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**OBSTACLES TO THE CROSS-BORDER RECOGNITION OF  
MEDICAL PRESCRIPTIONS IN THE EU**

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**OBSTÁCULOS AL RECONOCIMIENTO TRANSFRONTERIZO  
DE RECETAS MÉDICAS EN LA UNIÓN EUROPEA**

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# INTRODUCTION

Over the last years research on different aspects of the provision of health care across-borders has been published (Baeten & Palm, 2013; Gronden, 2011; Palm, Wismar, van Ginneken, Busse, & Ernst, 2011). However, the focus of those publications ignored the role that pharmaceutical products or medical devices often have in facilitating an appropriate treatment. Patients wanting to buy such products in a member state different from the one in which the prescription was drafted may be affected by differences in national legislation with regard to access and reimbursement of medical products as well as by national practices, which could impede or challenge the cross-border provision of medical products. This may in turn result in a disruption or discontinuation of care for a short period of time.

An EU directive approved in 2011 and implemented at the end of 2013, obliges member states to recognize, amongst other things, prescriptions coming from another member state, unless there are serious doubts about their authenticity from the part of the pharmacist (Council Directive 2011/24/EU).

However, an effective implementation of such directive would likely require some harmonization to avoid confusions and facilitate the role of the pharmacist.

There are different aspects that could challenge an effective implementation of the directive:

1. Differences in the format of the prescriptions that make prescriptions coming from another member state unfamiliar to local pharmacists (e.g. color, size, etc.),
2. Differences in the information required to be included on the prescriptions, making it difficult for pharmacists to dispense against one that may not have all of the legally required information in their country, even when completely valid in the member state of origin.
3. Language barriers
4. Country-specific brand names that may not exist in the member state where the prescription is being presented, making it difficult for pharmacists to find the equivalent product in their country.
5. Prescribing policies regarding for example international non proprietary name (INN) prescribing, with prescriptions coming from countries in which INN prescribing is the norm rather than an exception, being easier to recognize than those coming from countries where most, if not all, prescribing is done by brand.
6. Dispensing policies regarding substitution, making it easier to replace a brand with a country's equivalent in countries and situations in which substitution is allowed and pharmacists are more familiar with it.

All of these aspects need to be considered in order to develop effective tools and guidelines to ensure a successful implementation of the Directive.

In response to such challenge, the Directorate of Health of the EU Commission launched at the end of 2011 an online public stakeholder consultation entitled:

"Measures for improving the recognition of prescriptions issued in another Member State".

Target groups for this consultation included patients, prescribers, dispensing pharmacists, and the medical industry. Overall, they captured responses from 81 stakeholders, from different EU countries.

Their results indicated that the main issues seen from the pharmacist perspective (based on the responses from 57 pharmacists who took part in the consultation) related to:

1. the authenticity of the cross-border prescription and how it could be verified,
2. the identification of the prescriber as an authorized health professional able to prescribe and
3. the absence of certain nationally required items on the prescriptions.

Dispensers revealed that international non-proprietary names (INN) or generic names were considered the most relevant identifiers, with small differences in scores by individuals.

In terms of relevant patient information to be included in a prescription three items (surname, name and date of birth) were ranked as most important by all groups;

Stakeholders across the board agreed that including physician contact details on prescription forms could facilitate the authentication of prescribers.



Aside from this public consultation the Directorate of Health of the EU Commission funded via their 7<sup>th</sup> Framework Research program the ECAB – “Evaluating Care Across-borders” project<sup>1</sup>.

The core of the work presented in chapters 1 and 2 of this thesis was completed between 2011 and 2013, as part of this European wide program. The specific focus was on all aspects of cross-border prescribing and dispensing. Other important aspects covered in chapters 3 and 4 as well as general conclusions, were added in 2014-2015, for completion.

The objective of this work was to evaluate any country differences in access to prescription only medicines (POMs), which could potentially challenge the good functioning of the cross-border provision of health care. These differences can relate to requirements for prescription forms to be valid, qualifications and authentication of prescribers, different languages used, differences in product/brand availability or classification, differences in strengths, dosages or formulations, or differences in prescribing or dispensing policies (e.g. generic substitution or INN prescribing policies). Reimbursement differences are also explored in order to highlight the impact that cross-border prescribing and dispensing could have in terms of final patient contributions towards the cost of a drug.

The analyses here included aimed at answering the following research questions:

1. What differences exist between EU member states in national regulation and

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<sup>1</sup> Available at [www.ecabeurope.eu](http://www.ecabeurope.eu)

practices linked to the prescription and dispensation of POMs?

2. Can these differences impede or challenge the cross-border dispensation of POMs?
3. Can national differences in product classification pose a challenge for patients travelling across-borders?
5. What measures would be the most appropriate to respond to the current obstacles for cross-border dispensing?
6. Is the cross-border Directive likely to have any impact on patient out of pocket contributions towards POMs?

Aside from a small Finnish study published in 2001 (Makinen, Forsstrom, & Rautava, 2001), this work constitutes to this date, together with an unpublished EU survey also funded by the European Commission (Matrix Insight, 2012), the only two large EU research projects exploring potential challenges in this field. Both studies were taken into consideration by the European Commission in the preparation of the implementation of the Directive.

This thesis is structured as follows:

Chapter 1 analyses prescribing and dispensing policies and practices in five member states.

Chapter 2 presents the results from an empirical exercise involving the presentation of 192 prescriptions in member states other than the country of origin.

Chapter 3 looks at any existing differences in product classification (OTC versus POM) and assesses whether these could pose a further challenge for patients travelling in Europe.

Chapter 4 presents national reimbursement systems and analyses potential differences in patient contributions that could emerge in cross-border cases compared to situations in which both prescribing and dispensing is done in the country of residence.

Chapter 5 offers the main conclusions of this research.

# **CHAPTER 1. EU WIDE RECOGNITION OF PHARMACEUTICAL PRESCRIPTIONS: A COMPARISON OF POLICIES AND PRACTICES IN 5 MEMBER STATES**

## **1.1 Background**

“United in diversity”, the official slogan of the European Union (“The EU motto,” n.d.) , signifies “how Europeans have come together, in the form of the EU, to work for peace and prosperity, while at the same time being enriched by the continent's many different cultures, traditions and languages”. It also describes well the current situation of cross-border care in the European Union. On the one hand, there is growing patient mobility that reflects the unity of European countries. On the other hand, different healthcare systems, policies and thus healthcare services still pose obstacles for the cross-border movement of patients. Thus, there is a strong need for in-depth knowledge on the diversity of healthcare provision, and in particular on conditions for accessing healthcare in other EU countries as well as for clear regulations for patients crossing borders.

Following a series of rulings by the Court of Justice of the EU regarding unclear or non-existent cross-border regulations, a European Directive on the application of patients' rights in cross-border healthcare was passed in 2011 and had to be transposed into

national legislation by October 2013 with the aim to facilitate cross-border mobility of patients (Council Directive 2011/24/EU). It clarified reimbursement rules, informed who is responsible for the quality and safety of care in cross-border settings and strengthened cooperation between Member States in specific healthcare areas. As the text says, the Directive aims “to establish rules for facilitating access to safe and high-quality cross-border healthcare in the Union and to ensure patient mobility in accordance with the principles established by the Court of Justice and to promote cooperation on healthcare between Member States, whilst fully respecting the responsibilities of the Member States for the definition of social security benefits relating to health and for the organisation and delivery of healthcare and medical care and social security benefits, in particular for sickness.”

One important issue in cross-border movement of patients is the recognition of prescriptions issued in another EU country. The principle of mutual recognition of medical prescriptions is incorporated in Article 11 of the Directive:

*“If a medicinal product is authorised to be marketed on their territory, in accordance with Directive 2001/83/EC or Regulation (EC) No 726/2004, Member States shall ensure that prescriptions issued for such a product in another Member State for a named patient can be dispensed on their territory in compliance with their national legislation in force, and that any restrictions on recognition of individual prescriptions are prohibited unless such restrictions are:*

- a) limited to what is necessary and proportionate to safeguard human health, and non-discriminatory; or*

*b) based on legitimate and justified doubts about the authenticity, content or comprehensibility of an individual prescription.*

*The recognition of such prescriptions shall not affect national rules governing prescribing and dispensing, if those rules are compatible with Union law, including generic or other substitution. The recognition of prescriptions shall not affect the rules on reimbursement of medicinal products. Reimbursement of costs of medicinal products is covered by Chapter III of this Directive.*

*In particular, the recognition of prescriptions shall not affect a pharmacist's right, by virtue of national rules, to refuse, for ethical reasons, to dispense a product that was prescribed in another Member State, where the pharmacist would have the right to refuse to dispense, had the prescription been issued in the Member State of affiliation.*

*The Member State of affiliation shall take all necessary measures, in addition to the recognition of the prescription, in order to ensure continuity of treatment in cases where a prescription is issued in the Member State of treatment for medicinal products or medical devices available in the Member State of affiliation and where dispensing is sought in the Member State of affiliation.”*

Aside from well defined exceptions<sup>2</sup>, which will be covered later on in this chapter, a medicinal product legally prescribed in a Member State for an individual patient,

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<sup>2</sup> Medicinal products subject to special medical prescription, as specified in Article 71(2) of European Parliament and Council Directive 2001/83/EC of 6 November 2001 are excluded from this mutual recognition. Based on this Article, Member States can provide a category of prescriptions subject to special medical prescription. They can do so only for products containing narcotic and psychotropic substances and products likely, if incorrectly used, to present a substantial risk of medicinal abuse, to

should be dispensed in another Member State in which it is authorised. Pharmacists can only decline to dispense it if they can show that such an action is “necessary or proportionate to safeguard human health” or if they have legitimate doubts about the authenticity, content or comprehensibility of the prescription.

The principle of mutual recognition of prescriptions derives from the basic EU rules on freedom to provide services. However, according to the Commission, the real life application of this principle was suboptimal (Baeten & Palm, 2013).

To avoid the misuse or confusion of medicinal products and to enable healthcare professionals, in particular pharmacists, to verify the authenticity of the prescription and the prescriber, the Commission adopted in December 2012 a non-exhaustive list of elements to be included in cross-border prescriptions (Gronden, 2011)

- **Identification of the patient.** Including surname, first name, date of birth, authentication of the prescription, and issue date.
- **Identification of the prescribing health professional.** Including surname, first name, professional qualification, details for direct contact, work address and signature
- **Identification of the prescribed product, where applicable,** including common name, brand name (in case the prescribed product is a biological medicinal

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lead to addiction or be misused for illegal purposes. The European Commission can further exclude other categories of medicinal products, from the provisions on mutual recognition of medical prescriptions.

product or the prescribing health professional deems it medically necessary), pharmaceutical formulation, quantity, strength and dosage regimen.

The provisions of this Directive with regard to reimbursement and the quality and safety of cross-border healthcare have been extensively analysed (Baeten & Palm, 2013; Gronden, 2011; Palm et al., 2011). However, little was known prior to the completion of this research about the potential implications of the provision on the mutual recognition of medicinal prescriptions.

In view of the transposition of the Directive, and given the lack of studies on this topic, this chapter aims at reviewing the regulatory context in Europe in order to identify potential challenges for the implementation of the directive which could result in negative outcomes such as:

- A prescribed product may not be dispensed to a patient who needs it;
- A POM may be dispensed and further consumed or sold based on a false prescription;
- An inappropriate product could be dispensed;
- Or inappropriate instructions may be given at the time of dispensation.

To explore these potential challenges and assess how they could influence an effective application of the Directive, our study looks at the commonalities and differences in the legal framework for prescribing and dispensing medicinal products, and its application in practice in five EU countries (Belgium, Finland, Germany, Spain and the UK).



The main focus is on prescription-only medicines (POMs) to be dispensed in community pharmacies, which fall under the scope of the Directive. However, some special cases such as magistral preparations or medicinal products subject to special medical prescriptions are also covered for completeness and a discussion on online pharmacies is added given their likely growth foreseen for the future. Products for veterinary use and products intended for hospitalised patients are excluded from the analysis, as well as electronic prescriptions since during our research we noticed that different systems were still being piloted in the countries of interest.

Reimbursement issues *per se* are discussed in a separate chapter (see chapter 4). However, reimbursement legislation and requirements are discussed in this chapter in those cases where they are considered relevant for understanding prescribing and dispensation practices.

## **1.2 Methods**

### *Data collection*

Semi-structured interviews with key stakeholders (including policy makers, opinion leaders and healthcare professionals - see Table 1 for details) were carried out in five countries (Belgium, Finland, Germany, Spain and the UK). Our objectives were to understand:

- the rationale behind the current regulation,
- whether limitations and requirements in the legislation aim to protect public health or rather particular interests of specific stakeholder groups

- and how current regulations are truly applied in practice.

**Table 1- Interviews**

| Interview Number | Country | Position/Role   | Interview date |
|------------------|---------|---|----------------|
| 1                | Belgium | Practicing Pharmacist   | 17/06/2011     |
| 2                | Belgium | Practicing Physician  | 23/05/2011*    |
| 3                | Belgium | Public employee working in pharmaceutical regulation                    | 22/05/2011     |
| 4                | Belgium | Academia/experts  | 22/06/2011     |
| 5                | Belgium | Practicing Physician  | 8/07/2011      |
| 6                | Belgium | Public employee working in Reimbursement/funding                        | 15/07/2011     |
| 7                | Belgium | Public employee working in pharmaceutical regulation and inspection     | 31/05/2011     |
| 8                | Belgium | Representative of pharmacists   | 20/05/2011     |
| 9                | Belgium | Representative of doctors   | 30/07/2011     |
| 10               | Spain   | Public employee working in pharmaceutical regulation- autonomous region | 14/07/2011     |
| 11               | Spain   | Pharmacist – Academic   | 22/06/2011     |

|    |       |   |             |
|----|-------|---|-------------|
| 12 | Spain | Public employee working in pharmaceutical regulation and inspection – autonomous region   | 21/07/2011  |
| 13 | Spain | Public employee working in pharmaceutical regulation for primary care – autonomous region | 30/09/2011  |
| 14 | Spain | Representative of prescribers   | 30/09/2011  |
| 15 | Spain | Public employee working in pharmaceutical regulation – autonomous region                  | 01/07/2011* |
| 16 | Spain | Representative of pharmacists   | 15/07/2011  |
| 17 | Spain | Academic expert   | 12/05/2011  |
| 18 | Spain | Public employee working in Reimbursement/funding  | 06/10/2011  |
| 19 | UK    | Advisor in pharmaceutical regulation for primary care                                     | 02/08/2011  |
| 20 | UK    | Representative of pharmacists   | 28/07/2011  |

|    |         |   |             |
|----|---------|---|-------------|
| 21 | UK      | Official working in<br>Reimbursement/funding        | 27/07/2011  |
| 22 | UK      | Representative of pharmacy<br>contractors           | 28/06/11    |
| 23 | UK      | Community Pharmacy<br>Specialist                    | 3/08/11     |
| 24 | UK      | Pharmacist  | 23/06/11    |
| 25 | Finland | Advisor to the Ministry of<br>Health                | 13/05/2011  |
| 26 | Finland | Public employee working in<br>safety and inspection | 16/06/2011  |
| 27 | Finland | Public employee working in<br>Reimbursement/funding | 14/07/2011  |
| 28 | Finland | Representative of<br>pharmacists                    | 16/07/2011  |
| 29 | Finland | Representative of<br>prescribers                    | 26/08/2011  |
| 30 | Finland | Academic expert                                     | 29/08/2011  |
| 31 | Germany | Practicing<br>pharmacist/Academic<br>expert         | 24/10/2011* |

|    |         |   |             |
|----|---------|---|-------------|
| 32 | Germany | Public employee working in pharmaceutical legislation                                       | 08/11/2011* |
| 33 | Germany | Public employee working in supervision and inspection of pharmacies and pharmaceutical care | 08/11/2011  |
| 34 | Germany | Public employee working in reimbursement/funding  | 02/11/2011* |
| 35 | Germany | Representative of pharmacists   | 12/10/2011* |
| 36 | Germany | Representative of prescribers   | 09/11/2011* |
| 37 | Germany | Practicing pharmacist   | 09/11/2011* |

\*Telephone/video interview

The topics covered during the discussions were the following:

- **Alternative types of prescription**, including questions about the purpose of current policies allowing or not allowing electronic or fax/phone prescribing systems in the country.
- **Legal limitations**, to measure the importance of language, patient information, prescriber information or type of prescriber, posology and other kinds of specific information, period of validity and any other legal or practical

limitations imposed in the country and how often are these checked in practice on prescribing and dispensing.

- Also, what **real and practical tools are available for pharmacists** to validate the identity of the prescriber and how do the limitations/regulations previously discussed and linked to language, patient information, prescriber information, product information or validity of prescription apply to private (not reimbursed) prescriptions or to prescriptions on a non-standard form.
- **Other policies in place**, including questions about the aim/ purpose of the current policies allowing/not allowing/promoting generic substitution, INN prescribing and nurse prescribing in the country; what happens in practice when a patient presents a prescription for a brand name which is not available in the pharmacy, but a product with the same active ingredients is; and under what specific circumstances may pharmacists refuse to dispense a prescription.
- **Cross-border dispensation of POMs** in the EEA, including questions about any specific guidelines for the pharmacist to follow when a pharmacist is requested to dispense a prescription drafted in another Member State; What does the respondent perceive as the main risks for public health if the applicable rules would be relaxed for cross-border prescriptions; and What solutions would the respondent suggest/foresee to deal with these potential obstacles.
- **Stakeholder's position and future trends**. To see if the stakeholder group that the respondent represents would be in favour of maintaining or changing the current measures/limitations

To validate and complete information out of interviews a purposely designed and piloted detailed questionnaire was completed by national experts in each country.

The specific areas covered included the following:

### **Questions about the National Situation**

#### 1. Prescription only medicines (POMs)

- How is a POM defined in national legislation?
- What is the legal act defining which medicinal products can be dispensed only on prescription?

#### 2. Prescriptions

- How is a prescription legally defined in your country?
- Are any non-standard forms of prescriptions authorised in your country (e.g. phone, fax or electronic prescriptions)? For what kind of medicinal products or prescriptions?
- How does a valid prescription look like (paper colour, dimensions, etc.)?
- What information does it have to include?
- Are there any language requirements? If yes, of what nature?
- How is the prescriber identified on the prescription? In case your country introduced non-standard forms of prescriptions, how does it impact the assessment of the prescriber's identity by the pharmacist?



- Is the patient identified on the prescription? If yes, how?
- Can a single prescription be intended for more than one specific patient?
- How long is a prescription valid in your country?
- Can more than one medicinal product be prescribed on a single prescription?
- Can a prescription be renewed (i.e. can a single prescription be filled more than once)? If so, please describe how it works and under which conditions it is allowed.

### 3. Prescribing

- Who can prescribe POMs for human use in your country?
- Are there categories of prescribers who can only prescribe specific categories of medicinal products?
- Are there particular rules governing the prescription of certain categories of POMs?
- Is INN prescribing authorised in your country and if yes, under which conditions and in which language(s)?
- Can a doctor prescribe a pharmaceutical product that is not on sale on the domestic market?

### 4. Dispensation

- Who can dispense POMs for human use in your country?
- Can a pharmacist substitute product A for product B if product B contains the same active substance? If yes, under which conditions?
- Are pharmacists liable for the pharmaceutical acts they perform? If yes, how is their responsibility defined and what does it imply?
- Are there particular dispensation rules for POMs (in general), such as questions that the pharmacist has to ask or information to be provided to the patient?
- Are there particular rules governing the dispensation of certain (categories of POMs) (questions that the pharmacist has to ask, information to be provided to the patient, etc.) (E.g. in the case of narcotic drugs or advanced therapy medicinal products)?
- Are there particular categories of POMs that can be dispensed only by some categories of pharmacists and/or in specific settings?
- Are there particular categories of POMs which can only be dispensed if prescribed by a specific category of prescribers?
- Are there exceptional circumstances under which a POM can be dispensed on the basis of a prescription that does not fulfill (all or some of) the conditions outlined in the legal disposition defining a valid prescription in your country? If yes, in what cases (emergency e.g.) and under what conditions?

- Can a POM be dispensed to another person than the one whose name appears on the prescription? If yes, under which conditions?
- What are the tools at the pharmacist' disposal to identify the prescriber? Is he required to verify the identity of the prescriber?
- Is the dispensation notified to the authorities or to other pharmacists (to avoid that a dangerous product is dispensed in an excessive quantity or that incompatible products are dispensed for the same patient)? If so, how?
- Is the mail order of POMs legal in your country? If yes, under which conditions? What is the incidence of POMs purchased through mail order?
- Is the dispensation of POMs purchased online legal in your country? If yes, what is the incidence thereof?
- Can a pharmacist, based upon the presentation of a prescription, dispense medicinal products which are not on sale on the domestic market? If yes, under which conditions?

#### 5. Devolved healthcare systems

- Is the legislation you described above applicable to the whole country or exclusively to the region where your institution is located?

- If the prescribing and dispensation of POMs is a regional (or shared) competence, what are the legal dispositions applicable to the cross-regional dispensation of POMs?

**Questions about Foreign prescriptions**, including which legal dispositions apply to the dispensation of medicinal products prescribed in another Member State.

Information out of desk research (in national languages) and direct contact with relevant national institutions was used. A literature search was completed in Medline (OVID), Embase and Academic Search Premier using the following search terms: “prescribing” OR “dispensing”; “mutual recognition” OR “mutual acceptance”; “EU” OR “European”; “pharmacists”; “INN (international non-proprietary name) prescribing”; “generic substitution”, “legal OR valid prescriptions”; “validity”; “right to prescribe” OR “authorised to prescribe”. The search was limited to the period 2002-2012 to ensure only recent policy articles were captured.

#### *Data analysis*

The interviews were performed in national languages. Afterwards, interviews were transcribed and/or summarised in English and the information extracted from them was theme-coded for inclusion in our analysis. The material from the questionnaire was recorded in a matrix, in order to facilitate comparisons.

