculation
Average number of days of incapacity to work per year	8.9	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	38.8	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.76		Calculation
Average minutes of incapacity to work per year	4,143.84		Calculation
Number of employed inhabitants	1,378,400.00	2019	https://stats.oecd.org/
Employment rate	0.49		
Time cost of patients			

Average number of physician consultation per person	9.9	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	15.9	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	82.4		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Luxembourg			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	613,894	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	2,586	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	63,520,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	5.40%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	5,528.60	2019	https://stats.oecd.org/
Number of pharmacies	94	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	-	-	-
Net total income per year (EUR)	30,985,000,000	2018	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	50,472.88		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100%	n.d.	https://cns.public.lu/dam-assets/publications/depliants/assurance_maladie/CNS-MSS-pictogramme-EN-nb.pdf
Patient contribution per physician visit under SHI coverage	9.40	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1745
Patient contribution per Rx prescription (EUR) under SHI coverage	0% to 60% if they are included in the list of medications	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1745
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 80%, 40%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	534	2017	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	45.60	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	221	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	275,450	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	9.12		Calculation
Average working time of each GP per day (min)	547.20		Calculation
Overall physician contacts	3,560,585.20		Calculation
Number of patients treated per day	30.17		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	41.30	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	313.05		Calculation
Average number of days of incapacity to work per year	12.1	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_STAT
Average working hours per person (per week)	37.9	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.58		Calculation
Average minutes of incapacity to work per year	5,503.08		Calculation
Number of employed inhabitants	289,100.00	2019	https://stats.oecd.org/
Employment rate	0.47		Calculation
Time cost of patients			

Average number of physician consultation per person	5.8	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	17.6	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	84.1		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Malta			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	493,559	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	316	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	13,280,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	9,34%	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS
Average expenses on healthcare per capita per year	2,130.75	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD?locations=MT
Number of pharmacies	221	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	165	2020	http://www.medicinesauthority.gov.mt/search-medicine-results?modSearch=adv
Net total income per year (EUR)	9,828,000,000	2018	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	19,912.51		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2014	https://ec.europa.eu/health/sites/health/files/state/docs/health_glance_2016_rep_en.pdf
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1746
Patient contribution per Rx prescription (EUR) under SHI coverage	Full charges for all out-patient prescriptions	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1746
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	396	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	46.30	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	221	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	106,220	2020	https://www.erieri.com/salaryreport/report
Average working time of each GP per day (hours)	9.26		Calculation
Average working time of each GP per day (min)	555.60		Calculation
Overall physician contacts	-	-	-
Number of patients treated per day	-	-	-
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	14.20	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	112.18		Calculation
Average number of days of incapacity to work per year	4.2	2017	https://gateway.euro.who.int/en/indicators/hfa_411-2700-absenteeism-from-work-due-to-illness-days-per-employee-per-year/visualizations/#id=19991
Average working hours per person (per week)	39.5	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.9		Calculation
Average minutes of incapacity to work per year	1,990.80		Calculation
Number of employed inhabitants	260,827.00	2020	https://ec.europa.eu/eures/main.jsp?catId=2788&c

			ountryId=MT&acro=lmi&lang=en&regionId=MT0&nuts2Code=%20&nuts3Code=&regionName=National%20Level
Employment rate	0.53		Calculation
Time cost of patients			
Average number of physician consultation per person	-	-	-
Patient GP consultation time per physician contact (MIN)	13	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	79.5		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Netherlands			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	17,282,163	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	41,543	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	810,250,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.00%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	4,682.50	2019	https://stats.oecd.org/
Number of pharmacies	1,996	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	75	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	680,041,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	39,349.30		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	99.90%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1747
Patient contribution per Rx prescription (EUR) under SHI coverage	Full cost up to deductible	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1747
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	15,091	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	43.00	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	233	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	142,720	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.60		Calculation
Average working time of each GP per day (min)	516.00		Calculation
Overall physician contacts	155,539,467.00		Calculation
Number of patients treated per day	44.24		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	35.30	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	214.62		Calculation
Average number of days of incapacity to work per year	11	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	30.4	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	6.08		Calculation
Average minutes of incapacity to work per year	4,012.80		Calculation
Number of employed inhabitants	8,982,400.00	2019	https://stats.oecd.org/
Employment rate	0.52		Calculation
Time cost of patients			