### **1.3 Results**

Our desk research did not identify any cross-country comparison of prescribing and dispensing policies. We found however, literature on specific topics related to our

work, in particular with regard to generic substitution or international non-proprietary name (INN) policies in EU countries. These were used in our study, if and when relevant. This section starts highlighting similarities and differences found between the countries in terms of prescribing and dispensing policies to then present findings on potential challenges and risks linked to the mutual recognition of EU prescriptions.

### **1. Requirements for prescriptions to be legally valid**

If the required minimum content of a prescription differs among Member States, pharmacies may, in a cross-border context, be confronted with incomplete prescriptions.

While a prescription could only be valid for one single patient in all countries analysed, our study revealed important country-specific differences.

- First, looking at ***patient information***, all countries require that the patient's name and surname are included on the prescription and, all but Belgium, solicit the birth date or the age of the patient to be mentioned. In Belgium a specific indication is requested if the prescription is for a child. In Finland and Spain the personal identification number of the patient should also be included, and in the UK the address of the patient needs to be displayed ("Ordinance on Prescription-Only Medicinal Products", 2005; Royal Decree of 10 August, 2005; Decree 726/2003; Royal Decree 1910/1984; NHS Prescription services, n.d.).
- With regards to ***prescriber information***, in all countries legally valid prescriptions need to include the name of the prescriber and, with the exception of Germany and the UK, the prescriber's identification number. This is represented by the

NIHDI number (issued by the National Institute for Health and Disability Insurance) for Belgian doctors; identity card number for Finnish prescribers; and the number of college registration for Spanish prescribers. In Germany, the physician's number and medical practice number is required only for prescriptions subject to public reimbursement by the SHI (Statutory Health Insurance). The title and specialty need to be included in all countries but Belgium, and in all countries but Finland the address of the prescriber should also be written down ("Ordinance on prescription-only medicinal products", 2005; Royal Decree of 10 August, 2005; Decree 726/2003; Royal Decree 1910/1984; NHS Prescription services, n.d.).

- **Product information** required includes the product name and the dosage prescribed. Out of all countries, Finland requires the most detailed information in this regard (see Table 2 for details) ("Ordinance on prescription-only medicinal products", 2005; Royal Decree of 10 August, 2005; Decree 726/2003; Royal Decree 1910/1984; NHS Prescription services, n.d.).

**Table 2- Information required for a prescription to be valid**

| Prescription information   | Belgium | Finland | Germany | Spain | UK |
|----------------------------|---------|---------|---------|-------|----|
| <b>Patient information</b> |         |         |         |       |    |
| Name                       | X       | X       | X       | X     | X  |
| Date of birth/age          |         | X       | X       | X     | X* |
| Weight                     |         | X*      |         |       |    |

| <b>Prescription information</b>    | <b>Belgium</b> | <b>Finland</b> | <b>Germany</b> | <b>Spain</b> | <b>UK</b> |
|------------------------------------|----------------|----------------|----------------|--------------|-----------|
| Address                            |                |                |                |              | X         |
| Personal Code (ID number)          |                | X              |                | X            |           |
| Specific indication for children   | X              |                |                |              |           |
| <b>Prescriber information</b>      |                |                |                |              |           |
| Name                               | X              | X              | X              | X            | X         |
| National (ID) Number/code          | X              | X              |                | X            |           |
| Address                            | X              |                | X              | X            | X         |
| Specialty / title                  |                | X              | X              | X            | X         |
| <b>Product information</b>         |                |                |                |              |           |
| Product name                       | X              | X              | X              | X            | X         |
| Dosage                             | X              | X              | X              | X            | X         |
| Administration/pharmaceutical form | X              | X              | X              | X            |           |

| <b>Prescription information</b> | <b>Belgium</b> | <b>Finland</b> | <b>Germany</b> | <b>Spain</b> | <b>UK</b> |
|---------------------------------|----------------|----------------|----------------|--------------|-----------|
| Quantity                        | X              | X              | X              | X            |           |
| Duration of treatment           | X              | X              | X              | X            | X         |
| Strength/Potency                |                | X              | X              |              |           |
| Purpose of treatment            |                | X              |                |              |           |
| <b>Authentication</b>           |                |                |                |              |           |
| Date                            | X              | X              | X              | X            | X         |
| Signature                       | X              | X              | X              | X            | X         |
| Place of signature              |                | X              |                | X            |           |

\* Only for children

- **Authentication** is in every country generally facilitated via the requirements for prescribers to date and sign the prescription in indelible ink with their own name and/or stamp. In Finland, Spain and the UK the location where signature took place is also required. For the remaining countries (Belgium and Germany) this information can be derived from the prescriber's information since the law requires prescribers to include their address on the prescription form ("Ordinance



on prescription-only medicinal products”, 2005; Royal Decree of 10 August, 2005; Decree 726/2003; Royal Decree 1910/1984; NHS Prescription services, n.d.).

- Regarding the **prescription format**, although in all countries private prescriptions could be drafted in any piece of paper (e.g. a blank piece of paper), in most cases official standard forms aimed for reimbursement purposes are used. The specific requirements concerning the dimension and the colour of the prescription forms, if and when reimbursement is wanted, are very different (Federal Association of SHI Physicians, 2010; Decree 726/2003; “NHS Prescription Services, n.d.; Royal Decree 1910/1984; Royal Decree of 8 June 1994) and hard to compare. In Germany, specific standard forms for private prescriptions exist but their use is not mandatory (“Federal Association of SHI Physicians, 2010).
- Specific **language requirements** exist only in Finland and Spain, limiting the language choice to one of the official languages of the state: Finnish or Swedish in Finland and Spanish in the case of Spain (although bi-lingual prescriptions in Spanish and the co-official languages of the autonomous regions are also accepted (Law 29/2006 of 26 of July; Decree 726/2003).
- The **validity** of a prescription varies from a low of 10 days in Spain, to no expiry date in Belgium (See Table 3 for details) (Medicines Act 10.4.1987/395; “*Ordinance on Prescription-only-medicinal products*”, 2005; Royal Decree 1910/1984; Royal Decree of 10 August, 2005; *Royal Decree of 21 December 2001*; Royal Decree of 21 January 2009)

**Table 3- Validity period of a prescription**

| Country | General validity  | Exceptions  |
|---------|---|---|
| Belgium | No expiration date  | 3 months only if public insurance contribution is required  |
| Finland | 1 year  | If marked “per asum ad” a max of 1-month treatment can be provided even if prescription has expired |
| Germany | Prescribers must specify the validity period of the prescription. If they do not, the prescription will be valid for 3 months | 1 month for SHI-prescriptions (on average).   |
| Spain   | 10 days   | Prescriptions for long-term care are valid for 3 months   |
| UK      | 6 months  | NA  |

- In every country a **single prescription** can be used to prescribe more than one product. However, special provisions exist for reimbursement in both Belgium and

Germany: *i.e.* to be eligible for reimbursement, only one pack of the same medicinal product is allowed per prescription in Belgium (Royal Decree of 21 December 2001) and in Germany a maximum of three products can be prescribed on a single prescription (Federal Association of SHI Physicians, 2010). No formal limits were found concerning the maximum number of products to be prescribed per prescription in Finland, Spain or the UK.

Although, in theory, all of the **information** previously discussed is **required** for a prescription **to be legally valid**, the law in Germany includes regulations on how to deal with missing information in specific cases in which, for example, there is no information on the size of the package, the validity period, or the birth date of the patient. In most countries, the pharmacist is expected to apply the legislation with some flexibility in emergency cases. This is explicitly mentioned in the law in Germany and Belgium, whereas in others this is rather considered as an implicit aspect of the pharmacists' overall duties and responsibilities ("Ordinance on prescription-only medical products", 2005; Royal Decree of 21 January 2009).

Our interviews with stakeholders confirmed that when pharmacists are confronted with incomplete prescriptions they apply the rules with some flexibility and are more likely to dispense against an incomplete prescription in case of an emergency, or if the product is for the treatment of a chronic condition and presents no potential risks for the health of the patient (Interviews 14, 24 and 31):

*"... as a pharmacist you have to use your judgment on whether this [prescription] looks right and quite often accepting it or not depends on the medication mentioned on it. If it is something like blood pressure medication or a treatment for long-term*

*chronic conditions you would generally dispense it even if some minor information is missing” (interview 24).*

Our interviews revealed some differences depending on the country analysed: in Belgium pharmacists often dispense even when information considered either “not too important” (e.g. date) or self-evident (e.g. the recommended daily dose in some cases) is missing (Interviews 1, 8 and 9):

*“It is important to write in the date in hand-written prescriptions but it is not uncommon to see that this has not been done. In practice what pharmacists tend to do is to use the back of the prescription to write the date when it was dispensed” (interview 1).*

In Finland, Germany and the UK it is common for a pharmacist to contact the prescriber if information such as the strength, dosage or quantity of the product is not clear. Pharmacists in the UK would then write “PC” (prescriber contacted) on the prescription (interview 22):

*“When there are questions about the strength and quantity, the pharmacist would often get in touch with the prescriber in order to verify these” (interview 22).*

In Germany, Spain and the UK interviewees mentioned that when confronted with prescriptions towards which the public insurer is contributing, pharmacists may be more reluctant to dispense if important information was missing, because they would risk not being reimbursed (Interviews 11, 17, 22 and 31).

In Finland, if there is some missing information and the prescriber cannot be contacted, the pharmacist might still dispense but they would provide the customer

with the smallest pack size available for the medical product mentioned on the prescription (interview 30).

In all countries pharmacists are reluctant to dispense if either patient or prescriber information (registration code, identification number or signature) is missing (Interviews 3, 18, 32 and 22).

Where implemented, e-prescribing was thought to help to avoid having to deal with incomplete prescriptions since all relevant information must be filled in before the prescription can be issued. Thus, in the Spanish region of Andalucía, where 99% of prescriptions were electronically written at the time of this research, these practical problems were almost exclusively limited to prescriptions coming from another region or from abroad (interview 15).

## **2. INN prescribing/dispensing policies**

INN prescribing would help avoiding the challenges linked to the recognition of a medicinal product when a prescription is made by a brand name not available in the country of dispensation. International non-proprietary names (INN) are unique names globally recognised that refer to the actual ingredients of a medicinal product.

In all countries the prescriber has the right to choose whether to prescribe the medicinal product by commercial name or by non-proprietary (INN) name (Royal Decree of 10 August 2005; Royal Decree 1910/1984; “Dispensation of medicinal products”, 2006; Godman et al., 2011; Schirmer, 2006). However, there are important differences in the frequency and acceptance of INN prescribing. While the British Generic Manufacturers Association (BGMA) estimates that in the UK INN prescribing

rates accounted for as much as 83% of all NHS prescriptions in 2010 (National Audit Office, 2007) and believes this is, at least partly, explained by the training received by medical students in this country (Godman et al., 2012), such prescribing practices do not appear to be as common in any of the other countries included in our analysis (National Audit Office, 2007).

In Spain, a Royal decree (2011) was approved and implemented at the end of 2011 to encourage prescribing by INN. However, at the time of writing this thesis no data were yet publicly available on its overall effect and thus, its impact remains to be studied.

In Belgium, although INN prescribing is growing (estimated to have grown from 3% in 2008 (*Pharmanet, 2008*) to around 8-10% in 2011; Interviews 1 and 3), it remains relatively limited. However, it is expected to increase in the future since such prescriptions do count towards “cheap product” quotas currently being imposed to prescribers for reimbursable products in this country.

In Finland INN prescribing is relatively common (Barry, 2008), while no clear estimates for Germany were found in the literature or via our interviews. Our interviews revealed that doctors associations, with the exception of UK doctors who were very familiar and used to prescribe in such a way, do not generally support INN prescribing quotas or obligations. As an example, there was strong opposition in Spain over the new Royal Decree published in 2011, since it was thought to take away responsibilities and rights of doctors (Interviews 11, 14 and 18).

A further challenge mentioned during the interviews had to do with the impact that prescribing software could have on INN prescribing rates. Thus, some interviewees

mentioned that, in those cases in which the software used to generate prescriptions depended on private companies, these tended to favour commercial name as opposed to INN prescribing (Interviews 9, 10 and 12).

### 3. Generic Substitution Policies

When a prescribed product is not available in the country where the prescription is presented, the pharmacists may, or may not, be allowed to replace it by a locally available equivalent product (i.e. with the same active ingredients). Similar to INN prescribing, generic substitution policies primarily aim at reducing healthcare spending and correct non-cost effective behaviour. However, while the former are better accepted (Biga et al., 2005; De Bolle et al., 2010; “Think INN, prescribe INN, dispense INN,” 2000; Verger et al., 2003) the latter have raised an ongoing debate between those who argue that they can be detrimental, in particular for patients’ compliance (Håkonsen, Eilertsen, Borge, & Toverud, 2009; Ström & Landfeldt, 2012), and those who perceive them as beneficial (Aalto-Setälä, 2008; Andersson, Bergström, Petzold, & Carlsten, 2007; Duerden & Hughes, 2010; Olesen, Harbig, Barat, & Damsgaard, 2012).

Despite the ongoing debate, in every country there are some conditions under which generic substitution is allowed, but freedom to substitute varies greatly depending on the country of focus (see Table 4).

**Table 4- Generic Substitution Policies**

| <b>Country</b> | Generic substitution allowed<br><br>(Y/N) | Exceptions                    |
|----------------|---|-------------------------------|
| <b>Belgium</b> | Only for antibiotics and                  | Allowed for other products in |

|                |              |   |
|----------------|--------------|---|
|                | antimycotics | emergencies or during “guards”  |
| <b>Finland</b> | Y            | If reimbursement is wanted it is compulsory to substitute the prescribed product by a cheaper generic (if and when available). However it is not allowed if prescriber prohibits it or if patient does not agree with the substitution. |
| <b>Germany</b> | N            | For private prescriptions: not generally allowed.<br><br>For public (SHI) prescriptions: generally allowed by the Social Code Book if there are rebate contracts with pharmaceutical manufacturers unless the prescriber prohibits it   |
| <b>Spain</b>   | Y            | For public prescriptions, generic substitution policies are linked to a reference   |



|           |          |   |
|-----------|----------|---|
|           |          | price system.<br><br>Allowed (both for private and public prescriptions) if the pharmacist does not have the prescribed product, as long as the customer agrees |
| <b>UK</b> | <b>N</b> | Very few prescriptions by brand (<20%). If written by brand substitution is not allowed (only the prescribed product should be supplied).                       |

Generally speaking, substitution is allowed in Finland and Spain (Medicines Act 10.4.1987/395; *Royal Decree 1910/1984 of 26 September*). Belgium has recently introduced it (making it compulsory for reimbursement purposes) but only for antibiotics and antimycotica, while it remains forbidden for any other product category (RIZIV/INAMI, n.d.). This recent change came despite a strong opposition from doctors and industry (*Belgian Association of Medical Unions*, n.d.) (Interviews 1, 2, 4 and 6). Furthermore, in practice, pharmacists may still implement some substitution in cases in which the patient does not oppose and they do not have the exact product on stock (Interview 1).

In Germany, generic substitution is not allowed in case of private prescriptions. However, in practice pharmacists dispense generics in emergency cases if the

prescribed pharmaceutical is out of stock. On the contrary, (generic) substitution is common practice for prescriptions that are reimbursed by the social health insurance under the condition that the prescribing physician has not excluded substitution by ticking the “aut idem” box or has prescribed by INN.

The case of the UK is a special one in that generic substitution is not allowed under the Medicines Act 1968 (The national archives, n.d.; UK Pharma Profile, 2007), unless in an emergency, but its introduction would not be likely to have a significant impact due to the high level of INN prescribing done in this country. Brand prescribing is practically limited to cases in which generic substitution should not be allowed (e.g. allergies).

#### **4. Personnel authorised to prescribe**

A prescription drafted by healthcare professionals, not authorized to prescribe in the country where the prescription is presented, can pose a challenge to pharmacists.

Only doctors and dentists are authorised to prescribe medicinal products in all countries. Both can prescribe any medicinal product within their field of expertise. However, the list of healthcare professionals authorised to prescribe POMs can go from being very inclusive like in the case of the UK to very limited, like in the case of Belgium or Germany (see Table 5) (“Ordinance on prescription-only medicinal product”, 2005; Royal Decree of 8 June 1994; Royal Decree of 21 December 2001; Law of 25 March 1964 on medicines; Act on the change of the Act on health care professionals, 433/2010).

**Table 5 - Professionals authorised to prescribe POMs**

| <b>Professionals</b>                   | <b>Belgium</b> | <b>Finland</b> | <b>Germany</b> | <b>Spain</b> | <b>UK</b> |
|--|----------------|----------------|----------------|--------------|-----------|
| <b>Doctors</b>                         | X              | X              | X              | X            | X         |
| <b>Dentists</b>                        | X              | X              | X              | X            | X         |
| <b>Nurse</b>                           |                | X              |                |              | X         |
| <b>Opticians<br/>/optometrists</b>     |                | X              |                |              | X         |
| <b>Mouth Hygienists</b>                |                | X              |                |              |           |
| <b>Podiatrist</b>                      |                |                |                | X            | X         |
| <b>Pharmacists</b>                     |                |                |                |              | X         |
| <b>Chiropodists</b>                    |                |                |                |              | X         |
| <b>Physiotherapists</b>                |                |                |                |              | X         |
| <b>Radiographers</b>                   |                |                |                |              | X         |
| <b>Students<br/>(medicine/dentist)</b> |                | X              |                |              |           |

The relaxation of prescribing rights, where implemented, aim to facilitate a more rational division of tasks between healthcare workers and, as a consequence, to cut off costs by allowing nurses or professionals other than doctors to follow up on common, but not medically challenging patient cases. Our interviews revealed that such

practices did present some controversy, although this was limited in countries such as Finland, where prescribing rights for nurses were introduced in May 2010 or Spain, where drafted law was under discussion at the time of this research (Interviews 9, 13, 15, 18 and 26). The general lack of controversy came primarily explained by the fact that the rights for nurses to prescribe in these two countries are limited and always within the context of protocols of care.

On the other hand, in Belgium, although the law foresees since 2007 the possibility to allow midwives to prescribe, there is no decree to execute such law because of a clear opposition of doctors (Interviews 3, 4, 6, 7 and 8): *"I do not think the current situation will change since the lobby of the physicians in this country is very powerful"* (interview 7). Similarly, in Germany interviewees thought there was no need to change prescribing rights due to the requirement of a high medical knowledge (Interviews 31, 33, 34, 36).

## **5. Validation of prescriber**

Tools to authenticate a prescriber and validate a prescription aim to avoid dispensing against fraudulent prescriptions.

According to the results from our interviews the identification and validation of the prescriber was, in all countries, primarily done via their respective prescriber codes, stamps or signatures, in the absence of which pharmacists would be reluctant to dispense. Any checks, over and above that, were uncommon for national prescriptions (Interviews 1, 8, 11, 16, 20, 28, 31). In the regions in Spain where e-prescribing had been implemented, the validation of the prescriber is automatic since only authorised prescribers have access to the system (Interviews 15 and 18).

## **6. Potential risks linked to the recognition of EU prescriptions**

When asked about specific risks that could be linked to the recognition of foreign (EU) prescriptions most stakeholders interviewed saw no serious threats (Interviews 5, 8, 9, 11, 12, 28 and 35) but rather potential challenges that could, in some instances, make it difficult for pharmacists to dispense against an EU prescription (*e.g.* when written in a language, or even alphabet, not understood by the pharmacist) thus impeding the continuity of care for a short time period for specific patients that would then need to visit a local GP or hospital (Interviews 8 and 27). These challenges could be accentuated in those cases in which the patient could not verbally communicate his/her needs to the pharmacist or clarify any doubts the latter may have (interview 3).

A further commonly mentioned issue referred to the situation in which trade names differ from one country to another making it difficult for pharmacists to identify the right molecule to be dispensed or even facilitating confusion between two different products (Interviews 1, 6, 7, 18, 25, 32 and 36).

When discussing potential solutions to the challenges mentioned above, most common responses referred to increasing the rate of INN prescribing, particularly for cases/patients likely to travel (Interviews 3, 4, 5, 6, 8, and 24), implementing European databanks for prescribers (Interviews 7, 14, 18, 25, 28) and the harmonization of prescriptions (Interviews 4, 16, 20, 23, 25, 28 and 29).

### **1.4 The exceptions – prescribing and dispensing certain categories of POMs**

In every country specific rules govern the prescription and dispensing of certain categories of POMs, mainly for safety reasons. For completeness, this section briefly

covers the special cases of narcotics and toxic substances as well as magistral formulae.

- ***Special rules for prescribing***

Every country has its own way to prescribe POMs and similar substances with various security measures for filling and managing the prescription forms. In Finland, narcotics must be prescribed by means of a verified narcotic substance medicinal product prescription form or by electronic prescription.

All of the form's sections have to be filled out. In the Finish case, narcotic prescription forms need to be stored in locked spaces at every work station. In an institution, the medicinal prescription form number, the patient's name, personal identification number and the prescriber's name must be registered per each work station. Also, physicians and dentists may prescribe ethanol (96%) and mildly denaturized ethanol for medical purposes in practicing his profession by a retainable *pro-auctore* prescribing form.

In Germany, there are specifications about how many miligrams of each drug (quantity) can be prescribed. Although under extraordinary circumstances the number and quantity of narcotics can be adjusted. The prescription can only be issued on an official 3-fold form intended for the prescription of narcotics. Doctors have to request these official prescription forms from the Federal Institute for Pharmaceutical and Medicinal Products (Bundesinstitut für Arzneimittel und Medizinprodukte).

In the UK, the Medicines and Healthcare Products Regulatory Agency is the supervisory authority for UK manufacturers or importers of centrally authorised advanced therapy

medicinal products (ATMPs), as well as the competent authority for ATMP's which are prepared and used under hospital exemptions and made and supplied under the 'Specials' scheme. Also, the National Institute for Health and Clinical Excellence makes recommendations to the NHS on new and existing medicines, treatments and procedures and treating and caring for people with specific diseases and conditions.

In Belgium, the RD 19/03/2004 modified the Law 24/02/1921 and now regulates the prescription, dispensing and administration of methadone and buprenorphine. Doctors are forbidden to prescribe or dispense morphine, cocaine and diacetylmorphine.

The rules about form-filling on the prescription are very specific: substances defined as narcotics, soporifics or psychoactives can only be dispensed on the basis of an original prescription written, dated and signed by a physician, veterinarian or dentist, mentioning clearly the name and address of the prescriber. The number of prescribed packages has to be written out in word form (i.e. not '2 packages', but 'two packages') as well as the dosage for psychoactive drugs. In this context, 'original' prescription means that prescriptions for narcotics, soporifics or psychoactive substances have to be written by hand by the prescriber and cannot be copied.

In Spain, the Royal Decree 1345/2007, of the 11th of October regulates the authorisation, registration and conditions for dispensing industrially manufactured medicinal products for human use. In article 24, regulations for prescribing and dispensing medicines are described. There are some POMs that require special medical prescriptions.

Among the drugs which require a special prescription, there are the following subcategories:

- Renewables.
- Special prescription drugs.
- Restricted prescription drugs, reserved for use in certain specialized areas.

In the Royal Decree 1910/1984, 26th of September, Medical Prescription (Official State Journal N 259, 29-Oct-1984) there are particular rules covering certain kinds of POMs:

*“1. Prescriptions for narcotic drugs or psychotropic substances shall comply with the conditions that determine their special legislation. Policy development of these conditions shall be by the Order of the Ministry of Health.*

*2. Prescriptions for the services of government, including the National Institute of Health and other official entities referred to in paragraph 3 of Article 1, shall also meet the provisions of this Royal Decree, the requirements established by regulation.*

*3. Prescriptions or medical orders that could be used in hospitals will be specifically regulated by Orders of the Ministry of Health.”*

- **Magistral Formulae**

In the UK, recent health and safety legislation suggests that in order to ensure sterility and safety of magistral formulae, it is best to manufacture them in specialized facilities. As a result, pharmacists very rarely manufacture medicines in their community pharmacy.

While in the UK medicinal products to be prepared by the pharmacist have the focus on the preparation and not on the prescribing requirements, Germany requires some



specifications to be made. The name of the substances used in the magistral formulae must be chemically correct and complete including quantity, basis for preparation and packaging. The preparation method itself is to be decided by the pharmacist.

To prescribe magistral preparations in Belgium, doctors and dentists mention a composition or a name followed by a reference. On the packaging of a magistral formula, the pharmacist has to mention at least the quantitative and qualitative composition of the active substances the formula contains (unless specified otherwise by the prescriber).

In Spain, Paragraph c) of Article 16 of Royal Decree 2829/1977 of the 6<sup>th</sup> of October regulates substances and psychotropic medicinal preparations, as well as inspections of its manufacturing, distribution, prescription and dispensing. Article 12 of the Law 29/2006, 26th of July states, among the rights and obligations of the dispensing pharmacist, the mandatory annotation of magistral preparations on the prescription book.

- ***Online pharmacies***

Germany, Belgium and Spain have similar rules between mail and online order. In the case of Spain, to sell medications through internet or other similar media constitutes a violation to article 101 of the Law 29/2006, 26th of July, about guaranties and rational use of drugs and health products. POMs cannot be purchased online in Belgium. But Finland and UK have more specific regulations related to the sales of medicinal products through the internet.

In Finland, POMs may be dispensed through 'pharmacy internet services' (sales of medicinal products by means of an order placed by the client through the Internet) exclusively through an electronic prescription, as defined in the respective Act (61/2007). Several pharmacies already have online pages and stores for most medicines except for POMs, because the implementation of the ePrescription, which is required for dispensing them, has been delayed.

All regulations concerning the sales of medicinal products through telecommunication means would be applicable to 'pharmacy internet services'. The following are understood as telecommunications means: the web, phone, mail, television or other media that can be used for the making of a contract without the simultaneous presence of the agreement parties. Other means include: post sales catalogue, addressed or unaddressed direct marketing letter, newspaper or magazine, fax, e-mail and radio. The terms are corresponding to the regulations of Directive 97/7/EC of the European Parliament and Council on consumer protection in distance contracting.

More specific regulations regarding the pharmacy Internet services are provided in the new section 52b of the Medicines Act. Before the establishment of a web site, there is a need to submit an advance notification to the Finnish Medicines Agency, which includes a plan addressing the means by which the provision of information and advice on medicinal products will be arranged. The Finnish Medicines Agency (Fimea) will maintain and publish online a list of all legal 'pharmacy internet services'. A link to the Fimea's list must be included on the web pages of the online pharmacy. Otherwise, the regulations applicable in the Act on consumer protection (38/1978) regarding distance sales, as well as the regulations regarding the sales of medicinal products through

other telecommunication means will also apply to online pharmacy services. The Finnish Medicines Agency may provide further administrative regulations.

In the UK, patients can purchase medicinal products from an internet supplier without a prescription. Many of these websites originate from outside the UK and are therefore not regulated by UK authorities, but the General Pharmaceutical Council (GPhC) regulates a logo which will be seen on the front page of legitimate participating online pharmacy sites. This will help people identify whether a website offering to sell medicines or provide other pharmacy services is connected to a registered pharmacy. By clicking on the logo, visitors are linked to a page on the GPhC website where they can make checks to ensure the site is a registered pharmacy. POMs can be obtained through a patient group direction. Patients can use a website to answer a series of questions. Their responses are checked by the pharmacist or in some cases a Doctor and the POM is then supplied. In these cases the internet can be used to supply POMs without a prescription.

## **1.5 Discussion**

The comparison of the national frameworks on prescribing and dispensing policies in the five Member States draws a picture with both important commonalities and differences which could pose challenges, from a public health perspective, linked to the dispensation of products prescribed in another Member State: First, a prescribed product may not be dispensed to a patient who needs it. Secondly, an inappropriate product could be dispensed or it could be dispensed together with inappropriate

instructions. And thirdly, a POM could be dispensed and further consumed or sold, based on a false prescription.

Based on the analysis of the national legal frameworks and practices the following conclusions can be drawn:

First, it is clear that under certain circumstances, pharmacist would be reluctant to dispense:

When confronted with an **incomplete prescription**, pharmacists apply the legislation in force with some flexibility. Thus, they are more likely to dispense against an incomplete prescription in case of an emergency, or if the product was for the treatment of a chronic condition and presented no potential risks for the health of the patient. Furthermore, pharmacists might be less reluctant to dispense products paid in full by the patient (as in the case of cross-border prescriptions). Yet, they would be reluctant to dispense if patient or prescriber information is incomplete.

The harmonization of a minimum set of elements to be included in prescription across the EU, foreseen in the Commission implementing Directive 2012/52/EU, could help to avoid refusals, purely based on missing information.

Pharmacists might not dispense if they do not **recognize the brand name** of the product which is marketed under a different name in their country. Furthermore, generic substitution is forbidden for private prescriptions in three of the five countries analysed, which renders the dispensation of an equivalent product illegal.

One can wonder how important the health risks are if a patient would not be able to receive the product. Patients would in such cases be required to visit a local GP or

hospital, which could hamper the continuity of care for a short time. However, both pharmacists and prescribers have the duty to take a decision in function of the urgency of the medical problem, so real risks are likely to remain low.

Secondly, the identification of the right product is a major challenge. In particular, if the product is prescribed by a country-specific brand not available on the market in the country of dispensation, this could lead to either a refusal to dispense or to dispensing the wrong product. An example in the area of the anti-hypertensives, although not applicable to the countries here analysed, illustrates this risk. The molecule “captopril” is currently marketed in the UK as “Acepril”. However, the commercial name of “Acepril” corresponds to the molecule “enalapril” in Switzerland and to “lisinopril” in Denmark. Although they are all anti-hypertensives, under such circumstances it would be easy for a pharmacist to dispense the wrong molecule.

The potential for dispensing the wrong product due to the impossibility to recognize its commercial name, or to read and understand the user instructions on the prescription form should be taken seriously. In most countries prescribing by brand is still common practice. Although the main objective of INN prescribing policies is to curb pharmaceutical expenditure by increasing generic dispensing, an increase in the rate of INN prescribing could help to improve product global recognition. The mutual recognition of prescriptions could be made subject to INN prescribing.

If prescriptions were to be computer generated, the association of a globally recognised name to the improved legibility could be a good pathway to follow, at the condition the software used does not favour commercial names in anyway.

Specific guidelines giving pharmacists information on what EU prescriptions may look like, what information they must contain, how any missing information may be treated, how the identity of the prescriber could be checked, or who should be contacted in case of a doubt could also help improving the current situation.

A final challenge is the risk of dispensation against a false prescription. This is in the first place limited by excluding those products from the mutual recognition that could reasonably be expected to lead to inappropriate, illegal or commercial use (i.e. products requiring a special prescription such as narcotics). Furthermore, the authentication of both the prescriber and the prescription is key. This was, in all countries, primarily based on prescriber codes, stamps and signatures; none of which would help in the validation of foreign prescriptions, since codes are only valid within the specific national territories. The obligation to insert contact details, in particular a phone number of the prescriber in EU wide prescriptions, as per the recently issued implementing directive, could enable the pharmacists both to verify the authenticity of the prescriber, and to ask for further details on the prescribed product in case of doubt. An EU wide, regularly updated database of prescribers or a user friendly exchange system between national databases could also be a valid tool to facilitate the identification and validation of authorised prescribers. While for local prescriptions pharmacists only seem to consult prescriber databases in case of serious doubts, cross-border prescriptions are likely to pose more challenges and pharmacists may have more doubts about their authenticity, which could result in more frequent consultations of EU data banks, if these were made available.

E-prescribing could also be a good tool to address these challenges of cross-border prescriptions. However, technical issues associated with its implementation and its cost could pose serious challenges.

A final factor worth bearing in mind has to do with country specific differences in product classification (OTC versus POMs). Such differences could impede access to care when a patient who is used to purchase a product without prescription, is in need for this product in a country where is classified as a POM (Interview 10). We will study this specific area in another chapter of this thesis (see chapter 3).

Overall, our analysis shows that differences in national legislation and practices might represent some challenges for the cross-border recognition of prescriptions, but that pharmacist can and do apply some flexibility and assess the health risks linked to the dispensation of a product when the prescription does not fully comply with all legal requirements. The most important challenge for the recognition of prescriptions from abroad is linked to the lack of EU wide access to key information, such as professionals able to prescribe or tools to recognize the equivalence of products. Such information is nevertheless, available at the national level in each of the countries, but only for domestic prescriptions. The incorporation of contact details in the minimum set of elements to be included in a prescription, in association with INN prescribing, could improve the situation.

# CHAPTER 2. IS MUTUAL (NON) RECOGNITION OF MEDICAL PRESCRIPTIONS IN THE EU PUTTING THE HEALTH OF PATIENTS AT RISK? AN OBSERVATIONAL STUDY.

## 2.1 Background

The 2011 European Union (EU) Directive on the application of patients' rights in cross-border healthcare obliges member states to ensure that someone presenting a prescription issued by a practitioner in another member state should have the medicine dispensed, providing the product is authorized in the member state where they present the prescription, and subject to any relevant national legislation. As the article states, any restrictions are prohibited unless they are:

- a) Limited to what is necessary and proportionate to safeguard human health, and non-discriminatory; or*
- b) Based on legitimate and justified doubts about the authenticity, content or comprehensibility of an individual prescription.*

Pharmacists can also decline to dispense if they have legitimate doubts about its authenticity, content or comprehensibility. Similarly, they can also refuse dispensing



under circumstances in which they would be required to do so for domestic prescriptions. Referring to ethics, Article 11 states the following:

*“In particular, the recognition of prescriptions shall not affect a pharmacist’s right, by virtue of national rules, to refuse, for ethical reasons, to dispense a product that was prescribed in another Member State, where the pharmacist would have the right to refuse to dispense, had the prescription been issued in the Member State of affiliation.”*

Also, the Directive requires the Commission to adopt measures to facilitate the verification process:

- a) Measures enabling a health professional to verify the authenticity of the prescription and whether the prescription was issued in another Member State by a member of a regulated health profession who is legally entitled to do so through developing a non-exhaustive list of elements to be included in the prescriptions and which must be clearly identifiable in all prescription formats, including elements to facilitate, if needed, contact between the prescribing party and the dispensing party in order to contribute to a complete understanding of the treatment, in due respect of data protection;*
- b) Guidelines supporting the Member States in developing the interoperability of ePrescriptions;*
- c) Measures to facilitate the correct identification of medicinal products or medical devices prescribed in one Member State and dispensed in another, including measures to address patient safety concerns in relation to their substitution in cross-border healthcare where the legislation of the dispensing*

*Member State permits such substitution. The Commission shall consider, inter alia, using the International Non-proprietary Name and the dosage of medicinal products;*

- d) *Measures to facilitate the comprehensibility of the information to patients concerning the prescription and the instructions included on the use of the product, including an indication of active substance and dosage.*

Medicinal products subject to special provisions, such as those containing narcotic and psychotropic substances and products likely, if incorrectly used, to present a substantial risk of medicinal abuse, to lead to addiction or be misused for illegal purposes, are excluded from this mutual recognition. The Directive entered into force on October 2013.

The Directive arose from a clear consensus among governments that it was necessary to clarify procedures for obtaining cross-border care, with prescribing being only one element. However, it was clear from the outset that this would be difficult, given the diversity of health systems in Europe and, indeed, the diversity of roles undertaken by community pharmacists (van den Brink, Nanthini Haridass, & Siranyan, 2012). Moreover, those drafting the Directive and those transposing it into national legislation had little information on the scale or nature of the problem they are meant to be addressing.

The aim of this chapter is to describe the findings from a study designed to identify potential obstacles to the cross-border recognition and dispensation of prescription-only medicinal products (POMs) and to recommend any potential tools that could help overcoming or reducing those obstacles.

So far, only one other study, published in 2001 (Makinen et al., 2001), looked at cross-border recognition of POMs in “real” situations but this involved only a few pharmacy visits (29) in 14 countries and used an easy to recognize, commonly prescribed antibiotic (phenoxymethylpenicillin) for a well-known indication (tonsillitis). This study found that most (21/29) of the presented prescriptions were dispensed.

A further, unpublished study already mentioned in our introduction and commissioned also by the European Commission consisted of a survey completed by nearly 1,000 dispensers across seven Member States (Denmark, Germany, Greece, France, Netherlands, Poland, UK) sharing their views on dealing with foreign prescriptions across eight pathologies (Asthma, COPD, Depression, Diabetes, Epilepsy, Hypertension, Osteoarthritis/Rheumatoid Arthritis) (Matrix Insight, 2012). The results of this large survey will be revisited at the end of this chapter in order to compare them with the results obtained during the practical research experiment described throughout this chapter.

The empirical exercise assessed, by means of an observational study, the acceptance by pharmacists of prescriptions issued in other member states, to facilitate a better understanding of the practical challenges involved in the dispensing of prescriptions issued in one member state and presented to a pharmacist in another. The study involved prescriptions issued in Belgium and Finland and presented in Belgium, Finland, Germany, Spain and the United Kingdom (UK), chosen to represent a range of health systems in Europe (tax and social insurance funded, centralized and decentralized) and a mix of southern and northern countries.

## 2.2 About mystery shopping

Mystery shopping, also known as *secret shopper*, is a tool often used by market research agencies, watchdog organizations or even internally, by companies themselves to measure either the quality of a service or the compliance with regulations, as well as to gather specific information about products and services.

Mystery shoppers usually act as “customers” or “employees”, performing specific tasks such as purchasing a product, asking questions, registering complaints or behaving in a certain way. Then, they provide detailed reports about their experiences.

This research tool was born in the 1940s and it was used in banking and retailing to check and control the integrity of the employees. In those years, mystery shoppers would act as employees in an attempt to discover if any other employee was stealing or compromising the success of the company.

Soon, companies providing this service began to include observations regarding safety, environment and general customer service. In those early days, mystery shopping was not conducted on a large scale.

During the 70s and 80s, the economy moved from a manufacturing base to a services-based economy. This resulted in an expansion of mystery shopping as a tool specifically targeted to improve customer service, considered one of the most valuable areas of successful businesses.

Tools commonly used in mystery shopping range from surveys or questionnaires to complete audio and video recordings. It can be used in any industry, although it continues to be most commonly used in the retail, tourism, and food sectors.

Shoppers are often given instructions, indications about how to proceed on the basis of scenarios specifically developed to investigate a particular service issue. The development of these scenarios has great importance, since the success of the exercise depends on their precision and realism.

With the purpose of gathering information, mystery shoppers usually blend in as regular shoppers at the store being evaluated. Following the visit, the mystery shopper submits the data collected during the exercise, which will then be reviewed and analyzed, completing quantitative or qualitative reports that could help the researchers to draw conclusions.

#### **Use in the medical field**

A search in Medline and Embase using the words “mystery ADJ shopping” resulted in 21 studies after elimination of duplicates, covering compliance with regulations. From those, 9 written by two researchers focused in the area of alcohol access and consumption in the underage. (Gosselt 2007, 2011, 2013, 2013; Van Hoof 2010, 2012, 2013, 2014, 2015) and a further on tobacco consumption (Scholin 2012).

More recently, in 2013 and 2014, MacFarlane et al. published a series of eight papers (MacFarlane 2013, 2014), covering different areas by means of this technique in the Australian Journal of Pharmacy. Finally, prior to our Mystery shopping exercise, Van Hoff et al. 2014 did a similar exercise on pharmacists as gatekeepers, looking at sales routines and compliance with sales protocols for an over the counter (OTC) medicine in the Netherlands (Van Hoff 2014).

The remaining focused in different areas like sexually transmitted diseases, obesity or psychiatric services (Lazarus 2009, Stanton 2015). None covered the area of Mystery

shopping in general as a technique to improve medical services. This highlights the limited extent in which the technique has been exploited on a scientific basis up to the present moment, since the first paper identified dated from 1988.

### **2.3 Methodology and data analysis**

The study involved synthesizing pharmacists' responses to presentation of prescriptions from another EU member state. Data were collected between October 2011 and February 2012, during face-to-face visits undertaken by researchers speaking the language of the country in which the pharmacy was situated.

With help of the physicians involved in the working group and two further research experts, a list of potential indications were identified as potentially relevant for our experiment. The list was primarily centered around chronic conditions, which require on-going use of medication but are not sufficiently severe that they would prevent cross-border travel, such as asthma, diabetes and hypertension/heart disease. All of which are common, and likely to affect people working or travelling abroad. They can be treated with a number of different medications, which may be presented as different formulations or doses, and in the case of asthma may be administered by means of a different device.

They are therefore good examples to study since they represent realistic indications while also allowing to capture potential dispensing errors from cross-border prescribing.

In order to ensure these indications were frequently presented in Europe, and more specifically in the countries of focus of this study, we extracted disease prevalence

data from the WHO “European Health for all” database (“European Health for All database ” n.d.). Data is represented as number of cases per 100,000 individuals. The last available year for each country was used and data included all ages (Table 6). As the table shows, circulatory diseases, respiratory diseases as well as diabetes are all highly prevalent, together with other acute indications that were not thought to be relevant in a cross-border scenario, given they represented very serious indications that would not allow patients to travel to other countries, e.g. injury or poisoning or infectious diseases.

In addition to these, one chronic indication (neoplasms) was specifically avoided, since the nature of neoplasms and their usual treatment and setting of treatment (often hospital based) was thought to be an important impediment for patients to travel across-borders.

Aside from the 3 chronic conditions selected, a fourth acute indication was added to assess what the potential impact of this may be on the willingness to dispense. This needed to reflect a situation requiring a quick response but that at the same time, did not represent a threat to the customer presenting in the pharmacy to avoid a simple referral to the hospital/specialist. Thus, a breast feeding inhibition scenario was added to the list.

**Table 6 - Disease prevalence data**

| Country  | Year | Circulatory | Neoplasms | Injury/<br>poison | Infectious/para<br>sitic disease | Respiratory | Digestive | Diabetes | Mental/nervous<br>system | Genitourinary |
|----------|------|-------------|-----------|-------------------|----------------------------------|-------------|-----------|----------|--------------------------|---------------|
| Belgium  | 2006 | 182,72      | 170,08    | 49,97             | 13,37                            | 60,21       | 27,62     | 9,11     | 39,75                    | 10,88         |
| Finland  | 2010 | 213,57      | 138,55    | 60,5              | 4,74                             | 21,34       | 32,62     | 5,6      | 75,35                    | 4,03          |
| Germany  | 2010 | 208,71      | 158,62    | 28,46             | 10,07                            | 37          | 30,31     | 14,05    | 30,72                    | 11,28         |
| Spain    | 2010 | 137,58      | 152,35    | 23,02             | 8,93                             | 45,09       | 25,29     | 11,75    | 37,1                     | 11,26         |
| UK       | 2010 | 167,25      | 173,09    | 26,57             | 6,15                             | 68,9        | 32,29     | 5,97     | 40,48                    | 11,88         |
| Total EU | 2010 | 221,75      | 169,67    | 36,5              | 8,6                              | 42,34       | 30,3      | 11,96    | 31,14                    | 9,86          |



No potentially problematic/unsafe medicinal products, such as those subject to restrictive prescribing regulations (e.g. opiates) or likely to lead to inappropriate use were included in the experiment.

In order to ensure the patient “stories” developed and the drugs and dosage were appropriate the following approach was followed:

1. A draft patient history with suggested drug regime and dosage was identified via face to face discussions between three researchers, one of which was a medical doctor.
2. A short summary was produced and sent to the experts responsible for the visits in each of the countries covered in this thesis. The experts were asked to discuss and check with medical experts the appropriateness of the choice and the availability of drugs, and send back any comments that they could have.
3. The comments were taken into considerations and the prescriptions were filled by two medical doctors involved in the research (one Belgian and one Finnish).

Appropriate pharmaceutical products and their recommended daily dose were identified, with single products for each scenario. Domestic brand names used in Belgium and Finland were identified and eight different prescriptions were issued in each country: four using the international non-proprietary name (INN) in English and four using a domestic brand name in the corresponding national language (Dutch or Finnish). Whenever possible, the latter used a country-specific brand name that would not be automatically or easily recognized by pharmacists of the countries where the prescriptions were presented. Less common languages were deliberately chosen to create more challenging scenarios for the

pharmacists, to facilitate comparison with prescriptions written using the INN and in a widely understood language, English.