Average number of physician consultation per person	9	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	11.1	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	77.6		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Norway			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	5,328,212	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	385,702	2020	https://www.kartverket.no/en/on-land/fakta-om-norge
GDP	360,300,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.50%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	6,544.41	2019	https://stats.oecd.org/
Number of pharmacies	975	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	85	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	319,630,000,000	2018	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	59,988.23		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00 - 31.13	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1759
Patient contribution per Rx prescription (EUR) under SHI coverage	39% of the cost of the prescription up to 47.93 per prescription (blue prescription); 90% of costs that exceed 180.86 covered by National Insurance Scheme (white prescription)	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1759
Average patient contribution per Rx prescription	*1.50*		Estimated average

(EUR) under SHI coverage			
Rx reimbursement rates	100%, 61%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	4,218	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	36.10	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	226	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	161,274	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.22		Calculation
Average working time of each GP per day (min)	433.20		Calculation
Overall physician contacts	23,444,132.80		Calculation
Number of patients treated per day	24.59		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	50.20	2019	https://ec.europa.eu/eurostat/data-browser/view/tps00173/default/table?lang=en
Average labour cost of a working day per person (EUR)	338.35		Calculation
Average number of days of incapacity to work per year	15.8	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	33.7	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	6.74		Calculation
Average minutes of incapacity to work per year	6,389.52		Calculation
Number of employed inhabitants	2,715,600.00	2019	https://stats.oecd.org/

Employment rate	0.51		Calculation
Time cost of patients			
Average number of physician consultation per person	4.4	2019	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	18.6	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	85.1		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Poland			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	37,972,812	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	312,685	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	529,030,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.30%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	845.92	2019	https://stats.oecd.org/
Number of pharmacies	13,497	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	129	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	418,572,000,000	2018	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	11,022.94		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	92.90%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1124&intPageId=4720&langId=en
Patient contribution per Rx prescription (EUR) under SHI coverage	-	-	-
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 70%, 50%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	15,908	2017	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	38.40	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	222	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	52,177	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.68		Calculation
Average working time of each GP per day (min)	460.80		Calculation
Overall physician contacts	288,593,371.20		Calculation
Number of patients treated per day	81.72		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	10.40	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	83.82		Calculation
Average number of days of incapacity to work per year	14.3	2019	https://gateway.euro.who.int/en/indicators/hfa_411-2700-absenteeism-from-work-due-to-illness-days-per-employee-per-year/visualizations/#id=19991
Average working hours per person (per week)	40.3	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	8.06		Calculation
Average minutes of incapacity to work per year	6,915.48		Calculation
Number of employed inhabitants	16,461,000.00	2019	https://stats.oecd.org/
Employment rate	0.43		Calculation
Time cost of patients			

Average number of physician consultation per person	7.6	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	13.7	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	80.2		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Portugal			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	10,276,617	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	92,090	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	212,320,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	9.60%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,976	2019	https://stats.oecd.org/
Number of pharmacies	2,922	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	124	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	170,920,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	16,631.93		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	5.00	2020	https://www.gov.uk/guidance/healthcare-in-portugal-including-madeira
Patient contribution per Rx prescription (EUR) under SHI coverage	Patients pay 10% - 85% of the price	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1750
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 90%, 69%, 37%, 15%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	25,123	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	40.20	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	226	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	78,707	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.04		Calculation
Average working time of each GP per day (min)	482.40		Calculation
Overall physician contacts	42,134,129.70		Calculation
Number of patients treated per day	7.42		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	13.70	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	107.96		Calculation
Average number of days of incapacity to work per year	7.6	2017	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	39.4	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.88		Calculation
Average minutes of incapacity to work per year	3,593.28		Calculation
Number of employed inhabitants	4,913,100.00	2019	https://stats.oecd.org/
Employment rate	0.48		Calculation
Time cost of patients			