Prescriptions were written in conformity with the legislation in the country where they were issued. They were all hand-written on standard “official” forms. No contact number for the prescriber was included.

Overleaf, we describe the patient cases and scenarios performed during the mystery shopping experiment.

### **Case 1: Asthma**

The researcher exposes the case of his/her sister's 7-year-old girl, suffering from asthma. Since birth, she has been cared for by a pediatrician/GP at home in Finland/Belgium (as appropriate depending on the country of origin of the prescription).

She was admitted to hospital the first time she showed some trouble in breathing when she was 13 months and was discharged after three days. After that, she has been wheezing periodically, mostly when she has a common cold or flu, which she usually gets at her school. This happens a few times per year. She has not required antibiotics since age 3.

When travelling, the researcher's sister and her husband (the little girl's parents) always carry with them a prescription (salbutamol) written by the girl's GP in case they forget her medication or they run out of it/lose it and it is needed.

They are now on holiday visiting the researcher (in the researcher's home country, which would explain the fluency in the local language). The researcher's niece is coughing and presents intermittent wheezing but is not febrile. She plays and does not feel sick so her parents are not too worried. The researcher (aunt/uncle as appropriate) have come to a local pharmacy with the prescription for salbutamol (recommended daily 1 or 2 puffs, 4xday).

**The product:** Salbutamol helps the airways to relax and open up which in turn stops the cough and wheezing.

The product comes already within its small device. Children use it with a volumatic device (similar to a plastic bottle). After shaking the product, this is inserted at one end of the plastic device and pressed to get the right number of puffs into the bottle. The child then

can breath for a short time (15 to 20 seconds) by using the mouthpiece (placed at the other end of the plastic device) to get the product into her lungs.

Potential questions from the pharmacist and recommended answers:

***What problem is the patient suffering from?***

*My sister's little daughter (your niece) is suffering from asthma since she was 13 months old.*

***What symptoms does the patient present?***

*Coughing and some intermittent wheezing, but she does not have any temperature.*

***Who prescribed the medication?***

*Her GP back at home (Finland or Belgium as appropriate depending on the country of origin of the prescription).*

***Why is it coming from another country/member state?***

*My sister and her husband always ask the GP back at home for a prescription before travelling just in case something happens, and although they always take the medication with them, this time they cannot find it in their luggage.*

**INN:** Salbutamol.

**Brand:** Aeromir (UCB) in Belgium; Buventol (Orion Pharma) in Finland.

## **Case 2: Myocardial Infarction**

The researcher's father-in-law, aged 70, suffered from uncomplicated myocardial infarction 6 months ago for which he is on metoprolol and acetylsalicylic acid 100mg.

He is now visiting the researcher (her daughter/son and her/his family; as appropriate depending on the gender of the pharmacy visitor) for 3 months in the foreign country the researcher comes from, where he/she has been living for the last years (which explains the fluency in the local language) and carries with him a prescription for metoprolol to ensure continuation of treatment while staying abroad on holiday. The researcher (his daughter/son in-law as appropriate) visits a local pharmacy to get this product dispensed. Acetylsalicylic acid does not require a prescription and he still has some, so only metoprolol is required.

**The product:** metoprolol helps to slow down the heart's rhythm and lowers blood pressure helping to prevent further heart attacks.

Potential questions from the pharmacist and recommended answers would be:

### ***What problem is the patient suffering from?***

*My father in law has had a myocardial infarction 6 months ago and has been on medication (metoprolol and acetylsalicylic acid) ever since.*

### ***What symptoms does the patient present?***

*No specific symptoms noticed – Specifically, no weakness, no cold feelings and no slow heartbeat.*

### ***Who prescribed the medication?***

*His GP back at home.*

***Why is it coming from another country/member state?***

*His metoprolol was about to run out before he left his country of residence (Finland or Belgium as appropriate depending on the origin of the prescription) so he visited his GP who gave him a new prescription. He has brought the prescription with him since he will be staying with us for 3 full months. His GP told him there should be no problem in getting this type of medicine abroad.*

**INN:** metoprolol.

**Brand:** Lopresor (Sankio) in Belgium; Spesicor Dos (Astra Zeneca) in Finland.

### **Case 3: Type II Diabetes**

The researcher's mother-in-law, aged 66, is suffering from type II diabetes for which she is under regular medical supervision in her home country: Belgium/Finland (to choose the appropriate country depending on the origin of the prescription to be presented). She is currently on a strict diet and not on medication for her diabetes yet. For her cholesterol level, her doctor recommended a cholesterol -lowering medication (simvastatin).

She would like to stay for a couple of months in the foreign country where the researcher (her daughter/son-in-law as appropriate depending on the gender of the pharmacy visitor) currently lives. The researcher (her daughter/son in law as appropriate) seeks dispensation of the prescription for his/her mother in law's cholesterol.

**The product:** simvastatin is a cholesterol lowering product.

Potential questions from the pharmacist and recommended answers to them would be:

#### ***What problem is the patient suffering from?***

*Type II diabetes.*

#### ***What symptoms does the patient present?***

*No specific symptoms noticed but on chronic medication for the next 3 months. Thereafter she will visit her GP to check her diabetes.*

#### ***Who prescribed the medication?***

*Her GP back at home.*

#### ***Why is it coming from another country/member state?***

*She knew she would be travelling abroad so she brought the prescription from home with her.*

**INN:** simvastatin.

**Brand:** Cholemed (3ddd) in Belgium; Lipcut (Sandoz) in Finland.

#### **Case 4: breast-feeding inhibition**

The researcher's partner/sister-in law: a Belgian/Finnish woman (to choose according to the prescription to be presented) has given birth to her son in her home country, where she is covered by social security. She has tried breast-feeding but after 12 days she decides to stop as she is finding this too difficult. She has been prescribed medication to stop breast-feeding in her home country but this has not yet been dispensed. However, she has now joined the researcher/her partner and would now like to get the medication dispensed in your home country, where she plans to stay on a permanent basis. The researcher (her partner/sister in law as appropriate depending on the gender of the pharmacy visitor) are going to the pharmacy to get the medication dispensed since he/she is familiar with the local language. Recommended daily dose: 4 takes of ½ a tablet (i.e. 0,25mg) to be taken every 12 hours during 2 days.

**The product:** cabergoline is a lactation inhibitor often used when wanting to stop breastfeeding at an early stage (or not to start it). The specific brand name used for the Belgian prescriptions (Sostilar) contains 8 tablets when the recommended dose is only two tablets. If any questions are asked regarding the larger than usual size of the pack, the answer should be that the GP back at home thought it would be better to prescribe more just in case the usual dose is not enough and you need to take an additional pill, which he has told you that happens sometimes.



Potential questions from the pharmacist and recommended answers to them would be:

***What problem is the patient suffering from?***

*My partner/sister in law has given birth to her first son in her home country (choose a member state according to the country where the prescription comes from) and have tried to breastfeed but she is finding it too difficult (some pain, inflammation, no sleep and more importantly, the baby is refusing to eat). She brought the prescription given to her from her GP just in case she wanted to stop breastfeeding since she knew she would be travelling.*

***What symptoms does the patient present?***

*Pain, Inflammation, tiredness. Her/my baby (a boy) is not happy anymore and does not want to eat. She was told that in these cases it may be wise to stop breast feeding.*

***Who prescribed the medication?***

*Her GP back at home.*

***Why is it coming from another country/member state?***

*My partner/sister in law has recently come to this country with the baby to join me, but we have not yet sorted all the administrative paper work and she does not have a GP in this country yet.*

**INN:** cabergoline.

**Brand:** Sostilar (Pfizer) in Belgium; Cabaser (Pfizer) in Finland.

### **Selection of Areas and Member States**

Although the first criteria was the availability of the researchers to conduct the experiment locally, given the high number of visits needed to be completed, other factors were also taken into consideration. Countries with different health systems were included in the sample. A mix of northern and southern European countries was explored and preferred. Popular tourist destinations such as Barcelona, Berlin or London were included in the analysis.

Given the results from Makinen et al. in 2007, in which they found UK pharmacists in general to be more reluctant to dispense than others, the UK was specifically chosen as one country to take into consideration.

Three geographical areas with different characteristics were identified in each country and each prescription was presented in a pharmacy in these areas:

1. Central areas of large cities:
  - Brussels for Belgium;
  - Helsinki and Turku for Finland;
  - Berlin for Germany;
  - Barcelona for Spain and
  - London for the UK.
2. Socioeconomically deprived areas on the outskirts of these cities.
3. Small, rural settlements (less than 50,000 inhabitants and non-touristic).

These areas were chosen to include pharmacies that would have differing levels of familiarity with non-native patients and foreign prescriptions and with the challenges they

may pose. As previously described, researchers presented themselves as a family member of the fictitious patient.

There were 48 pharmacy visits per country (see Figure 1). As no previous research was available to guide sample size calculations, this was a pragmatic choice based on available resources.

The study sought to identify the most common obstacles likely to be experienced seen in practice with prescriptions from another member state; it would have required a much larger study, involving much larger numbers of prescriptions and all 27 member states, to quantify them.

Researchers underwent training on how to carry out the visits. They received a written description of each scenario where it was explained why it was necessary to get the product abroad. A common template was drafted in excel to facilitate the reporting of the data in a simplified form and to ensure consistency.

The template focused in capturing the data considered more relevant to respond to the aim of the study:

1. Whether the prescription was dispensed; yes or no. This answered the main research question of whether a prescription from a member state would be recognized and accepted in another.
2. Reasons given for not dispensing. This provided some clarity on the reasons why the dispensation did not take place in cases where it was refused. This was crucial for the correct understanding and identification of the existing obstacles.

3. Any checks undertaken by the pharmacist. In case for example of checks via internet pages, vademecums, phone calls to public national agencies, discussions with colleagues, etc.
4. Products dispensed. To ensure the foreign nature of the prescription was not causing confusion
5. Recommendations or information given. Especially in those cases in which dispensation did not take place. The recommendation for example of visiting a local GP was important to better understand the consequences of the refusal and how this could affect a patient facing a situation similar to the one described and explored in our research.

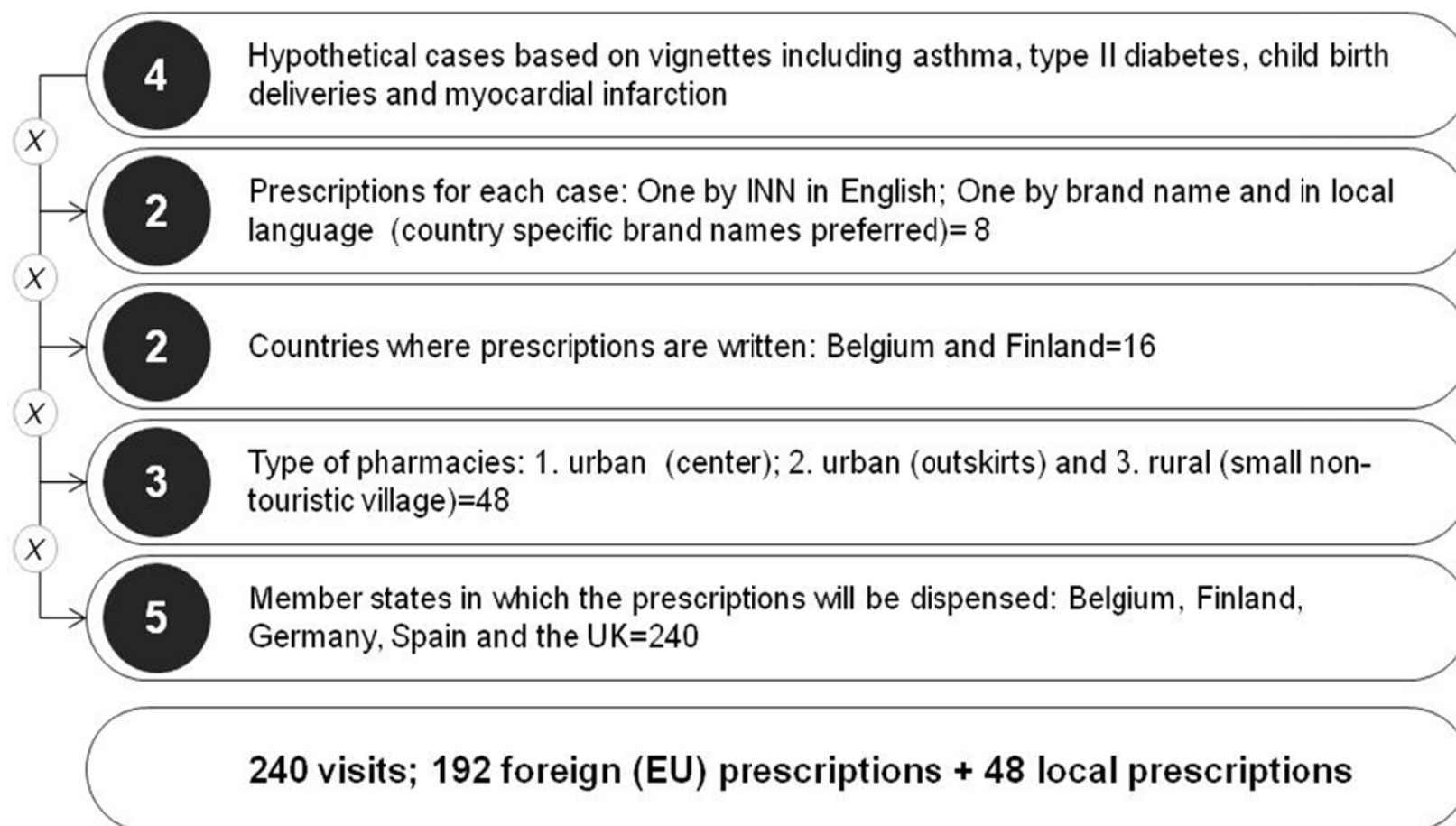
In order to test the prescriptions, and patient stories in the field a pilot was set up. During this pilot 8 prescriptions drafted in Finland were presented in 8 Belgian pharmacies and 8 prescriptions drafted in Belgium presented in 8 Spanish pharmacies. The choice of country where the prescriptions were being presented was a pragmatic choice based on resources and availability.

This pilot had two functions; first to refine the training of the researchers, anticipating any problems, ensuring a standard presentation and data recording, and second, to better define the data items to be collected. As no changes to the procedures were necessary following the pilots, the data from the pilot visits were included in the main study.

The 8 prescriptions drafted in Finland and in Belgium were also presented domestically to pharmacies in the 3 geographical areas (16x3= 48 visits in total) to provide control data. These control visits sought to identify any potential problems in dispensing the products that

were not attributable to the cross-border nature of the prescription. Figure 1 gives an overview of the sample size of the experiment.

Figure 1: Pharmacy visits - sample size



Prior to starting with the visits, the European Pharmaceutical Industry Association was contacted to request their help in providing, via their national industry associations a list of emails for pharmacies in the relevant countries/areas studied. In those cases in which no emails were obtained via the pharmacist associations desk research was performed in order to capture the relevant contact details.

All pharmacies located in the study areas for which an e-mail was obtained, via desk research or contacts with national pharmacist associations, were sent an e-mail or letter to explain that a mystery shopping exercise was to be carried out in their area and asking them to inform the researchers if they were not willing to participate by simply replying to the e-mail/letter. No further explanation was given about the nature of the study. Refusal to participate was uncommon ( $\leq 10\%$ ) in all countries except Germany, where refusal rates were higher (18% of pharmacists contacted opted out of the exercise). Sixteen pharmacies of each location type amongst those which had not declined to participate were selected in each country.

### **Selection of drugs and devices**

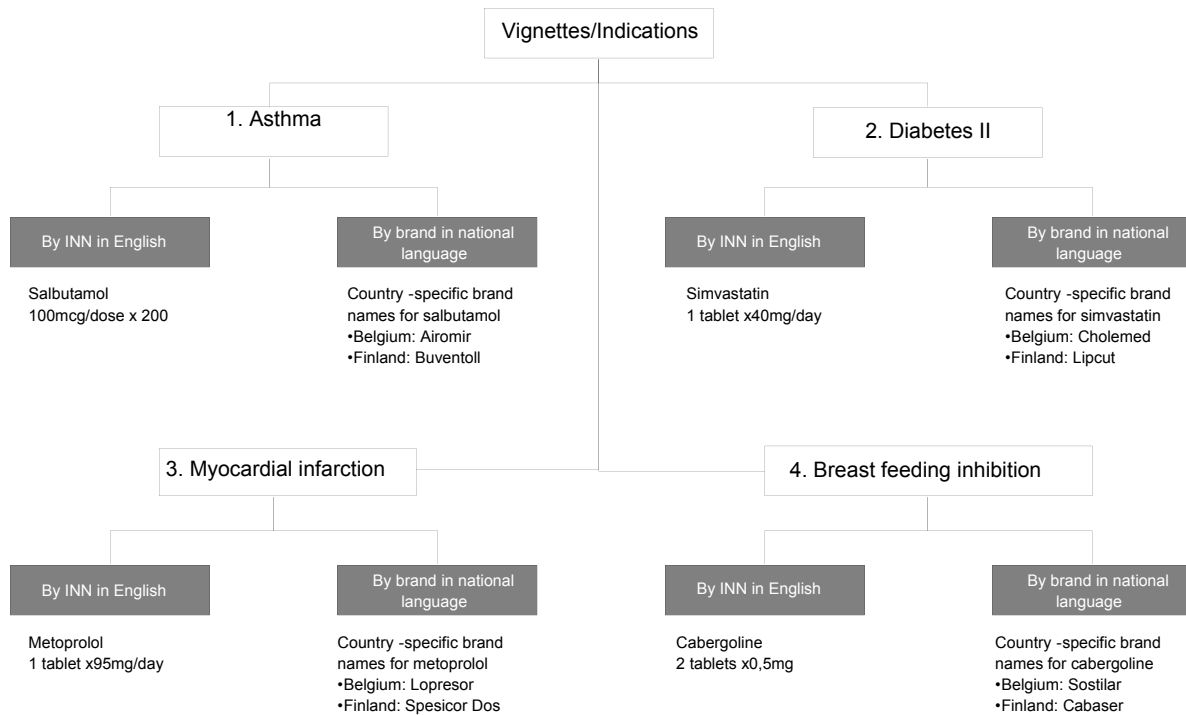
The identification of drugs/devices used in the dispenser survey has undergone a rigorous three-step selection process:

1. A medical doctor involved in the research identified four potential drugs that could be used for each of the four scenarios.
2. Desk research was completed by looking at drug availability in the different countries via their respective vademecums.

- Local researchers involved in the project were consulted in order to confirm the appropriateness of the individual regimens/dosages for our drugs/devices.

The specific indications and pharmaceutical products involved in the study are shown in Figure 2.

**Figure 2: Indications and products used for prescriptions**





### **Ethical Approval**

Approval was obtained from ethics committees in the two member states where prescriptions were drafted: University of Antwerp (approval n. 242058) and the National Institute for Health and Welfare in Finland (THL/1115/6.02.01/2011). Ethical approval was also obtained in the UK (LSHTM, approval n. 5980) but was not required in Germany and Spain. We applied for ethical approval on the basis that the encounter would be terminated at the moment the pharmacist was about to hand over (or order, if not on stock) the pharmaceutical product. Thus, no actual purchase or reimbursement would take place. This made it impossible for the analysis to compare how “instructions for use” were given by pharmacists. Prescriptions used during the exercise were destroyed at the end of the exercise.

### **Statistical Analysis**

A logistic regression was used to calculate the odds ratios that a prescription would be dispensed.

The following (independent) variables (  $X$  ) were included explored:

1. Country of origin (i.e. Belgium or Finland)
2. Country where presented (i.e. Belgium, Finland, Germany, Spain or the UK)
3. The type of prescription (i.e. drafted by brand in a national language or drafted by molecule in English).
4. Geographical area (i.e. central, outskirts or rural)
5. Indication (i.e. asthma, breast feeding inhibition, secondary prevention following myocardial infarction and type II diabetes)

The value of each variable with the lowest probability of dispensing was taken as the index category.

Statistical analyses were conducted using STATA (version 12).

## **2.4 Results**

### **Willingness to dispense**

All 48 prescriptions presented domestically as controls (in Belgium and Finland) were dispensed, compared with 56% (108) of the 192 foreign prescriptions in the five counties ( $p < 0.001$ ). The remainder of the analysis focuses only on the 192 foreign (EU) prescriptions.

The results of the logistic regression on willingness to dispense foreign (EU) prescriptions are shown in Table 7. where specific odd ratios are reported, according to the five characteristics studied.

For completeness, we show univariate and fully adjusted values but, for brevity, we confine our comments in the text to the adjusted values.

Although not shown, the Wald test (44.35;  $p = 0.000$ ) indicates that all regressors are statistically significantly different from zero at the 0.05 level. The results of the RESET test (Chi-square of 0.01;  $p = 0.893$ ) indicates that there is no evidence of model misspecification. The percentage of correctly specified values is approximately 72% indicating a reasonable goodness of fit.

Slightly more prescriptions written in Belgium were dispensed than those written in Finland, but the difference was not significant. Interestingly, there was a clear difference in the probability that a prescription would be dispensed among the countries in which it was presented. The United Kingdom and Finland were the least likely to dispense; Belgium, Spain

and Germany the most likely, being respectively 8, 6 and 13 fold more likely after taking account of other factors. Prescriptions written in English, where the molecule was specified were over four times more willing to be dispensed, after adjustment for prescriptions by brand name written in a national language. Location of the pharmacy and indication made no difference.

Our scenarios did not test the importance of prescriptions being for pack sizes or strengths that were unavailable in the pharmacy but the limited information we obtained suggests that differences in pack size do not pose a problem, while differences in strength, if small enough not to create a clinical problem, were generally pointed out by the pharmacists but did not seem to pose an obstacle to dispensing.

**Table 7 - Odds ratios that a prescription will be dispensed**

| Variable                | Value                           | Odds ratio (95% CI)      | Significance      | Odds ratio (95% CI)       | Significance (p-value) |
|-------------------------|---------------------------------|--------------------------|-------------------|---------------------------|------------------------|
|                         |                                 | Univariate               |                   | Fully adjusted            |                        |
| Country of origin       | Finland                         | 1.00                     |                   | 1.00                      |                        |
|                         | Belgium                         | 1.09 (0.62-1.93)         | 0.771             | 1.62 (0.75-3.49)          | 0.222                  |
| Country where presented | United Kingdom                  | 1.00                     |                   | 1.00                      |                        |
|                         | Finland                         | 1.21 (0.42-3.48)         | 0.718             | 0.99 (0.28-3.50)          | 0.989                  |
|                         | Belgium                         | <b>4.86 (1.70-13.91)</b> | <b>0.003</b>      | <b>8.08 (2.49-26.27)</b>  | <b>0.001</b>           |
|                         | Spain                           | <b>4.86 (2.05-11.53)</b> | <b>&lt;0.0001</b> | <b>6.40 (2.58-15.87)</b>  | <b>0.001</b>           |
|                         | Germany                         | <b>9.23 (3.63-23.49)</b> | <b>&lt;0.0001</b> | <b>13.30 (4.77-37.05)</b> | <b>0.000</b>           |
| Type of prescription    | Brand name in national language | 1.00                     |                   | 1.00                      |                        |
|                         | Molecule in English             | <b>3.40 (1.87-6.19)</b>  | <b>&lt;0.001</b>  | <b>4.82 (2.39-9.75)</b>   | <b>0.000</b>           |
| Location                | Outskirts                       | 1.00                     |                   | 1.00                      |                        |

|            |                           |                   |       |                  |       |
|------------|---------------------------|-------------------|-------|------------------|-------|
|            |                           |                   |       |                  |       |
|            | Central                   | 1.21 (0.60-2.42)  | 0.595 | 1.30 (0.59-2.85) | 0.519 |
|            | Rural                     | 1.47 (0.726-2.96) | 0.286 | 1.69 (0.75-3.81) | 0.205 |
| Indication | Myocardial infarction     | 1.00              |       | 1.00             |       |
|            | Diabetes                  | 1.09 (0.49-2.42)  | 0.838 | 1.12 (0.45-2.83) | 0.807 |
|            | Breast feeding inhibition | 1.29 (0.58-2.88)  | 0.538 | 1.42 (0.53-3.80) | 0.489 |
|            | Asthma                    | 1.40 (0.63-3.16)  | 0.411 | 1.60 (0.61-4.19) | 0.343 |

Note: Significant values in bold. Inference based on robust standard errors.

### **Reasons for refusal**

Pharmacists unwilling to dispense were invited to explain their reasons for refusal. This was not obtained for 7 visits completed in Belgium but was for all the others. The main reasons mentioned by pharmacists in Finland and the UK related to their understanding of national legislation, with most Finnish pharmacists understanding that by law, they were not allowed to dispense non-Nordic prescriptions, and British pharmacists taking the same view of all foreign prescriptions. Yet contrary to what they stated, UK law does allow them to accept EU prescriptions. Table 8 relates the views expressed by those refusing to the national legislation in force. Only four UK pharmacists unwilling to dispense gave reasons other than the national legislation. Two did not have the product in stock and suggested going somewhere else rather than ordering it. The remaining two were not sure about the dosages or strengths written on the prescription.

In Finland only two pharmacists who refused gave reasons other than not being able to dispense non-Nordic prescriptions as their main reason: one believed it was too difficult to validate the actual prescription, while the other could not understand the INN name written on the form.

In the remaining countries, where willingness to dispense was higher, the main reason not to dispense, given by pharmacists in 21 of the 27 cases, was their inability to recognize the product name written on the prescription, typically a country-specific brand name. Five pharmacists in these countries gave other reasons not to dispense, including the inability to understand what was written on the prescription (hand writing) in 3 cases and a belief that foreign prescriptions could not be dispensed in 2 cases.

The overall importance of country-specific brand names on willingness to dispense was further confirmed by studying in more detail the scenario involving secondary prevention following myocardial infarction, for which the brand name chosen for Belgian prescriptions was available in all countries, with only small differences in pack sizes/strength which did not seem to pose a great obstacle for pharmacists (only 3 pharmacists out of 23 unwilling to dispense gave dosage as reason). For this scenario, among the 23 visits where pharmacists were unwilling to dispense, 70% (16) were for Finnish prescriptions, which used a country-specific name that was difficult to recognize (i.e. Spesicor Dos) compared with Belgian prescriptions, for which there were only 30% (7) refusals ( $p=0.009$ ). This appears to show that it is the brand name more than the language that proves an obstacle for pharmacists.

**Table 8 - Refusal rates linked to national legislation**

| COUNTRY | NATIONAL LAW   | OVERALL REFUSAL RATE | NATIONAL LAW GIVEN AS REASON FOR REFUSAL |
|---------|--|----------------------|--|
| Belgium | Prescriptions coming from another EU member state are generally valid ("Instructios to pharmacists", 2009)                                     | 8/24                 | 13% (1/8)                                |
| Finland | Only prescriptions written by doctors in Iceland, Norway, Sweden and Denmark can be accepted for dispensation (" <i>Medicines act</i> ", 1993) | 16/24                | 81% (13/16)                              |
| Germany | Prescriptions coming from another EU member state are generally valid (" <i>Prescription-only-medicinal</i> ", 2005)                           | 10/48                | 20% (2/10)                               |
| Spain   | Prescriptions coming from another EU member state are generally valid ("Medical prescriptions", 1984)  | 16/48                | 6% (1/16)                                |
| UK      | Prescription coming from another EU  | 34/48                | 65% (22/34)                              |



|  |  |  |  |
|--|--|--|--|
|  | member state are generally valid (Royal<br>Pharmaceutical Society of Great Britain,<br>2010) |  |  |
|--|--|--|--|

### **Correct dispensing and checks**

The right molecule was offered in all cases but brands and pack sizes sometimes differed from the prescribed ones. These variations are not unexpected bearing in mind the choice of country specific brand names and pack sizes used for prescriptions specifying the brand.

Identification of any checks were performed by pharmacists before deciding whether to dispense (more than one check could be done by a single pharmacist) was performed.

Table 9 summarises our findings. Checks were performed in over half of the pharmacy visits (53 %) and not only in those situations in which the visit resulted on the pharmacist offering to dispense (61% of such visits included checks) but also in those visits in which the final outcome was a refusal to dispense (43% of such visits included checks).

The most common check performed involved searching in specific national databases (67% of all checks performed), while the second most common check was to search in the internet (33% of all checks). Seventeen percent of the checks performed included phone calls or direct consultation with managers, peers or policy makers and only 11% of checks included searches of formularies or guidance documents. We found no evidence that any pharmacist used specific guidance for dealing with foreign prescriptions in any of the countries.

**Table 9 - Checks implemented by pharmacists**

| WILLING TO DISPENSE | Visits with checks |    | Visits with questions |    |
|---------------------|--------------------|----|-----------------------|----|
|                     | N                  | %  | N                     | %  |
| No                  | 36                 | 43 | 56                    | 67 |
| Yes                 | 66                 | 61 | 68                    | 63 |
| Total               | 102                | 53 | 124                   | 65 |

### **Questions from pharmacists**

Pharmacists questioned the researcher in 65% of the visits, with pharmacists querying the origin of the prescription in over half (52%) of visits. Medical questions were less common, in only 24% of visits. Pharmacists were slightly more likely to raise questions during visits in which prescriptions used brand names and were written in a national language (70% of such visits included questions; 55% asked about the origin of the prescription, in 28% medical questions were asked) as opposed to those visits with more recognizable molecules in which prescriptions were written in English.

The practically unanimous recommendation given by those pharmacists unwilling to dispense was to visit a local GP. However, in a few cases when the obstacle to dispense was the country specific brand name and the difficulty to identify the right molecule, the pharmacist suggested either coming back to the pharmacy with an old pack or to call the prescriber and ask him/her directly for the INN name of the product, so that the right product could be identified.

### **2.5 Comparison of results from Mystery Shopping with those of the international pharmacist MATRIX survey**

One area worthwhile exploring in some detail are the differences in results obtained in our study in comparison to that undertaken by Matrix in *Health Reports for Mutual Recognition of Medical Prescriptions: State of Play* (2012). Specially, in view of the fact that these, constitute the only two large scale studies completed up to this date looking at obstacles for European cross-border prescribing and dispensing.

Despite the similarities in the aim of both analyses and some commonalities in terms of the scope, which we will list later on, the overall conclusions are somehow different.

Thus, while our study shows that despite the potential challenges that foreign prescriptions could pose, a majority of pharmacists were prepared to dispense, Matrix concluded that less than half of pharmacists would be willing to dispense such prescriptions and only a minority would “definitely” dispense .

To better understand these differences it is important to go in some detail over the methodological approach used by Matrix to capture “willingness to dispense” as part of their analysis.

The researchers involved in the Matrix study consciously decided not to engage into any mystery shopping exercise, given the difficulties it presents in terms of organisation and human resources, but more importantly, due to the potential liability and ethical hurdles that it could pose. Thus, a survey was conducted instead. During the exercise, pharmacists were consulted as “experts” and confronted with different prescriptions while being asked about the potential problems they presented and whether they would be willing to dispense. The overall willingness to dispense was captured as follows:

Pharmacists were asked whether, in their opinion, any of a list of the following seven factors listed below would cause a problem in dispensing each particular prescription they were presented with:

1. verifying prescriber authenticity;
2. verifying prescription authenticity;
3. language;
4. handwritten prescription;
5. drug availability;

6. availability of substitute;
7. insufficient information on prescription.

Possible answers and scores were as follows:

1. 'definitely not' (score= 0);
2. 'unlikely' (score= 1);
3. 'likely' (score =2);
4. 'definitely' (score= 3).

Then, the probability that a particular prescription would not be dispensed was calculated by using mean scores: the different scores (from 0-3) for each of the seven factors mentioned were added up and divided by overall number of factors (i.e. seven). The mean score obtained for that particular prescription was then divided by three in order to account for the range of scores, and finally multiplied by 100% to convert it into a probability of not dispensing the prescription. An alternative method to calculate the probabilities was put to the test by the Matrix researchers but their overall findings appeared to be similar.

Their overall results showed that only 223 prescriptions out of 7440 would be expected to “definitely” be dispensed, whereas 521 prescriptions out of 7440 would be expected to “definitely not” be dispensed.

Thus, their findings highlight a higher probability for a pharmacist to encounter challenges to dispense than not finding them.

The survey was completed by nearly 1,000 dispensers across seven member states: Denmark, Germany, Greece, France, Netherlands, Poland and the UK. From these countries, only two were included in the scope of the mystery shopping exercise

described earlier in this chapter of this thesis (i.e. Germany and the UK). However, other commonalities could be drawn such as the fact that both studies included a Scandinavian country (Denmark in the case of Matrix and Finland in the case of our study), southern European countries (France and Greece in the case of Matrix and Spain in our analysis), a northern European country (Belgium in the case of our study and the Netherlands in that of Matrix) as well as the UK. Thus, overall the geographical scope was not that different from one study to the other, aside from the fact that Matrix included an Eastern European country, while this was not the case in the mystery shopping research project, due to the limited human resources available to undertake the visits in that EU area.

Regarding the pathologies chosen, three were common to both studies (asthma/COPD, diabetes, hypertension/ heart disease). Given the common aims and the similarities in terms of scope, one could expect similar results, while this was not the case.

The overall low “definitive” dispensing rates obtained by Matrix clashed with the relatively high dispensing proportions in our mystery shopping exercise, where 56% (108 of the 192 foreign prescriptions) presented in the five counties were dispensed ( $p < 0.001$ ), so what could be the reasons for such discrepancies?

The main reasons given by pharmacists during Matrix’s survey for their unwillingness to dispense included:

1. The impossibility of verifying the validity of both the prescriber and the prescription, which appeared to be even more crucial in cases where prescriptions were hand written or in an unfamiliar language.
2. The availability of (substitute) drugs.

In contrast, the unavailability of tools to verify the authenticity of a prescription or a prescriber did not appear to be an important decision factor during the mystery shopping exercise. When discussing this factor in some detail with the pharmacists at the end of the visits, most of them said that this would be more crucial in case of drugs presenting serious adverse events or even more so, in the case of narcotics or drugs for which a parallel market may exist with potential serious risks for the patients. The latter, as discussed in chapter one of this thesis remain out of the Directive, precisely because of the potential challenges and danger that they could pose.

Although checking the veracity of these arguments during the experiment would have been interesting, the researchers of the mystery shopping exercise made the conscious decision of not putting to the test any “incorrect/illegal” situations in order to stay on sound ethical grounds. The purpose of the analysis was not to check if pharmacists were doing things “right” or “wrong” but rather identifying the difficulties they would encounter in realistic situations of cross-border prescribing and dispensing between European member states and to contribute to the development of future strategies by the EU Commission.

Although overall, the most striking difference between the results of both studies was on the importance of the authentication of both prescription and prescriber, there were other noticeable differences between our study and Matrix that are worthwhile mentioning:

#### **Impact of the indication and the drug type**

According, to the results from Matrix, there were important differences in willingness to dispense depending on the indication or drug type presented. Thus, medicinal



products for diabetes were the most unlikely to be dispensed (refused in 65% of cases), while COPD drugs were the most likely to be dispensed (but still refused in 47% of cases).

When looking at these factors during our experiment, no significantly different dispensing rates were obtained according to indication.

### **Prescribing Countries**

A further finding from the Matrix study was that there were differences in the probability of a drug being dispensed depending on the country of origin, with prescriptions originating in the UK, Denmark, Germany and France being the most likely to be dispensed, and those from the Netherlands, Poland and Greece less likely.

This finding is somehow difficult to compare to our mystery shopping results, given that the prescriptions used in our research were drafted in just two countries: Belgium or Finland. Nevertheless, a comparison of dispensing rates obtained per country of origin during our analysis showed no significant differences between prescriptions drafted in Finland versus those drafted in Belgium.

### **Language of prescriptions**

A further factor worth commenting has to do with the language of the prescription. The survey by Matrix found that prescriptions from the UK were the most likely to be dispensed. Matrix's researchers thought that the reason behind this higher acceptance of UK prescriptions had to do with the fact that English is the most widely understood language across the EU.

Prescriptions originating from Greece or Poland were, on the other hand, the least likely to be dispensed.

The approach followed during the mystery shopping exercise was different, since half of the prescriptions were written in English, and in those, the name of the drug was written generically versus the other half of the prescriptions which were instead written in a local language and displayed commercial names, not necessarily available in the other countries where dispensation was to take place.

Bearing this in mind, significantly more prescriptions written in English and with the generic name of the drug were dispensed compared to those in a local language (Dutch or Finnish) displaying brand names. However, although it is difficult to exclude the option that the English had a role in the facility with which these were dispensed, those pharmacy visitors who discussed the reactions with the pharmacists at the end of the exercise (just before dispensation), believed that the crucial factor was the generic name, easily recognised everywhere, and which facilitated the dispensation. Furthermore, writing the generic name of the drug allowed pharmacists from those countries where drug substitutions was not allowed when a specific brand is mentioned on a prescription, to freely choose on the basis of their local options.

Language did not appear to pose a crucial obstacle, according to the pharmacists, since the strength of the drug as well as the number of times needed to be taken was always presented in numbers and in most cases symbols frequently used facilitated further the comprehension (e.g. "twice daily" often represented as "x 2" in all languages).

### **Brand versus generic names**

Unrecognisable brand name was on the contrary a real problem during our mystery shopping exercise, although some pharmacists would check in their computers or national vademecums the composition of the product and would substitute it with a

local equivalent option, in other cases this was given as the main reason why dispensing could not take place.

### **National legislation**

Finally, our mystery shopping exercise did point out to the understanding of national legislation as being an important impediment in two countries: Finland and the UK. Pharmacists in both countries believed it would be illegal to dispense a foreign prescription. Such factor did not come to the light in the Matrix survey, probably because of the nature of the survey in which pharmacists were informed on the aims and the directive so there was less room for spontaneous interpretation of the law.

### **Conclusions from both studies**

Matrix's survey concluded that the most significant barriers to obtain a medicine dispensed against a prescription from another member state were associated with verification and authenticity problems.

They added that there was little country-by-country variation on average codes, indicating that verification and authenticity problems are inherent and widespread across the EU. Use of handwriting, language other than English or missing information were also mentioned as potential problems. The availability of drugs (or substitutes), although mentioned, appeared to pose less problems.

The Mystery shopping exercise, on the other hand, highlighted only two key hurdles: interpretation of national laws and whether a prescription displayed a commercial name not easily recognisable or even available in the member state of dispensation.

Although the informative value of the extensive survey undertaken by Matrix remains of great value and surpasses the aims of our mystery shopping exercise, since they

completed the exercise with estimations of potential harms in case of non-dispensation (or wrong ones), our experiment offers the only extensive test of “real” reactions of pharmacists when they are confronted with cross-border prescriptions up to date and does show that a large majority of the challenges could be addressed by simply encouraging generic prescribing under such circumstances.

Although tools allowing pharmacists to validate the identity of a prescriber or the authenticity of a prescription coming from a different member state could certainly be of help in some specific situations, their unavailability does not appear to impede a wide general acceptance of cross-border prescriptions.

## **2.6 Discussion**

This research sought to assess dispensing practices when faced with prescriptions from another member state. Results show that, although willingness to dispense varied greatly depending on the country where prescriptions were presented, over half of pharmacists were willing to dispense. Differences in national law and practices clearly split the countries analyzed into two groups, with Finland and the UK being less willing to dispense than Belgium, Germany and Spain. This is in line with the results obtained in the study by Mäkinen et al in 2001, in which all 5 prescriptions presented in the UK were refused, while the 7 presented in Belgium, Germany and Spain were all accepted (Makinen et al., 2001).

In our study, the main reasons not to dispense in Finland and the UK related to national legislation or the pharmacist’s interpretation of such legislation. After implementation of the Directive, such differences should disappear. Yet, clear

guidelines on how pharmacists should respond to EU prescriptions and their wide distribution and explanation prior to the implementation will be necessary in order to ensure an effective and rapid application in the field.

Reasons for not dispensing in the remaining countries (i.e. Belgium, Germany and Spain) were primarily linked to the impossibility of identifying the correct product when pharmacists were presented with prescriptions using country-specific brand names. This obstacle appears to be key to dispensing. The Directive requires that the Commission adopts measures facilitating the correct identification of medicinal products and suggests that substitution should only apply where the legislation of the dispensing member state permits such substitution.

It is currently unclear from the Directive whether pharmacists would be obliged to substitute the prescribed product with one available on the domestic market. One obvious solution is for prescriptions written in the EU to use INNs. However, in the short term, an internet-based European product database allowing pharmacists to compare product names and identify the correct molecules would be very helpful.

The verification of the authenticity of the prescription or the prescriber did not appear to play any role in the decision whether to dispense the product. This contrasts with assertions made by pharmacists' organisations who claim that the authenticity of the cross-border prescription and the entitlement of the cross-border prescriber are the key issues for the recognition of cross-border prescriptions (European Commission, 2012). We should, however, recognise that all our scenarios were for common conditions with few risks so our results should not be generalised to more complex cases in which the safety of the patient could be put at risk or where the medicines

may be subject to inappropriate use. Clear guidelines on the format of EU prescriptions, their minimum content, validity period, what to do or who to contact when confronted with them or what sources to consult on product composition and prescriber credentials would be helpful and likely to have an impact not just on the availability of medication for citizens travelling to other member states, but also the time required for pharmacists to check the necessary information to dispense prescriptions from another member state.

Including the contact details of the prescriber in the prescription would have several benefits, including authentication of the prescriber and identification of the product if marketed under a different brand name.

Although in all countries pharmacists have a commercial incentive to dispense, our research shows that professionals assume responsibility for the safety of the patient and remain cautious, particularly when they cannot easily recognize the name of the product or the molecule it contains, making them less likely to dispense under such circumstances.

The study was subject to geographical limitations. All visits were centred around one or two large cities. However, we have no reason to believe that the findings would differ if another region/area in the countries had been chosen.

To conclude, although more than half of the “patients” would have received their medication, there was still a long way to go at the time of this research before the Directive could be effectively applied in practice by pharmacists in all EU countries. As illustrated by the example of the UK, having an enforceable law in place is not sufficient to change pharmacists’ behaviour. There is clearly room for improving the

situation by developing measures to facilitate the duty of the dispensers while safeguarding the safety of the patients, as suggested in this chapter.

# **CHAPTER 3. PHARMACEUTICAL CLASSIFICATION AND ITS POTENTIAL IMPACT ON CROSS-BORDER PRESCRIBING AND DISPENSING**

The purpose of this chapter is to highlight any potential differences in pharmaceutical classification (POMs versus OTC) that may exist between European countries and explore how they could affect chronic patients travelling across-borders and in need of medication.

## **3.1 Differences across EU borders on pharmaceutical classification**

The potential for recognizing a prescription across-borders may be affected by one aspect not taken into consideration on the EU directive (2011/24/EU). This has to do with the classification of pharmaceuticals as “prescription-only” (POM) or “Over The Counter” (OTC) products in the different countries.

When a pharmaceutical product is first launched in a market, it is either classified as one or the other, although most often new drugs are classified as prescription-only for safety reasons. However, after the drug has been in the market for over five years and proved its safety, it may be reclassified as OTC, for different reasons, for as long as the



manufacturer requests it and provides the necessary information to the authorities. The main motivations for proceeding with the reclassification of a medicinal product include pharmaceutical firms' desire to extend the viability of brand names; cost-containment attempts by healthcare payers and a self-care movement (Cohen, 2005).

Since up to date, there is no unique classification for drugs common to the whole of the EU territory, differences are possible. The purpose of this analysis is to highlight such differences between EU countries that could pose a further challenge for the implementation of the directive on the mutual recognition of prescriptions (Council Directive 2011/24/EU).