Average number of physician consultation per person	4.1	2012	https://gateway.euro.who.int/en/hfa-explorer/#Wi39aBKEA0
Patient GP consultation time per physician contact (MIN)	18.1	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	84.6		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Romania			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	19,414,458	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	238,391	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	223,340,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	5.16%	2017	https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS
Average expenses on healthcare per capita per year	472	2019	https://stats.oecd.org/
Number of pharmacies	8,620	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	108	2018	https://melclass.edqm.eu/prescriptions/list_medicines?page=1&param_class=Not+subject+to+prescription&param_country=RO
Net total income per year (EUR)	189,288,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	9,749.85		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	86.00%	2014	https://www.oecd-ilibrary.org/health-at-a-glance-europe-2016_5jlr3cl40n9q.pdf?itemId=%2Fcontent%2Fpublication%2F9789264265592-en&mimeType=pdf
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1751
Patient contribution per Rx prescription (EUR) under SHI coverage	sub-list A - 90%, sub-list B - 50%, sub-list C - 100%, sub-list D - 20%	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1751
Average patient contribution per Rx prescription	*1.50*		Estimated average

(EUR) under SHI coverage			
Rx reimbursement rates	100%, 90%, 50%, 20%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	12,026	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	35.80	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	228	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	48,971	2020	https://www.erieri.com/salaryreport/report
Average working time of each GP per day (hours)	7.16		Calculation
Average working time of each GP per day (min)	429.60		Calculation
Overall physician contacts	93,189,398.40		Calculation
Number of patients treated per day	33.99		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	7.30	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	58.11		Calculation
Average number of days of incapacity to work per year	8	2018	https://gateway.euro.who.int/en/indicators/hfa_411-2700-absenteeism-from-work-due-to-illness-days-per-employee-per-year/visualizations/#id=19991
Average working hours per person (per week)	39.8	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.96		Calculation

Average minutes of incapacity to work per year	3,820.80		Calculation
Number of employed inhabitants	8,407,500.00	2019	https://ec.europa.eu/eures/main.jsp?catId=9545&countryId=RO&acro=lmi&lang=en&regionId=RO0&nuts2Code=%20&nuts3Code=&regionName=National%20Level
Employment rate	0.43		Calculation
Time cost of patients			
Average number of physician consultation per person	4.8	2013	https://gateway.euro.who.int/en/hfa-explorer/#Wi39aBKEA0
Patient GP consultation time per physician contact (MIN)	16.6	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	83.1		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Slovakia			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	5,450,421	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	49,035	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	94,170,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	6.90%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,197.80	2019	https://stats.oecd.org/
Number of pharmacies	1,994	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	107	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	76,332,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	14,004.79		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	94.60%	2017	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1752
Patient contribution per Rx prescription (EUR) under SHI coverage	A standard fee is payable for each prescription	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1752
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	3,080	2011	https://www.euro.who.int/__data/assets/pdf_file/0003/175242/Evaluation-of-the-structure-and-provision-of-primary-care-in-Slovakia.pdf
Average number of GP working hours per week	37.40	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	221	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	71,149	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.48		Calculation
Average working time of each GP per day (min)	448.80		Calculation
Overall physician contacts	59,409,588.90		Calculation
Number of patients treated per day	87.28		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	12.70	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	101.85		Calculation
Average number of days of incapacity to work per year	14.2	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	40.1	2019	https://ec.europa.eu/eurostat/databrowser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	8.02		Calculation
Average minutes of incapacity to work per year	6,833.04		Calculation
Number of employed inhabitants	2,583,700.00	2019	https://stats.oecd.org/
Employment rate	0.47		Calculation
Time cost of patients			

Average number of physician consultation per person	10.9	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	8.9	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	20	2010	https://www.euro.who.int/__data/assets/pdf_file/0003/175242/Evaluation-of-the-structure-and-provision-of-primary-care-in-Slovakia.pdf
Total patient time spent for a GP visit (MIN)	55.4		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Slovenia			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	2,080,908	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	20,273	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	48,010,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	8.30%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	1,904.40	2019	https://stats.oecd.org/
Number of pharmacies	339	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	80	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	38,705,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	18,600.05		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1753
Patient contribution per Rx prescription (EUR) under SHI coverage	0–30% co-payment for medicines on the positive list; 90% co-payment for medicines on the intermediate list	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1753
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average

Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	1,275	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	37.40	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	228	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	53,407	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.48		Calculation
Average working time of each GP per day (min)	448.80		Calculation
Overall physician contacts	13,733,992.80		Calculation
Number of patients treated per day	47.24		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	19.10	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	150.89		Calculation
Average number of days of incapacity to work per year	13.5	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	39.5	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.9		Calculation
Average minutes of incapacity to work per year	6,399.00		Calculation
Number of employed inhabitants	982,600.00	2019	https://stats.oecd.org/

Employment rate	0.47		Calculation
Time cost of patients			
Average number of physician consultation per person	6.6	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	9.6	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	76.1		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Spain			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	46,937,060	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	505,370	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	1,245,330,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	9.00%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	2,387.60	2019	https://stats.oecd.org/
Number of pharmacies	22,071	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	131	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	1,055,060,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	22,478.19		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2020	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1754
Patient contribution per Rx prescription (EUR) under SHI coverage	-	-	-
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100%, 90%, 40-60%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			

Number of GPs	35,798	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	35.80	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	225	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	64,139	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	7.16		Calculation
Average working time of each GP per day (min)	429.60		Calculation
Overall physician contacts	342,640,538.00		Calculation
Number of patients treated per day	42.54		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	21.70	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	162.75		Calculation
Average number of days of incapacity to work per year	12.3	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	37.5	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.5		Calculation
Average minutes of incapacity to work per year	5,535.00		Calculation
Number of employed inhabitants	19,779,300.00	2019	https://stats.oecd.org/
Employment rate	0.42		Calculation
Time cost of patients			

Average number of physician consultation per person	7.3	2017	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	8.5	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	75.0		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Sweden			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	10,230,185	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	450,295	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	474,150,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.90%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	5,254.35	2019	https://stats.oecd.org/
Number of pharmacies	1,422	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	84	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	404,435,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	39,533.50		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00 - 29.42	2019	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1755
Patient contribution per Rx prescription (EUR) under SHI coverage	For drugs covered by National Drug Benefits Scheme, patients pay full cost up to 109.05 per year, with decreasing co-payments until subsidy reaches 100%	2019	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1755
Average patient contribution per Rx prescription	*1.50*		Estimated average

(EUR) under SHI coverage			
Rx reimbursement rates	100%, 90%, 75%, 50%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	6,411	2017	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	34.40	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	227	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	106,630	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	6.88		Calculation
Average working time of each GP per day (min)	412.80		Calculation
Overall physician contacts	27,621,499.50		Calculation
Number of patients treated per day	18.98		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	39.00	2020	https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/04/PD20_142_624.html;jsessionid=D913EACF349BDBEB41925B44E6
Average labour cost of a working day per person (EUR)	283.92		Calculation
Average number of days of incapacity to work per year	11.3	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	36.4	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.28		Calculation
Average minutes of incapacity to work per year	4,935.84		Calculation

Number of employed inhabitants	5,131,600.00	2019	https://stats.oecd.org/
Employment rate	0.50		Calculation
Time cost of patients			
Average number of physician consultation per person	2.7	2018	https://data.oecd.org/healthcare/doctors-consultations.htm
Patient GP consultation time per physician contact (MIN)	23.9	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	90.4		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Switzerland			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	8,544,527	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	41,285	2009	https://de.statista.com/statistik/daten/studie/942738/umfrage/flaeche-der-schweiz-nach-kantonen/
GDP	628,110,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	12.10%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	9,187.50	2019	https://stats.oecd.org/
Number of pharmacies	1,806	2019	https://www.abda.de/fileadmin/user_upload/assets/ZDF/ZDF_2020/ABDA_ZDF_2020_Brosch_english.pdf
Number of OTC medications available	112	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	475,120,000,000	2018	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	55,605.18		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	30% of 145.48	2020	https://www.commonwealthfund.org/international-health-policy-center/countries/switzerland
Patient contribution per Rx prescription (EUR) under SHI coverage	Full cost up to deductible + 10% coinsurance (20% if not generic)	2020	https://www.commonwealthfund.org/international-health-policy-center/countries/switzerland
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	90%, 80%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf

Treatment cost GP			
Number of GPs	7,163	2018	https://ec.europa.eu/eurostat/statistics-explained/pdfscache/37382.pdf
Average number of GP working hours per week	46.50	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	234	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	213,841	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	9.30		Calculation
Average working time of each GP per day (min)	558.00		Calculation
Overall physician contacts	36,741,466.10		Calculation
Number of patients treated per day	21.92		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	55.60	2016	https://ec.europa.eu/eurostat/data-browser/view/tps00173/default/table?lang=en
Average labour cost of a working day per person (EUR)	384.75		Calculation
Average number of days of incapacity to work per year	9.2	2017	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	34.6	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	6.92		Calculation
Average minutes of incapacity to work per year	3,819.84		Calculation
Number of employed inhabitants	4,705,800.00	2019	https://stats.oecd.org/
Employment rate	0.55		Calculation
Time cost of patients			
Average number of physician consultation per person	4.3	2017	https://data.oecd.org/healthcare/doctors-consultations.htm

Patient GP consultation time per physician contact (MIN)	19.5	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	*40*		Estimated average
Total patient time spent for a GP visit (MIN)	86.0		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

United Kingdom			
	Data	**Year of publication**	**Reference**
General information			
Number of inhabitants	66,647,112	2019	https://ec.europa.eu/eurostat/data-browser/view/demo_pjan/default/table?lang=en
Country size (km²)	243,610	2020	https://de.statista.com/statistik/daten/studie/326957/umfrage/flaechen-der-eu-laender/
GDP	2,525,090,000,000	2019	https://www.statista.com/statistics/685925/gdp-of-european-countries/
Costs (% of GDP) of healthcare	10.30%	2019	https://stats.oecd.org/Index.aspx?DataSetCode=SHA
Average expenses on healthcare per capita per year	3,733.76	2019	https://stats.oecd.org/
Number of pharmacies	11,539	2019	https://digital.nhs.uk/data-and-information/publications/statistical/general-pharmaceutical-services/in-2008-09---2018-19-ns
Number of OTC medications available	146	2020	https://otc.aesgp.eu/
Net total income per year (EUR)	2,106,648,000,000	2019	https://ec.europa.eu/eurostat/data-browser/view/tec00133/default/table?lang=en
Average income per capita	31,608.99		Calculation
Coverage and contribution			
SHI coverage (% of inhabitants)	100.00%	2018	https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_PROT
Patient contribution per physician visit under SHI coverage	0.00	2019	https://ec.europa.eu/social/main.jsp?catId=1021&langId=en&intPageId=1756
Patient contribution per Rx prescription (EUR) under SHI coverage	Adults are also required to pay for outpatient prescriptions in England: fixed co-payment per Rx item of 9.07 EUR (8.05 pounds) in 2014-2015. The three other countries of the UK have abolished	2015	https://www.euro.who.int/__data/assets/pdf_file/0010/373690/uk-fp-report-eng.pdf

	prescription charges.		
Average patient contribution per Rx prescription (EUR) under SHI coverage	*1.50*		Estimated average
Rx reimbursement rates	100.00%	2017	https://www.euro.who.int/__data/assets/pdf_file/0011/376625/pharmaceutical-reimbursement-eng.pdf
Treatment cost GP			
Number of GPs	49,569	2018	https://ec.europa.eu/eurostat/data-browser/view/hlth_rs_spec/default/table?lang=en
Average number of GP working hours per week	40.10	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Average number of GP working days per year	233	2019	http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_235155.pdf
Average income of each GP per year	146,911	2020	https://www.qunomedical.com/en/research/healthcare-salary-index/
Average working time of each GP per day (hours)	8.02		Calculation
Average working time of each GP per day (min)	481.20		Calculation
Overall physician contacts	333,235,560.00		Calculation
Number of patients treated per day	28.85		Calculation
Work loss due to inability to work			
Average labour cost of a working hour per person (EUR)	28.50	2019	https://ec.europa.eu/eurostat/data-browser/view/tps00173/default/table?lang=en
Average labour cost of a working day per person (EUR)	208.62		Calculation
Average number of days of incapacity to work per year	5.9	2018	https://stats.oecd.org/Index.aspx?DatasetCode=HEALTH_STAT
Average working hours per person (per week)	36.6	2019	https://ec.europa.eu/eurostat/data-browser/view/lfsa_ewhun2/default/table?lang=en
Average number of hours worked per day	7.32		Calculation