While a country such as the UK, has actively pursued the re-classification of prescription-only pharmaceutical products into OTC drugs, (Aronson, 2009; Cohen, 2005) such an active policy has not yet been pursued to the same extent in any of the other EU countries included in our analysis (i.e. Belgium, Finland, Germany or Spain), in which the majority of pharmaceutical products launched in the market as prescription-only products, remain as such (Aronson, 2009; Bond, 2002). This could pose a problem for UK patients seeking treatment with agents which do not require a prescription in their country, in other EU countries, where prescriptions are necessary in order to get access to such agents.

As already mentioned in chapter 2 of this thesis, patients most likely to travel across the borders for different reasons are chronic patients, since acute patients tend to remain within their countries until their health problem is solved. Chronic patients, on the other hand, can in most cases live an ordinary life for as long as they take their medication and thus, are more likely to cross the borders and be exposed to the

challenges that different health systems and policies may pose when wanting to continue with a treatment originally started in one specific country, when they are in another.

### **3.2 Methodology**

In order to illustrate via specific examples potential differences in pharmaceutical classification in commonly dispensed products, the most frequent chronic illnesses in Europe, which would still allow a patient to travel across-borders were identified. Data on disease prevalence was extracted from the WHO “European Health for all” database<sup>3</sup>. Information was gathered for the five countries of focus of this thesis, representing different types of health care systems, but also for the entire of the EU territory. The last available year for each country was used and all age groups were included. Data were quoted as number of cases per 100,000 individuals. Table 10 summarizes these prevalence figures.

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<sup>3</sup> Available at [www.euro.who.int](http://www.euro.who.int)

**Table 10 - Prevalence of chronic conditions in the EU**

| <b>Country</b>  | <b>Year</b> | <b>Circulatory</b> | <b>Respiratory</b> | <b>Digestive</b> | <b>Diabetes</b> | <b>Mental/nervous system</b> |
|-----------------|-------------|--------------------|--------------------|------------------|-----------------|------------------------------|
| <b>Belgium</b>  | 2006        | 182,72             | 60,21              | 27,62            | 9,11            | 39,75                        |
| <b>Finland</b>  | 2010        | 213,57             | 21,34              | 32,62            | 5,6             | 75,35                        |
| <b>Germany</b>  | 2010        | 208,71             | 37                 | 30,31            | 14,05           | 30,72                        |
| <b>Spain</b>    | 2010        | 137,58             | 45,09              | 25,29            | 11,75           | 37,1                         |
| <b>UK</b>       | 2010        | 167,25             | 68,9               | 32,29            | 5,97            | 40,48                        |
| <b>Total EU</b> | 2010        | 221,75             | 42,34              | 30,3             | 11,96           | 31,14                        |

*REF:WHO "European Health for all" database (<http://www.euro.who.int>)*

Data show that in the EU the most prevalent disease areas under which chronic conditions are well represented are those linked to the circulatory, respiratory and mental/nervous systems, followed by digestive problems and diabetes.

The next step consisted on the identification of the pharmaceutical products most commonly prescribed in the UK for chronic health problems which could be categorised under the previously selected disease categories. Such data is publicly available via the national Health and Social Care Information Centre (HSCIC). (Health and Social Care Information Centre, 2014).

Looking at these data the ten drugs most commonly dispensed for the relevant chronic health problems under analysis were selected. Then, the database of the Association of the European Self-Medication Industry (AESGP) was searched for differences in drug classification between the five EU countries analysed <sup>4</sup>.

### **3.3 Results**

Overall twenty two pharmaceutical products for the treatment of those chronic conditions previously identified via the WHO “European Health for all” database presented differences in their classification. Although the UK did prove to be the country with more OTC medicinal products that were classified as prescription-only in at least one of the other countries included in the analysis (15 in total), Finland and Belgium also showed some interesting examples with 7 and 8 drugs respectively classified as OTC and requiring a prescription in at least one other EU market. Germany and Spain were the countries less likely to classify

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<sup>4</sup> Available at: <http://www.aesgp.eu/facts-figures/otc-ingredients/#by-name>

drugs requiring a prescription in other countries as OTC, with Germany presenting 3 cases and Spain 5. Differences found included the following products:

1. Cardiovascular/circulatory system or type II diabetes:

- Simvastatine (10mg tablets only).

2. Respiratory system:

- Fluticasone
- Budesonide
- Mometasone
- Ipratropium nasal
- Theophylline
- Beclometasone.

3. Digestive system:

- Lansoprazole
- Rabeprazole
- Cimetidine
- Nizatidine
- Sucralfate
- Mebeverine
- Hyosine butylbromide
- Alverine
- Propantheline
- Domperidone
- Metoclopramide.

4. Nervous system:

- Sumatriptan
- Codeine
- Dihydrocodeine
- Prochlorperazine.

Confirmation of the classification was performed, using publicly available national vademecums/databases for all countries included in the study<sup>5</sup>.

Table 11 summarises all products found under the different disease categories.

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<sup>5</sup> For Belgium: [Centre Belge d'Information Pharmacothérapeutique \(C.B.I.P.\)](http://www.cbip.be) available at [www.cbip.be](http://www.cbip.be). For Finland : KELA database, available at [https://easiointi.kela.fi/laakekys\\_app/LaakekysApplication?kieli=en](https://easiointi.kela.fi/laakekys_app/LaakekysApplication?kieli=en). For Germany: The Rote List, available at <http://www.rote-liste.de/>. For Spain: Vademecum, available at <http://www.vademecum.es/>. The UK: Medicine Chest Online, the database of the Proprietary Association of Great Britain available at <http://www.medicinechestonline.com/>

**Table 11 - Classification of commonly prescribed/dispensed products for chronic conditions**

| Product                                   | Finland | Spain | UK  | Germany | Belgium |
|---|---------|-------|-----|---------|---------|
| <b>CARDIOVASCULAR OR TYPE II DIABETES</b> |         |       |     |         |         |
| Simvastatine                              | Rx      | Rx    | OTC | Rx      | Rx      |
| <b>RESPIRATORY DISEASES</b>               |         |       |     |         |         |
| Fluticasone                               | OTC     | OTC   | OTC | Rx      | Rx      |
| Budesonide                                | Rx      | Rx    | OTC | Rx      | Rx      |
| Mometasone                                | OTC     | Rx    | Rx  | Rx      | Rx      |
| Ipratropium nasal                         | OTC     | OTC   | Rx  | Rx      | OTC     |
| Theophylline                              | Rx      | Rx    | OTC | Rx      | OTC     |
| Beclometasone                             | OTC     | OTC   | OTC | OTC     | Rx      |
| <b>NERVOUS SYSTEM</b>                     |         |       |     |         |         |
| Sumatriptan                               | Rx      | Rx    | OTC | OTC     | Rx      |
| Codeine                                   | OTC     | Rx    | OTC | Rx      | OTC     |
| Dihydrocodeine                            | NA      | Rx    | OTC | Rx      | Rx      |
| Prochlorperazine                          | Rx      | NR    | OTC | Rx      | NR      |
| <b>DIGESTIVE DISEASE</b>                  |         |       |     |         |         |

|                      |     |     |     |     |     |
|----------------------|-----|-----|-----|-----|-----|
| Lansoprazole         | OTC | Rx  | Rx  | Rx  | Rx  |
| Rabeprazole          | Rx  | Rx  | OTC | Rx  | Rx  |
| Cimetidine           | NR  | OTC | OTC | Rx  | Rx  |
| Nizatidine           | NR  | Rx  | OTC | Rx  | NR  |
| Sucralfate           | OTC | Rx  | Rx  | Rx  | NR  |
| Mebeverine           | NR  | Rx  | OTC | Rx  | OTC |
| Hyosine butylbromide | Rx  | OTC | OTC | OTC | OTC |
| Alverine             | NR  | NR  | NR  | NR  | OTC |
| Propantheline        | NR  | NR  | OTC | Rx  | NR  |
| Domperidone          | Rx  | Rx  | Rx  | Rx  | OTC |
| Metoclopramide       | Rx  | Rx  | Rx  | Rx  | OTC |

OTC – Over the counter; Rx – Prescription only ; NR – Not Registered



As shown in this table, an important number of differences exists. This confirms that a further potential challenge exist for an effective continuation of pharmaceutical treatment across EU borders, which currently is likely to affect more UK citizens travelling to any of the other four EU countries analysed. However, the re-classification policy, although more prevalent in the UK, it does not appear to be that uncommon in other EU countries, indicating that the problem could be less geographically limited than could have been expected.

In conclusion, although our findings simply offer anecdotal data and do not allow for measuring the real size of the problem, which nevertheless is likely to remain limited, they show that this is an additional factor that could, under some circumstances, challenge or impede the acquisition of medicinal products by EU citizens across the borders and as such, it should not be neglected.

# **CHAPTER 4. REIMBURSEMENT SYSTEMS: COMMONALITIES AND DIFFERENCES ACROSS EU COUNTRIES**

This chapter explores commonalities and differences of the reimbursement systems in EU countries (special focus on Belgium, Finland, Germany, Spain and the UK).

The chapter is structured in three parts:

1. first and overview of the health system is provided.
2. Secondly, the specific pricing and reimbursement systems in each country are described.

The first two parts offer a good overview of the health system and actual pricing and reimbursement processes. Summary tables are provided to highlight commonalities and differences.

Information gathered for these comparisons came from publicly available sources, referenced at the beginning of each country-specific section as well as when some specific figures are quoted, in order to specify from which of the consulted sources they were extracted.

3. Pricing and patient co-payments in cross-border situations.

Although reimbursement falls out of the Directive (patients will be reimbursed at their return to their country of residence), a look at differences in prices, amounts reimbursed by the public system and patient contributions could illustrate potential differences in upfront payments required from a patient in a cross-border situation versus a situation where a product is prescribed and dispensed in their country of residence. Data was primarily captured via national specific formularies.

#### **4.1 Health care system and provision**

Belgium (Hogan Lovells, 2014; Gerkens & Merkur, 2010; OECD, 2014):

The health care system in Belgium relies on statutory health insurance schemes. There are three main schemes, covering the following populations:

- Salaried workers.
- Self-employed.
- Civil servants.

Other publicly funded schemes exist for those not qualifying for any of the above and their dependents.

Workers, as well as employers, (where relevant) pay contributions and in order to access health care the beneficiaries of the schemes must register with a sickness fund. Beneficiaries are free to choose between the publicly-run Caisse Auxiliaire d'Assurance Maladie-Invalidité (CAAMI)/ Hulpkas voor Ziekte- en Invaliditeitsverzekering (HZIV), or private not-for-profit health sickness funds, known as *mutualités/mutualiteit*. There

are numerous sickness funds to choose from but most of them offer very similar coverage, for both curative and preventive care in and out of the hospital setting.

### *Private Insurance*

Although the Belgian health care system relies mainly in public funding, complementary private insurance is common (around 79% of the population holds it) (OECD, 2014).

The complementary coverage offered by private insurance is mainly limited to a wider coverage for in-hospital care. In particular, most people use it to access private rooms while hospitalized. In the community, supplementary private insurance covers some products/services not included in the mandatory system such as glasses or contact lenses, some dental services such as orthodontics or alternative medicine.

Although the responsibility for regulation and financing the compulsory health insurance system as well as drafting pharmaceutical and hospital policies, lies with the Minister for Social Affairs and Public Health (*Ministre des Affaires Sociales et de la Santé Publique/ Minister van Sociale Zaken en Volksgezondheid*), the regional communities (Flemish, French and German) are responsible for health promotion and prevention.

Specialist care in Belgium is easily accessible, and patients are free to freely choose a specialist when they consider it necessary without requiring a GP referral. Nevertheless, if they do so they will be subject to copayments. A referral by a GP on the other hand, would result in a reduction of this patient co-payment.

GPs and specialists are paid for based on fee-for-service payments. Physicians can either apply nationally-determined (and fully reimbursed) fees, or charge higher fees in which case the patient is liable for the difference between the two. The latter is common. Ongoing discussions are being held at the Ministry of Health to encourage a different funding mode for hospital services based on forfeits as opposed to fee per services.

Finland (OECD, 2014; “Kela”, n.d.; Vuorenkosky, Mladovsky, & Mossialos, 2008):

All permanent residents in Finland have access to healthcare services through a highly decentralised system. Workers and self-employed individuals are also covered providing their contract (or work assignment in the case of the self-employed) in Finland lasts 4 months or more, even in those cases in which they do not live in Finland on a permanent basis.

Although healthcare policy is drafted at the national level by the Ministry of Social Affairs and Health (Sosiaali- ja terveystieteiden ministeriö, STM), the different municipalities (348 in 2009) (Vuorenkosky et al., 2008) play a fundamental role, being responsible for the funding and organisation of most primary and secondary healthcare services. Community expenditure in pharmaceutical products is covered by the Social Insurance Institution (Kansaneläkelaitos, Kela).

#### *Decentralisation - The role of municipalities*

The municipalities in Finland run health centres, offering primary care services. They can do so on an individual basis or by joining a group of municipalities. The services offered include amongst others GP care and nursing care, preventive care, maternity and child health, physiotherapy and non-acute psychiatry etc.

GPs play an active gatekeeping role in Finland by being the first stop before referral to specialist care.

Remuneration of GPs is primarily based on a salary paid for by the municipalities.

The provision of primary health care services is limited to municipal health centres. Thus, all municipalities are required by the Primary Healthcare Act<sup>6</sup> to have at least one health centre.

Hospital districts, (currently 20 overall) (Vuorenkoski et al., 2008) composed by a number of hospitals, and funded by the municipalities provide hospital or outpatient specialized care. Most specialist care is provided in public hospitals.

### *Private Sector*

Some private healthcare services can be partially covered by Kela<sup>6</sup>. These include:

- a proportion of the fees charged by private doctors for a consultation
- a proportion of examination costs for and treatments prescribed by private doctors
- a proportion of the fees charged by private dentists for consultations and examinations.

Supplementary private insurance is uncommon in Finland (around 14,4%) (OECD, 2014), and primary private insurance is practically non-existent and in those cases in which it is held, this is often as a result of an employment benefit. Supplementary private insurance covers the proportion of the treatment costs not currently covered under the public reimbursement system.

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<sup>6</sup> Available at <http://www.kela.fi/web/en>

Germany (Hogal Lovelles, 2014; Busse & Blümel, 2014; OECD, 2014):

Since 2009 the German health care system relies in compulsory health insurance schemes (Busse & Blümel, 2014). Individuals are free to choose from different schemes but most are insured via one of the statutory health insurance funds, and only a minority are eligible to opt for a private insurer.

#### *Statutory Health Insurance in Germany*

The statutory health insurance system (Gesetzliche Krankenversicherung, GKV) is based on the principles of solidarity and equal access. Eighty- five percent of the population was covered by one of the 132 sickness funds (Krankenkassen) in 2014 (Busse & Blümel, 2014).

All statutory health insurance funds must, since 2009 charge the same premium, set at around 15.5% of the overall gross annual income since 2009 (Busse & Blümel, 2014).

#### *Private Health Insurance on Germany*

Only civil servants, the self-employed and employees with a gross annual income exceeding a certain threshold may take out substitutive private health insurance (Private Krankenversicherung, PHI). As at January 2014, 11% of the population was covered by one of the 51 private insurers (Busse & Blümel, 2014).

Nevertheless, GKV members can opt for supplementary or complimentary private health insurance aimed at covering services not covered (or not covered in full) by their insurance such as pharmaceutical co-payments or dental care. This is used by around 21,4% of members covered by such insurance in 2012. In addition to this



primary private insurance has grown in the last years and 10,9% of the population covered (OECD, 2014).

GPs and physicians in Germany are paid differently depending on the nature of the insurance of the patient:

- For GKV-insured patients, physicians are paid a fee-based salary by their regional physicians' association.
- For private (PKV) insured patients pay physicians for their treatment, according to a list of nationally-standardised tariffs (with some regional differences).

Similarly to what we saw in other countries, GPs are the first point of contact for health consultations, acting as gatekeepers to specialist care.

#### *Provision of care*

The Ministry of Health (Bundesministerium für Gesundheit, BMG) regulates the healthcare system at the federal level, while decisions on the funding and provision of care are decentralised to regional health insurance fund associations and regional doctors' associations.

Spain (Hogal Lovelles, 2014; García-Armesto et al., 2010; OECD, 2014):

Health care in Spain is provided by the National Health Service (Sistema Nacional de Salud, SNS) based on the principles of universal and equal access, and is mostly free of charge at the point of service.

Voluntary private health insurance is not that common with around 13% of the population holding it overall. Private insurance coverage does however, vary greatly between regions. (García-Armesto et al., 2010). Civil servants can make use of the public system or use contracted private insurers instead.

#### *Decentralisation – the role of the autonomous communities*

National healthcare policies remain a responsibility of the Ministry of Health, Social Services and Equality (Ministerio de Sanidad, Servicios Sociales e Igualdad, MSSSI) while the provision and funding of healthcare is decentralized. Seventeen autonomous communities (ACs) are required to provide basic healthcare services by law, but some disparities between ACs are possible.

As seen in all other countries previously covered in Spain GPs also hold a gatekeeper role. Patients are required to see their GP, who would decide whether a referral is deemed necessary.

GPs and specialists are paid a salary as well as per-capita fees.

UK (Hogal Lovelles, 2014; Boyle, 2011; OECD, 2014):

The UK National Health Service (NHS) is based on the principles of universal access and is funded by the central UK government, mainly by means of general taxation. All residents in the UK are covered by the system.

Some differences in access to specific health services are present between the countries of the UK (Scotland, Wales, England and Northern Ireland). Furthermore, an important difference exists between England and the other UK countries since in the former, patients are required to pay a fixed-fee per prescription (of GBP7,85 in 2013) (Hogal Lovelles, 2014) for drugs to be dispensed in the community, while this is not the case in Scotland, Wales or Northern Ireland. (Boyle, 2011).

Private health insurance, is uncommon (approximately 11% of the population in England held it in 2014). (Hogal Lovelles, 2014).

As in the previously discussed countries, GPs in the UK act as gatekeepers to specialist care. Both GPs and specialists in the UK are salaried.

#### *NHS in England*

The Department of Health is responsible for drafting policies while the daily administration of primary and secondary care services is undertaken at the regional or local level.

Table 12 summarises the different health care systems included in our analysis.

**Table 12 - Healthcare systems in five European countries**

| <b>Country</b>                                       | <b>Belgium</b>   | <b>Finland</b>   | <b>Germany</b>   | <b>Spain</b>  | <b>UK</b>   |
|--|--|--|--|---|---|
| <b><i>Health care system</i></b>                     | Statutory health insurance system, with competing “sickness funds” | National Health service  | Statutory health insurance system, with 132 competing “sickness funds” | National Health service   | National Health service                               |
| <b><i>National vs. regional responsibilities</i></b> | National for curative care; regional for promotion and prevention  | National for general policies, regional or local for funding and organization (highly de-centralised system) | National for policy; regional for funding                              | National for general policy, regional for funding and provision | National for policy, regional and local for provision |
| <b><i>Access to specialist care</i></b>              | Direct access for specialist care and free choice                  | GP acts as gatekeeper  | GP acts as gatekeeper  | GP acts as gatekeeper   | GP acts as gatekeeper                                 |
| <b><i>Remuneration of GPs and</i></b>                | Fee for service  | Salary   | Fee based salary   | GPs: Salary + per capita  | Salary  |

|                    |  |  |  |              |  |
|--------------------|--|--|--|--------------|--|
| <i>specialists</i> |  |  |  | fees         |  |
|                    |  |  |  | Specialists: |  |
|                    |  |  |  | salary       |  |

## 4.2 Funding

Table 13 offers a comparison of weights of different types of financing across the analysed countries, based on data from the WHO Global Health Expenditure Database<sup>7</sup>. Figures are in percentage of expenditure by type of financing over the total health expenditure in each country. From the table it is clear that expenditure from public sources is much superior than that coming from private insurance or out of pocket payments in all countries. Private insurance expenditure as a proportion of overall health expenditure remains in all cases  $\leq 10\%$  (it is highest in Germany and lowest in Finland). However, private out of pocket expenditure vary more depending on geographic area, from a low of 9% in the UK to a high of 22% in Spain.

**Table 13 - Country expenditure by type of financing (ref healthdata-en; Eurostat Statistics Database WHO Global Health Expenditure Database)**

| Country | Funding  |
|---------|--|
| Belgium | PUBLIC – 75% <ul style="list-style-type: none"> <li>• General government: 11%</li> <li>• Social security: 64%</li> </ul> |

<sup>7</sup> <http://apps.who.int/nha/database>

|         |   |
|---------|---|
|         | <p>PRIVATE – 24%</p> <ul style="list-style-type: none"> <li>• Private insurance: 4%</li> <li>• Private out-of-pocket: 20%</li> </ul> <p>OTHER SOURCES: 1%</p>   |
| Finland | <p>PUBLIC – 75%</p> <ul style="list-style-type: none"> <li>• General Government: 60%</li> <li>• Social security: 15%</li> </ul> <p>PRIVATE – 22%</p> <ul style="list-style-type: none"> <li>• Private insurance: 2%</li> <li>• Private out-of-pocket: 20%</li> </ul> <p>OTHER SOURCES: 3%</p> |
| Germany | <p>PUBLIC – 77%</p> <ul style="list-style-type: none"> <li>• General Government: 7%</li> <li>• Social security: 70%</li> </ul> <p>PRIVATE – 22%</p> <ul style="list-style-type: none"> <li>• Private insurance: 10%</li> <li>• Private out-of-pocket: 12%</li> </ul> <p>OTHER SOURCES: 1%</p> |
| Spain   | <p>PUBLIC – 72%</p> <ul style="list-style-type: none"> <li>• General Government: 67%</li> <li>• Social security: 5%</li> </ul> <p>PRIVATE – 28%</p> <ul style="list-style-type: none"> <li>• Private insurance: 6%</li> </ul>   |

|    |  |
|----|--|
|    | <ul style="list-style-type: none"> <li>• Private out-of-pocket: 22%</li> </ul>   |
| UK | <p>PUBLIC – 84%</p> <ul style="list-style-type: none"> <li>• General Government: 84%</li> <li>• Social security: 0%</li> </ul> <p>PRIVATE – 12%</p> <ul style="list-style-type: none"> <li>• Private insurance: 3%</li> <li>• Private out-of-pocket: 9%</li> </ul> <p>OTHER SOURCES – 4%</p> |

### 4.3 Pricing and reimbursement systems

Belgium (Hogal Lovelles, 2014; Baker & McKinsey, 2011; European Commission, 2014; Gerkens & Merkur, 2010; Le Polain, Franken, Koopmanschap, & Cleemput, 2010; Vogler, Habl, Bogut, & Vončina, 2011; Vrijens, 2010):

#### *Reimbursed Prescription Drugs*

In Belgium pharmaceutical products do not automatically qualify for reimbursement.