Average minutes of incapacity to work per year	2,591.28		Calculation
Number of employed inhabitants	32,694,800.00	2019	https://stats.oecd.org/
Employment rate	0.49		Calculation
Time cost of patients			
Average number of physician consultation per person	5	2017	https://www.commonwealthfund.org/international-health-policy-center/system-stats/annual-physician-visits
Patient GP consultation time per physician contact (MIN)	11.2	2020	https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-020-00520-9/tables/1
Patient waiting time per physician contact (MIN)	*26.5*		Estimated average
Patient travel time per physician contact (MIN)	10.8	2018	Average calculated from public transport, car and bicycle: https://www.gov.uk/government/statistical-data-sets/journey-time-statistics-data-tables-jts
Total patient time spent for a GP visit (MIN)	48.5		Calculation
Time spent for a pharmacy visit (MIN)	*16.5*		European estimated average based on (Austria, Germany, UK)
Therapy related work loss			
Share of GP visits during working time	*22%*	2016	European estimated average based on May, U., Bauer, C. (2016): Selbstbehandlung und Apotheke. Ein sozio- und gesundheitsökonomisches Gutachten. Gutachten im Auftrag des Bundesverbands der Arzneimittel-Hersteller. Bonn, 2016.

Appendix III: Derivation of Key Parameters for Country Clustering

Key to Appendix III		
Dark grey & bold	Key parameter	Calculation based on (calculated) individual country-specific values, individual country-specific data and European constant values
Light grey & bold	(Calculated) individual country-specific value	Based on Appendix II
Italics	Individual country-specific data	Based on Appendix II
AV	European constant value	Average based on data from several country-specific basic data
	Individual country-specific value	IQVIA Database: OTC: IQVIA Consumer Health Global OTC Insights, Rx: IQVIA Midas

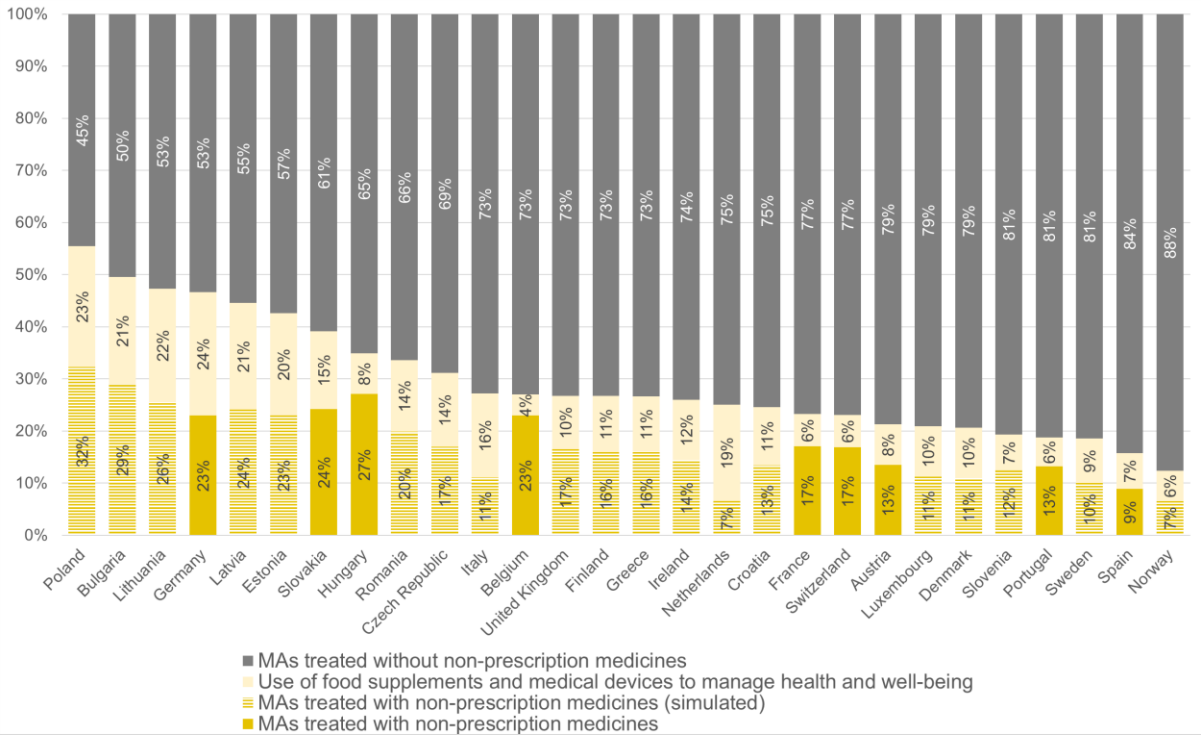
GP Cost per Minute	
Sub-categories for result derivation	
Number of GPs	
Average income of each GP per year (EUR)	
Budget of all GPs per year (EUR)	(Number of GPs)* (Average income of each GP per year)
Average working time of each GP per year (MIN)	
Average number of GP working days per year (days) AV	227.7
Average number of GP working weeks per year (week) AV	45.54
Average working time of all GPs per year (MIN)	(Number of GPs)* (Average working time of each GP per year (MIN)
Result GP cost per minute	(Budget of GPs per year)/ (Average working hours of GPs)