In order to be reimbursed they need to be included in a positive list.

As soon as a company has market authorization they can submit an application for reimbursement to the Belgian *Medicines Reimbursement Commission (Commission de Remboursement de Médicaments (CRM)/ Commissie Tegemoetkoming Geneesmiddelen (CTG))*.

The maximum manufacturer's selling prices (MSPs) of reimbursed prescription drugs are set by the Minister for Economic Affairs. To this end, manufacturers are required to submit a pricing application to the Price Department (Service des Prix) of the Federal Public Service for Economic Affairs (Service Public Fédéral Economie). A reimbursement dossier must be submitted simultaneously to the National Institute for Health and Disability Insurance (Institut National d'Assurance Maladie-Invalidité, (INAMI)/ Rijksinstituut voor ziekte en invaliditeitsverzekering (RIZIV)).

For new medicines seeking reimbursement, these submissions must be made on the same day.

The pricing application should include the proposed MSP, together with full justification, i.e. a breakdown of the price including production, transportation and



research and development costs, as well as staffing costs, sales and marketing expenses and overheads.

Details of market conditions and competition, including the prices (at MSP) of the same product in all European Union (EU) countries where the product is already commercialized. (European Commission, 2014).

The Minister for Economic Affairs determines the maximum MSP within 90 days (45 days in the case of parallel imports). The decision is based on the recommendation of the Medicines Pricing Commission (Commission des Prix des Spécialités Pharmaceutiques, CPSP) (Hogan Lovelles, 2014).

Once established, the Minister's maximum price decision is forwarded to the Medicines Reimbursement Commission (Commission de Remboursement de Médicaments (CRM)/ Commissie Tegemoetkoming Geneesmiddelen (CTG), for reimbursement purposes.

In the event that the 90-day (or 45-day) limit is not met, the MSP requested by the manufacturer (or parallel importer) in the application dossier is deemed accepted and the company can apply the requested price with immediate effect (but without reimbursement).

The manufacturer can contest the price awarded by requesting a review of the decision. To justify its request, the company is allowed to submit additional economic analyses, which are considered by the Minister as part of his decision whether or not to revise its original decision (i.e. amend the price initially granted).

The Price Department of the Federal Public Service for Economic Affairs' stipulates that the proposed MSP of a generic "should offer a sufficient discount versus the price of the original branded product".

Notably, the prices of generic medicines are also reduced on entry into the reference price system (and are subject to further cuts after two and four years in the system). Moreover, mandatory price reductions are applied according to the length of time the active ingredient has been reimbursed.

#### *Pricing (and Reimbursement) Process*

A price notification system applies: generics manufacturers must notify the Price Department of their proposed MSP a minimum of 30 days before implementation. The Price Department must within 30 days send to the company confirmation of the maximum MSP (and maximum final public price). If this timeline is not met, the manufacturer can apply the price requested, but without reimbursement. In the event that the price notification is rejected, the Price Department notifies the company of a maximum MSP which it may apply.

#### *Non-reimbursed OTCs*

For all 'new' OTC drugs (i.e. a new active ingredient, with a new therapeutic indication), manufacturers are required to notify the Price Department within the Federal Public Service for Economic Affairs of their proposed MSP at least 10 days prior to implementation.

For all other OTC drugs, a pricing application must be submitted to the Minister for Economic Affairs, who determines the maximum MSP.

### *Reimbursed OTCs*

A small number of non-prescription drugs are reimbursable in which case their prices are determined by the Minister for Economic Affairs in the same way as reimbursed prescription drugs. The same information requirements, procedure and schedule also apply.

### *Reimbursement categories*

All medicines that have been approved for reimbursement are assigned to a reimbursement chapter and category by the Minister for Social Affairs and Public Health, based on the advice of the Medicines Reimbursement Commission (CRM).

### *The Reimbursement Chapter*

The reimbursement chapter (chapitre) of a drug determines the applicable reimbursement conditions. Products in the same therapeutic category can be in different chapters.

Notably, new and innovative drugs continue to be increasingly assigned to Chapter IV as means of restricting usage to small patient populations, and to contain spending.

### *Categories*

Each product is assigned to a reimbursement category, which determines the patient co-payment. There are seven categories:

1. **Category A:** “Essential” medicines, such as cancer drugs, antiretrovirals, anti-epileptics and diabetes treatments.

- a. **Sub-category Fa:** Category A hospital drugs subject to maximum reimbursement prices.
2. **Category B:** Therapeutically important drugs, for example, antibiotics, antidepressants, and antihypertensives.
  - i. **Sub-category Fb:** Category B hospital drugs subject to maximum reimbursement prices.
3. **Category C:** Drugs for symptomatic treatment, e.g. antacids and anti-diarrheals.
  - i. **Category Cs:** Antihistamines, influenza vaccines.
  - ii. **Category Cx:** Oral contraceptives, antispasmodics.
4. **Category D:** 'Comfort products', drugs that are not included in one of the above categories are included in Class D, e.g. OTC sedatives, sleeping pills and analgesics.

Reimbursement prices are determined by the Minister for Social Affairs and Public Health, and can be lower than the maximum price set by the Minister for Economic Affairs. This may happen in cases where a drug's therapeutic value (as evaluated by the Medicines Reimbursement Commission is not deemed to justify the maximum price). Also impacting reimbursement prices are the active-ingredient reference price system and mandatory price cuts.

#### *Reference Price System*

#### **Reference Price Groups**

The active ingredient-based reference price system was first introduced on 1 June 2001 in a bid to reduce pharmaceutical spending (Vrijens, 2010). Reference price groups (or 'clusters') include all products with the same active ingredient (i.e. off-

patent originals and their corresponding generics) irrespective of form, dosage and administration. Also included since 2012 (but subject to different price reductions) are:

1. **Injectable forms of an original drug**, for which there is no generic injectable version available (but for which there may be a generic non-injectable with the same active ingredient).
2. **'Specials'**: drugs whose method of administration is deemed to provide significant added therapeutic value compared to existing forms of generics included in the reference price system.

### **Calculating Reference Prices**

The rules for calculating reference prices depend on the category into which a drug falls. Reference prices are further reduced after two and four years in the system, again dependent on a drug's category.

Patients are in theory liable for any excess over the reference price. In this respect, a limit (or 'security margin') is applied to the difference between the actual price and reference price, which is equivalent to 25% of the reference price (up to a maximum of €10.80) (Hogal Lovelles, 2014). If the price differential exceeds this limit, the product is delisted. In practice however, most off-patent brands reduce their prices to either the reference level, or within the permitted range.

### **Updates**

Updates to the reference price list occur four times annually. However, changes can be made on a monthly basis if necessary (e.g. to reflect the granting of exemptions or delistings).

### *Mandatory Price Reductions*

Mandatory price cuts (at MSP) apply to all drugs (based on the same active ingredient) which have been reimbursed for more than 12 year (DeSwaef & Antonissen, 2008).

### *Price Reduction on entry into the Reference Price System*

The MSPs of all reimbursed products (based on the same active ingredient) (excluding injectables and 'specials', which are exempt) are reduced on entry into the reference price system if the mandatory price reductions have not already been applied to the ingredient.

Finland (Peura, Rajaniemi & Kurkijärvi, 2007; European Commission, 2014; “Reimbursements for medicine expenses” n.d.; Vogler et al., 2011).

For reimbursed prescription drugs, a maximum allowed wholesale selling price (WSP) applies.

The Pharmaceuticals Pricing Board (PPB), part of the Ministry of Social Affairs and Health, carries out all assessment relating to pricing and access to reimbursement. The PPB meets, on average, around once a month. The final decision rests with the Ministry. There are no restrictions on the prices of non-reimbursed medicines.

Manufacturers are required to submit a range of pricing information as part of the combined pricing and reimbursement application. Separate applications must be made for each new package size, dosage form, package form and strength. The following information is required:

1. **Proposed wholesale selling price (WSP).**
2. The **average daily dosage**, the cost of treatment resulting from the proposed WSP and retail price, including sales tax.
3. **Estimated reimbursable sales** based on the proposed price (at WSP and VAT-inclusive retail price), and estimated patient volume. The data must be supplied for the current year and the next three years.
4. A **‘market forecast’** (at VAT-inclusive retail prices): details of other products with the same indication, and whether the new drug will be a supplementary therapy or would replace comparators and to what extent.

5. **Wholesale prices and reimbursement details for the same product** (all available pack sizes, including any not marketed in Finland) in the 27 other European Union (EU) member states as well as in Iceland and Norway. Where necessary, prices should be converted into euros using exchange rates valid at the time of the application.
6. A **mandatory pharmacoeconomic evaluation** for new active ingredients.

It is also possible for manufacturers to submit information on research and development (R&D) and manufacturing costs where sufficiently detailed data are available, and where deemed to be of value to the application.

The Ministry's decision is based primarily on budget considerations and on the prices of comparable products. The PPB will not suggest a price level at which reimbursement will be granted. There is no scope for negotiation between manufacturers and the PPB.

Innovative pricing agreements such as risk-sharing are not currently a feature of the Finnish market, and are not expected to be introduced any time soon.

The following pricing rules apply to generics:

1. The manufacturer of the first generic version of a drug must **apply to the Pharmaceuticals Pricing Board (PPB)** for approval of the requested wholesale selling price (WSP) and reimbursement status.
2. The drug must have a minimum 40% price difference (at WSP) versus the original. An exception is allowed only if the drug is accompanied by a device, such as an inhaler. In such cases, the minimum price difference will be permitted to remain at 40% (Peura, Rajaniemi & Kurkijärvi, 2007).



3. For all subsequent generic versions, manufacturers need to secure reimbursement approval from the PPB, but can simply notify the PPB of the drug's price, which is capped at the maximum price for a generic in the same reference price group. Generics are listed in the same reimbursement category as the original drug as long as the approved indications are the same.

Off-patent originals are allowed to maintain their previous price, but can only be reimbursed up to the reference price.

Generic price erosion is usually rapid, since price competition between generics is intense. Also, the prices of all non-reimbursed OTCs are not regulated; manufacturers can set their prices freely.

However, any OTCs that are eligible for reimbursement require pricing and reimbursement approval from the Pharmaceutical Pricing Board. Only some OTC drugs can be reimbursed, as long as they are prescribed by a doctor and deemed "indispensable on medical grounds" (e.g. emollient creams used to treat chronic skin conditions). Products intended to prevent illness or maintain good health are not reimbursable.

The reimbursement rate for a drug is determined by the reimbursement category assigned to it by the Pharmaceutical Pricing Board (PPB). Drugs not included in any of the three reimbursement categories are not eligible for reimbursement.

Finland operates an active ingredient-based reference price reimbursement scheme which impacts around half of all medicines by volume. The scheme runs in conjunction

with generic substitution. The reference price reimbursement system operates as follows:

- Reference price groups are made up of all products with the same active ingredient, dosage and form. Groups feature on a list of interchangeable medicines created by the Finnish Medicines Agency (Fimea).
- Specifically excluded from the list (and therefore the reference price system) are: medicines intended for hospital-only use, biosimilars, drugs in medicated plaster form, treatments administered parenterally or via inhalation, or products belonging to ATC groups where substitution with generics is not deemed appropriate for pharmacological or clinical reasons (e.g. antiarrhythmics, antiepileptics, insulins and warfarin).

As KELA informs in their official web page<sup>8</sup>, the reference price for each group is calculated on a quarterly basis as follows:

1. If the cheapest drug in the group is **priced at less than €40** (VAT-inclusive retail price), **the reference price is the price of the cheapest drug in the group plus €1.50.**
2. If the cheapest drug is **priced at or above €40**, **the reference price is the price of the cheapest drug in the group plus €2.**

Manufacturers are allowed to adjust their prices every two weeks, which enables them to cut their prices in line with the quarterly-determined reference price and prevent substitution. As a result, the prices of many drugs drop within the first two weeks of

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<sup>8</sup> Available at <http://www.kela.fi/web/en/reimbursements-for-medicine-expences>

the announcement of the new reference price. Price adjustments during the remainder of the quarter are unusual.

Patients must pay the excess if they reject substitution of a product priced above the reference price level. However, this rule does not apply in instances when the prescribing doctor has prohibited substitution on medical grounds (a practice which is most common for antipsychotics, Alzheimer's drugs and antidepressants). Where the actual price is lower than the reference price, reimbursement is calculated based on the actual price.

Drugs still protected by a process patent, but with marketed generic versions (via a different method of manufacturing the active ingredient), are also covered by the reference price scheme.

Manufacturers must confirm each quarter the availability of drugs subject to the reference price system. Once availability has been notified to the PPB, companies are obliged to ensure sufficient supply of the drug. Supply failures are punished through penalty fees, and a company that fails to supply drugs for which they were contracted is obligated to purchase the drugs from another company at a higher price.

Germany (Hogal Lovelles, 2014; Baker & McKinsey, 2011; European Commission, 2014; Busse & Blümel, 2014; Le Polain et al., 2010; Vogler et al., 2011):

Depending on the outcome of an early benefit assessment, new innovative reimbursed drugs can be freely priced by manufacturers for up to 12 months after launch. Non-reimbursed drugs and those that are exempted from early benefit assessments are freely priced (without a time restriction).

Also, manufacturers are required to pay mandatory discounts (see below) to private (PKV) as well as statutory health insurance funds (GKV) on reimbursed drugs. Moreover, they are free to enter into discount agreements with health insurance funds.

#### *Early Benefit Assessments*

Manufacturers of new innovative reimbursed drugs must submit an early benefit dossier to the Federal Joint Committee (Gemeinsamer Bundesausschuss, G-BA) at product launch, in line with the pharmaceutical sector restructuring law (Arzneimittelmarktneuordnungsgesetz, AMNOG) in effect from 2011 (Hogal Lovelles, 2014).

Based on the dossier, the G-BA conducts an early benefit assessment of additional benefit over a comparator drug or therapy (e.g. shorter duration of illness, reduction of side effects, improved quality of life).

A manufacturer is free to select the appropriate comparator for the early benefit assessment from the range of possible alternative comparators given by the G-BA. Under previous legislation, the cheapest available comparator had to be chosen. The

measure, which came about in response to industry pressure, is designed to broaden the choice of comparator with a view to reducing the number of negative benefit assessment outcomes.

As a first step in the assessment process, the G-BA commissions a preliminary assessment to be completed within three months of product launch. The preliminary assessment is usually prepared by the Institute for Quality and Efficiency in Health Care (Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen, IQWiG). Then, following a comment period for the manufacturer, the G-BA issues a final binding assessment within six months of product launch.

There are six possible early benefit assessment outcomes (the first four outcomes are to be assigned to drugs found to offer an additional benefit, while 5 and 6 relate to those considered as not having an additional benefit):

1. Major additional therapeutic benefit
2. Considerable additional therapeutic benefit
3. Minor additional therapeutic benefit
4. Non-quantifiable additional therapeutic benefit
5. No additional therapeutic benefit
6. Lesser therapeutic benefit than comparator therapy.

Furthermore, based on the terminology of all IQWiG assessments, the strength of the available evidence is classified as follows:

1. **Proof** (strongest).
2. **Indication** (moderate).

### 3. **Hint** (weakest).

While G-BA decisions relating to a benefit assessment for a drug that has been on the market for some time, require Ministry of Health (BMG) approval to take effect, the early benefit assessment decisions require no BMG approval. The decisions are added to Appendix XII of the binding physician prescribing guidelines (Arzneimittelrichtlinien, AM-RL).

Moreover, while manufacturers must provide a dossier for orphan drugs, those with projected annual sales within the GKV of less than €50 million (at pharmacy selling price, including VAT) are automatically assigned additional benefit status. However, a dossier must still be submitted.

#### **Drugs with Additional Benefits**

A discounted reimbursement price for a drug with additional therapeutic benefit must be agreed between the Federal Association of Health Insurance Funds (GKV-Spitzenverband) and the manufacturer. The discounted reimbursement price takes effect from the first day of the 13th month following product launch. Otherwise, an arbitration panel determines the rebate within three months and the resulting discounted price applies retrospectively.

#### **Drugs with no Additional Benefits**

A drug with no additional benefit (i.e. outcome 5 or 6, see above) over a comparator drug or therapy is automatically included in the reference price reimbursement. The drug may then be freely priced, although reimbursement is limited to the reference price.

If the drug cannot be included in an existing reference price group, and it is not possible to form a new group, a discounted reimbursement price must be negotiated between the manufacturer and the Federal Association of Health Insurance Funds (GKV-Spitzenverband). This discounted reimbursement price is not allowed to exceed the price of a comparator product (based on annual therapy costs).

Manufacturers of drugs that are deemed to offer no additional benefit may request, within one year of the decision, a cost-benefit assessment.

According to the G-BA, many of the products securing a favourable benefit assessment verdict were new cancer medicines.

### **Re-assessments**

Not sooner than one year after an early benefit assessment decision by the G-BA, the manufacturer or the G-BA can request an early benefit re-assessment if warranted by significant new evidence.

#### *Rebate Negotiations Following Early Benefit Assessments*

Rebate negotiations between pharmaceutical manufacturers and the GKV-Spitzenverband are based on the level of proven additional benefit versus a comparator drug: proof, indication or hint of major, considerable, minor or non-quantifiable additional therapeutic benefit.

Although the manufacturer is free to select the appropriate comparator for the early benefit assessment from the range of possible alternative comparators given by the G-BA, this does not affect the use of the cheapest available comparator during rebate negotiations.

Price comparability in the context of rebate negotiations must be ensured at the actual MSP in the following list of 15 European Union (EU) countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Greece, Ireland, Italy, the Netherlands, Portugal, Slovakia, Spain, Sweden and the UK. For the calculation of the rebate amount, drug sales and purchasing power parity in each of these countries must be taken into account (European Commission, 2014).

The price negotiations can also be influenced by cost-benefit analysis/cost-offset data/budget impact data from the GKV perspective, as well as data on compliance and other patient-relevant outcomes. Data not enclosed in the dossier is irrelevant for the rebate negotiations.

#### **Arbitration Panel**

If the GKV-Spitzenverband and the manufacturer fail to agree a rebate within six months of the early benefit assessment, the discounted reimbursement price is decided by an arbitration panel within a further three months.

The arbitration panel may “freely decide [on the discounted reimbursement price] by taking into account all relevant circumstances underlying a particular case. This may be interpreted as a removal of the requirement for the arbitration panel to consider the actual MSP of the drug in other EU countries when making its decisions. Previously, price comparability had to be ensured at the actual MSP in 15 EU countries. Drug sales and purchasing power parity were also taken into account.

In the event that they are dissatisfied with the arbitration panel’s decision, either the manufacturer or the GKV-Spitzenverband can request, within one year of the decision, a cost-benefit assessment.



Where rebates are agreed, they correlate with the assessment results.

Aside from the discounts agreed via the early benefit assessment compulsory rebate negotiations, manufacturers and individual health insurance funds may also enter into voluntary rebate agreements.

### **Reimbursement categories**

There are no reimbursement categories: drugs are either reimbursed or not. A drug is reimbursed at its launch price upon market entry. Subsequently, the reimbursement price is set as follows:

1. **Compulsory rebate negotiations following an early benefit assessment.** This process was introduced from 2011 (Hogal Loveles, 2014) and applies to new innovative drugs. For drugs that are found to have additional benefit, manufacturers are required to negotiate the reimbursement price (in the form of a discount on the list price) with the Federal Association of Health Insurance Funds (GKV-Spitzenverband).
2. **Imposition of a maximum reimbursement price** by the GKV-Spitzenverband following an unfavourable outcome from the Institute for Quality and Efficiency in Health Care (IQWiG) cost-benefit assessment.
3. **Inclusion in the reference price system** for drugs deemed to have no additional benefit.

### *Reference Price System*

#### **Background**

All types of reimbursed drugs included patented drugs (unless specifically excluded), off-patent originals, generics and reimbursed non-prescription drugs– can be added to

the active ingredient and therapeutic reference price reimbursement system. Once included, reference priced drugs are only reimbursed up to the reference price.

### **Reference Price Calculations**

Responsibility for setting reference prices for the groups formed by the G-BA (see above) rests with the GKV-Spitzenverband. The following criteria have to be fulfilled when setting a reference price:

1. At least 20% of all prescriptions and 20% of packs must be available at or below the reference price.
2. Reference prices cannot exceed the highest price of products in the lowest price third of the respective group. However, reference prices for groups exclusively comprised of patent-protected drugs cannot exceed the highest price in the lower price half of the group.

The GKV-Spitzenverband first calculates the reference price for the standard pack (top-selling dosage and pack size). This forms the basis for calculating reference prices for all other pack sizes and dosages using multiple regression analysis.

Manufacturers' representatives and other stakeholders (e.g. patient interest groups) have the opportunity to comment on the proposed reference prices before the GKV-Spitzenverband takes a final decision.

Existing reference prices are reviewed periodically to accommodate market changes.

**Reference Price Excesses**

The majority of drugs subject to the reference price system are priced below or at the reference price level.

Patients are liable for any excess amount above the reference price level, in addition to the standard 10% co-payment, and must be informed of this by the prescribing physician. However, the excess charge (as well as the standard co-payment) can be waived if the health insurance fund has agreed a corresponding voluntary discount with the manufacturer.