Productivity Loss per Hour	
Sub-categories for result derivation	
Average worth of a working day (EUR)	(Number of hours worked per day)* (Average worth of a working hour (EUR))
Average worth of a working hour (EUR)	
Average number of hours worked (per day)	
Average number of days incapacity to work per person (days)	
Country total of days incapacity to work (days)	(Average number of days incapacity to work)* (Number of employed inhabitants)
Average number of days incapacity to work per person (hours)	(Average number of days incapacity to work)* (Average number of hours worked (per day))
Country total of days incapacity to work (hours)	(Average number of days incapacity to work (hours))* (Number of employed inhabitants)
Number of employed inhabitants	
Result Productivity loss in hours (per year)	(Average number of hours worked (per day))* (Average worth of a working hour (EUR))

Difference Drug Cost per Pack	
Sub-categories for result derivation	
Drug cost per pack OTC (EUR)	
Number of OTC packages	
Average drug cost per pack OTC (EUR)	(Drug cost per pack OTC (EUR))/ (Number of OTC packages)
Drug cost per pack Rx - Reimbursed	
Share of drug cost Rx - Reimbursed	
Drug cost per pack Rx – Generic	
Share of drug cost Rx - Generic	

Weighted average drug cost per pack Rx (EUR)	((Drug cost per pack Rx - Reimbursed)* (Share of drug cost Rx – Reimbursed)) + ((Drug cost per pack Rx – Generic)* (Share of drug cost Rx – Generic))
Result Difference Drug Cost per Pack (EUR)	(Weighted average drug costs per pack Rx) - (Average drug cost per pack OTC)

Appendix IV: Status quo: Share of minor ailment cases treated by self-care with OTC



Additional explanation:

Depending on the legal status of OTC preparations (non-prescription medicine, medical device, food supplement) in the respective country and the availability of corresponding market data from the IQVIA database (OTC data: IQVIA Consumer Health Global OTC Insights.), OTC that are registered as medicines and OTC preparations that are not registered as medicines, but registered as medical devices or food supplements are displayed separately in the figure above (self-med. registered: dark yellow, unregistered: light yellow). To enable comparability of content across countries, the number of non-prescription medicinal products had to be simulated (self-med. simulated: striped yellow) for those countries for which the category was not explicitly specified. This was based on the available data points for other countries from the data set provided by IQVIA (OTC data: IQVIA Consumer Health Global OTC Insights, Rx data: IQVIA Midas).