Spain (García-Armesto et al., 2010; Hogal Lovelles, 2014; European Commission, 2014 Baker & McKinsey, 2011; Vogler et al, 2011):

### *Reimbursed Drugs*

In order for a product to be marketed and covered within the national health system in Spain the manufacturer needs to engage in pricing negotiations with the Ministry of Health. The commission in charge of making pricing decisions is the Inter Ministerial Pricing Commission for Medicinal Products.

Manufacturers are required to submit a combined pricing and reimbursement dossier. The provided dossier includes the manufacturer's selling price (MSP) and retail price that the manufacturer is proposing, the price in the country of origin and in the European Union (EU) countries and also the prices of similar drugs in Spain.

The Commission's pricing decision is based on:

1. **Prices at manufacturer's level in other EU countries.** The CIPM can consider the lowest price not necessarily only the average.
2. **Budgetary impact and cost-effectiveness**
3. **Prices at manufacturer's level of similar drugs already on the market**
4. total cost of the product and company profit (based on an industry range updated once a year by the government) (Vogler et al., 2011).

### *Non-reimbursed Drugs*

Theoretically, the pricing of non-reimbursed prescription drugs is free from control. However, manufacturers are required to notify the price to the Ministry of Health, which can potentially reject it on the grounds of “public interest”.

Generics (Equivalentes Farmacéuticos Genéricos, EFGs) are subject to the same pricing regulations as other prescription products. However, in order for pricing approval to be obtained from the Interministerial Commission on Medicines Prices (Comisión Interministerial de Precios de los Medicamentos, CIPM), the first generic version must have a manufacturer’s selling price below that of the original brand.

Manufacturers are free to set the prices of non-reimbursed OTC drugs and some OTCs may be reimbursed for specific chronic conditions.

### *New Co-payment System*

The payment of medicines is partly covered by the social security and partly paid for by patients via co-payments. These co-payments are based on patients’ income but also take into consideration other factors such as the severity and duration of the illness or the existence of other alternatives. In general, the copayments are of 60% of the retail price for patients with a gross income  $\geq$  100.000 euros; 50% of the retail price for patients with an income  $\geq$  18.000 euros and less than 100.000euros and 40% of the retail price for patients

not included in the previous groups.

Chronically-ill patients have a co-payment of 10% of the price of reimbursed medicines; this applies to all medicines treating conditions which are defined as severe and chronic (e.g. epilepsy, HIV/AIDS, cancer etc) (Hogal Lovelles, 2014).

### **Previous Co-payment System**

Previously, patients were charged co-payments on medicines as follows:

- 40% for the majority of prescription drugs.
- 10% for drugs for certain chronic or severe diseases.

Pensioners were exempted from the charges.

### **Reference Price System and Reference Prices**

An active ingredient and formulation-based reference price reimbursement system is in place, and works in parallel with the actual cheapest price system. Under the reference price system the Ministry of Health defines the reference price for each homogenous group category based on the cheapest product present in the group. Following the publication manufacturers may reduce their prices and this means that more than one product may be priced at the cheapest price level. (Hogal Lovelles, 2014).

Patients are required to pay the full cost of products priced above the reference price level and not just the difference. The reference price for each homogeneous groups are updated every three months (Hogal Lovelles, 2014).

Prescriptions done by international non-proprietary name (INN) are based on 'actual' cheapest prices. Drugs are therefore either reimbursed at the cheapest price or are not

reimbursed. Pharmacists are required to dispense drugs based on the actual cheapest price.

UK (Hogal Lovelles, 2014; Baker & McKinsey, 2011; European Commission, 2014; Boyle, 2011; Vogler et al., 2011).

Prices of new branded drugs are not subject to direct control and thus, the manufacturers are free to price them, although factors such as the availability of generics, parallel imports or assessments by NICE play an important factor on the overall price levels often set.

### **Information Requirements**

The following information needs to be submitted to the Department of Health by all manufacturers launching a new drug: the proposed launch price, the summary of product characteristics as well as the anticipated level of uptake and proposed NHS list price in each of the first five years following launch.

### **The National Institute for Health and Care Excellence**

In particular any assessment conducted by the National Institute for Health and Care Excellence (NICE), will greatly impact price levels. The institute, which remains an independent organization, used a technology appraisal methodology, by which they invite the manufacturers to provide any clinical and economic information they may have about the product being appraised. In addition to that information, other stakeholders and experts are invited to also provide any information considered important.

NICE currently reviews around 40% of all new products being launched in the UK market (Baker & McKinsey; 2011).



Although the positive recommendations from NICE on the reimbursement of a product are required to be followed by the NHS, the opposite is not compulsory and when a review from NICE is negative, the different trusts can still decide whether to reimburse the product.

### *Branded drugs*

NHS list prices for branded drugs are indirectly controlled via the Pharmaceutical Price Regulation Scheme (PPS) - if the manufacturer has opted in to the agreement – or the statutory Health Service Medicines Regulations – if the manufacturer is not part of the scheme.

Although in principle, the manufacturer is free to set a price. There are however, profit controls and price cuts that can influence the decision of the manufacturer on drug prices.

While any branded product supplied by the NHS will be reimbursed in full, the patient contributes to the cost of pharmaceutical consumption by means of fixed prescriptions charges, which are independent of the number of products included in a prescription, the size of the packs or the list price of the products.

### *Unbranded*

The NHS list price of an unbranded generic drug is determined by the Secretary of State and listed in the Drug Tariff. This cannot be higher than the list price of the off-patent original. They are automatically reimbursed. Fixed prescription charges apply also to generic drugs (in England).

### *Reimbursement Prices*

The pharmacy reimbursement prices of most generics are controlled under Category M of the Drug Tariff<sup>9</sup>, while non-prescription drugs can be freely priced and there are no reimbursement categories – a product can be either reimbursed or not.

The Drug Tariff is a monthly publication supplied by the Department of Health to pharmacists and doctors across the UK. The publication offers information on the reimbursement prices of any drugs and or appliances available via the NHS services.

#### **England and Wales**

From a pharmacy reimbursement prices for drugs can be assigned to one of three categories and are listed in the Drug Tariff (section 7a):

- **Category A:** Limited in terms of numbers but includes generics whose prices are calculated based on the weighted average of the prices listed by two wholesalers (AAH and Alliance) and two manufacturers (Teva and Actavis).
- **Category C:** Branded medicines (whether on patent or off patent) listed at the NHS list price set by the manufacturer
- **Category M:** the pharmacy reimbursement prices of most generics are controlled under Category M. The calculation of the prices for these products is done quarterly based on volume-weighted actual average selling prices to wholesalers and retail.

If, due to product shortages, pharmacists are unable to obtain a generic at (or below) the price listed in the Drug Tariff, the Department of Health (DH) can either:

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<sup>9</sup> <http://www.nhsbsa.nhs.uk/PrescriptionServices/4940.aspx>

- **Grant the drug “No Cheaper Stock Obtainable” status**, which enables the drug to be reimbursed at its list price, based on information supplied by pharmacists; or
- **Set a “concession” price for the active ingredient** (at a higher level than the price listed in the Drug Tariff) for a period of one month, using pricing information derived from manufacturers and wholesalers.

The UK remains an exception when compared to other EU countries regarding the fact that they do not apply any kind of external price referencing in their pricing or reimbursement decisions.

Table 14 gives an overview of the P&R systems their commonalities across the countries analysed and their differences

**Table 14 - Pricing and reimbursement in five European countries**

| Country                   | Belgium      | Finland  | Germany   | Spain        | UK   |
|---------------------------|--------------|--|---|--------------|------|
| Pricing for branded drugs | Negotiations | Decided by MoH on the basis of submission (no room for negotiations) | Free for all but “early assessment drugs” for which only free for 12 months | Negotiations | Free |

|   |   |   |   |   |  |
|---|---|---|---|---|--|
| Authorities responsible for price setting/negotiations/acceptance | Medicines Pricing Commission, Ministry of Economic Affairs                          | Ministry of Social Affairs and Health     | Institute for Medical Documentation and Information, Ministry of Health           | Inter Ministerial Pricing Commission for Medicinal Products, Ministry of Health | Department of Health                                       |
| Reimbursement/co-payment  | Depends on reimbursement chapter, drug category and patient socioeconomic situation | Depends on drug category                  | 10% copayment for patients + excess when priced above an existing reference price | Based on income but special (lower) copayments for chronic patients             | Full reimbursement but fixed prescription fee for patients |
| Reference price groups  | Limited active-ingredient groups  | Active ingredient, dosage and formulation | All drugs thought not to add additional benefit (including patented)              | Active-ingredient groups  | Active ingredient  |

| International price referencing | Yes (mean price of the reference countries (26 EU members) or country of origin for the drug) | Yes (all EU members) | Yes but not clearly defined | Yes (EU15 countries) | No |
|---------------------------------|---|----------------------|-----------------------------|----------------------|----|
|---------------------------------|---|----------------------|-----------------------------|----------------------|----|

#### 4.4 Examples – Reimbursed prices for pharmaceutical products used in the mystery shopping exercise

Given the commonalities and differences previously described, how do they translate into real product specific pricing and reimbursement level differences? In order to illustrate this, the vademecums of the five countries of interest<sup>10</sup> were consulted in July 2015. The aim was to identify the pricing and reimbursement situation for the pharmaceutical products that were included in our mystery shopping experiment (i.e. Belgium, Finland, Germany, Spain and the UK).

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<sup>10</sup> Belgium: [Centre Belge d'Information Pharmacothérapeutique \(C.B.I.P.\)](http://www.cbip.be) available at : [www.cbip.be](http://www.cbip.be);  
 Finland : KELA database, available at [https://easiointi.kela.fi/laakekys\\_app/LaakekysApplication?kieli=en](https://easiointi.kela.fi/laakekys_app/LaakekysApplication?kieli=en); Germany: The Rote List, available at <http://www.rote-liste.de/>; Spain: Vademecum, available at <http://www.vademecum.es/>;

UK: MIMS, available at [www.mims.co.uk/](http://www.mims.co.uk/)

Whenever it was possible, both specific brand names and lowest generic prices were mentioned.

**Table 15 - Asthma scenario – Salbutamol**

| Country | Product name     | Public price   | Reimbursed price  | Patient co-payment/contribution                              |
|---------|------------------|--|---|--|
| Belgium | Airomir          | 200 doses 100µg<br>/ dose= €7,23<br>Price per<br>dose=0,036  | 200 doses 100µg<br>/ dose=€5,67<br>Price per<br>dose=€0,028 | 200 doses 100µg /<br>dose=€1,56<br>Price per<br>dose=€0,008  |
|         | Cheapest generic | 200 doses 100µg<br>/dose = €5,50<br>Price per<br>dose=0,028  | 200 doses 100µg<br>/dose = €5,22<br>Price per<br>dose=0,026 | 200 doses 100µg<br>/dose = €0,28<br>Price per<br>dose=0,0014 |
| Finland | Buventol         | 200 doses 100µg<br>/ dose =€12,69<br>Price per<br>dose=0,063 | 200 doses 100µg<br>/dose =€8,25<br>Price per<br>dose=0,041  | 200 doses 100µg<br>/dose =€5,36<br>Price per<br>dose=0,027   |
|         | Cheapest generic | No cheaper version available                                 | See above   | See above  |

|         |                     |  |   |   |
|---------|---------------------|--|---|---|
|         |                     |  |   |   |
| Germany | Salbulair           | 200 doses 100µg<br>/ dose<br>=€15,54<br><br>Price per<br>dose=0,078              | Difference<br>between patient<br>co-payment and<br>list price if list<br>price < ref. price | 10% of list price with<br>a minimum of €5 and<br>a maximum of €10 |
|         | Cheapest<br>generic | 200 doses 100µg<br>/ dose<br>=€15,27<br><br>Price per<br>dose=0,076              | Difference<br>between patient<br>co-payment and<br>list price if list<br>price < ref. price | 10% of list price with<br>a minimum of €5 and<br>a maximum of €10 |
| Spain   | Ventolin            | 200 doses<br>x100µg = €2,93<br><br>Price per<br>dose=€0,015                      | 200 doses 100µg<br>/ dose = €2,64<br><br>Per dose=€0,013                                    | 200 doses 100µg /<br>dose = €0,29<br><br>Per dose = €0,0015       |
|         | Cheapest<br>generic | Precio de<br>referencia €2,93<br><br>(No cheaper<br>alternative<br><br>See above | See above   | See above   |
| UK      | Airomir             | 100 mcg/dose, x  | 100 mcg/dose, x   | Fixed prescription  |

|  |                     |  |  |                                     |
|--|---------------------|--|--|-------------------------------------|
|  |                     | 200=£6,02<br><br>Price per<br>dose=£0,030                    | 200=£6,02<br><br>Price per<br>dose=£0,030                    | charges=£7,85                       |
|  | Cheapest<br>generic | 100 mcg/ dose x<br>200=£2,85<br><br>Price per<br>dose=£0,014 | 100 mcg/ dose x<br>200=£2,85<br><br>Price per<br>dose=£0,014 | Fixed prescription<br>charges=£7,85 |

**Table 16 - Heart failure scenario – Metoprolol (95mg or closest strength)**

| Country | Product name        | Public price   | Reimbursed price   | Copayment  |
|---------|---------------------|--|--|--|
| Belgium | Lopresor            | 100x100mg=€16,15<br><br>Per 100mg tablet<br>(recommended daily<br>dose)= €0,16 | 100x100mg=€10<br><br>Per 100mg tablet<br>(recommended<br>daily dose)= €0,1 | 100x100mg=€6,15<br><br>Per 100mg tablet<br>(recommended<br>daily dose)= €0,062 |
|         | Cheapest<br>generic | 56 x95mg= €10,63<br><br>Per 95mg tablet<br>(recommended daily<br>dose)= €0,19  | 56x95mg=€8,49.<br><br>Per 95mg<br>tablet=€0,15                             | 56x95mg=€2,14 Per<br>95mg tablet =<br>€0,038                                   |
| Finland | Spesicor<br><br>Dos | 100 x 95mg=€35,27<br><br>Per 95mg<br>tablet=€0,35                              | =100 x<br>95mg=€22,93<br><br>Per 95mg                                      | =100 x<br>95mg=€12,34<br><br>Per 95mg  |



|         |                  |  |   |   |
|---------|------------------|--|---|---|
|         |                  |  | tablet=€0,23  | tablet=€0,12  |
|         | Cheapest generic | 100 x 95mg=€20,69<br>Per 95mg<br>tablet=€0,21        | 100 x 95mg<br>=€13,45<br>Per 95mg<br>tablet=€0,13                               | 100 x 95mg =€7,24<br>Per 95mg<br>tablet=€0,07               |
| Germany | Lopresor         | 100 x 100mg=€29,56<br>Per 100mg<br>tablet=€0,30      | Difference between patient co-payment and list price if list price < ref. price | 10% of list price with a minimum of €5 and a maximum of €10 |
|         | Cheapest generic | 100 x 100mg=€13,74<br>Per 100mg<br>tablet=€0,14      | Difference between patient co-payment and list price if list price < ref. price | 10% of list price with a minimum of €5 and a maximum of €10 |
| Spain   | Lopresor         | 40x100mg=€4,18;<br>Per daily dose<br>(1x100mg)=€0,10 | 40x100mg=€3,76;<br>Per daily dose<br>(1x100mg)=€0,09                            | 40x100mg=€0,42;<br>Per daily dose<br>(1x100mg)=€0,01        |
|         | Cheapest generic | NA   | NA  | NA  |

|    |                     |   |  |                                     |
|----|---------------------|---|--|-------------------------------------|
| UK | Lopresor            | 100mgx 56=£6,68<br><br>Per daily dose<br>(1x100mg)= £0,12 | 100mgx 56=£6,68<br><br>Per daily dose<br>(1x100mg)=<br>£0,12 | Fixed prescription<br>charges=£7,85 |
|    | Cheapest<br>generic | 100mgx 28=£2,25<br><br>Per daily dose<br>(1x100mg)= £0,08 | 100mgx 28=£2,25<br><br>Per daily dose<br>(1x100mg)=<br>£0,08 | Fixed prescription<br>charges=£7,85 |

*Specific brand name used whenever possible, lowest INN price also mentioned*

**Table 17 - Diabetes scenario – Simvastatine**

| Country | Product name        | Public price  | Reimbursed price  | Copayment  |
|---------|---------------------|---|---|--|
| Belgium | Cholemed            | 28x40mg=€12,64;<br><br>Per daily dose (1 x<br>40mg/day)= €0,45  | 28x40mg=€9,81;<br><br>Per daily dose (1 x<br>40mg/day)= €0,35 | 28x40mg=€2,83;<br><br>Per daily dose (1 x<br>40mg/day)= €0,10  |
|         | Cheapest<br>generic | 30x40mg=€11,01.<br><br>Per daily dose<br>(1x40mg/day)=<br>€0,37 | 30x40mg=€8,73 Per<br>daily dose<br>(1x40mg/day)=<br>€0,29     | 30x40mg=€2,28.<br><br>Per daily dose<br>(1x40mg/day)=<br>€0,08 |
| Finland | Lipcut              | 100x40mg=€29,71<br><br>Per daily dose<br>(1x40mg/day)=          | 100x40mg=€19.31<br><br>Per daily dose<br>(1x40mg/day)=        | 100x40mg=€10,04<br><br>Per daily dose<br>(1x40mg/day)=         |

|         |                  |   |   |   |
|---------|------------------|---|---|---|
|         |                  | €0,30   | €0,19   | €0,10   |
|         | Cheapest generic | 100x40mg=€28,07<br>Per daily dose<br>(1x40mg/day)=<br>€0,28 | 100x40mg=€18,25<br>Per daily dose<br>(1x40mg/day)=<br>€0,18                     | 100x40mg=€9,82<br>Per daily dose<br>(1x40mg/day)=<br>€0,10  |
| Germany |                  | 100x40mg=€23,97<br>Per daily dose<br>(1x40mg/day)=<br>€0,24 | Difference between patient co-payment and list price if list price < ref. price | 10% of list price with a minimum of €5 and a maximum of €10 |
|         | Cheapest generic | 100x40mg=€22,69<br>Per daily dose<br>(1x40mg/day)=<br>€0,23 | Difference between patient co-payment and list price if list price < ref. price | 10% of list price with a minimum of €5 and a maximum of €10 |
| Spain   | Zocor            | 28x40mg=€10,1 Per daily dose<br>(1x40mg/day)=<br>€0,36      | Not reimbursed (price above reference price)                                    | 28x40mg=€10,1.<br>Per daily dose<br>(1x40mg/day)=<br>€0,36  |
|         | Cheapest generic | 28x40mg=€2,17 Per daily dose<br>(1x40mg/day)=<br>€0,08      | Depending on income group of patient (100-40%)                                  | Depending on income group (0-60%)                           |

|    |                     |   |   |                                     |
|----|---------------------|---|---|-------------------------------------|
| UK | Zocor               | 40mgx28=£29,69<br><br>Per daily dose<br>(1x40mg/day)=<br>€1,06  | 40mgx28=£29,69<br><br>Per daily dose<br>(1x40mg/day)=<br>€1,06  | Fixed prescription<br>charges=£7,85 |
|    | Cheapest<br>generic | 40mg x 28=£1,12<br><br>Per daily dose<br>(1x40mg/day)=<br>£0,04 | 40mg x 28=£1,12<br><br>Per daily dose<br>(1x40mg/day)=<br>£0,04 | Fixed prescription<br>charges=£7,85 |

*Specific brand name used whenever possible, lowest INN price also mentioned*

**Table 18 - Breast feeding inhibition scenario – Cabergoline**

| Country | Product name        | Public price  | Reimbursed price  | Co-payment  |
|---------|---------------------|---|---|---|
| Belgium | Sostilar            | 8x0,5mg=€34,30<br><br>Per daily dose<br>(2x0,5mg)=€8,58                     | 8x0,5mg=€25,23<br><br>Per daily dose<br>(2x0,5mg)=€6,31 | 8x0,5mg=€9,07<br><br>Per daily dose<br>(2x0,5mg)=€2,27  |
|         | Cheapest<br>generic | Sostilar only<br>presentation of<br>cabergoline<br>reimbursed<br>(cheapest) | NA  | NA  |
| Finland | Dostinex            | 8x0,5mg=€47,89.<br><br>Per daily dose<br>(2x0,5mg)=€11,97                   | 8x0,5mg=€16,76<br><br>Per daily dose<br>(2x0,5mg)=€4,19 | 8x0,5mg=€31,13<br><br>Per daily dose<br>(2x0,5mg)=€7,78 |

|         |                  |   |   |   |
|---------|------------------|---|---|---|
|         | Cheapest generic | Only one available (see above).<br><br>Cabaser only available in large packs (30 tablets) for Parkinson's |   |   |
| Germany | Dostinex         | 2x0,5mg=€20,93<br><br>Per daily dose (2x0,5mg)=€20,93   | Difference between patient co-payment and list price if list price < ref. price | 10% of list price with a minimum of €5 and a maximum of €10 |
|         | Cheapest generic | 2x0,5mg=€20,16<br><br>Per daily dose (2x0,5mg)=€20,16   | Difference between patient co-payment and list price if list price < ref. price | 10% of list price with a minimum of €5 and a maximum of €10 |
| Spain   |                  | 2x0,5mg=€4,95.<br><br>Per daily dose (2x0,5mg)=€4,95  | Depending on income group of patient (100-40%)                                  | Depending on income group (0-60%)                           |
|         | Cheapest generic | Reference price<br>2x0,5mg=€4,95.   | See above   | See above   |
| UK      | Dostinex         | 8x0.5mg=£30,04<br><br>Per daily dose  | 8x0.5mg=£30,04<br><br>Per daily dose  | Fixed prescription charges=£7,85                            |

|  |                          |   |   |                                     |
|--|--------------------------|---|---|-------------------------------------|
|  |                          | (2x0,5mg)= £7,51                                    | (2x0,5mg)= £7,51                                    |                                     |
|  | Generic<br>(cabergoline) | 8x0.5mg=£34,94<br>Per daily dose<br>(2x0,5mg)=€8,74 | 8x0.5mg=£34,94<br>Per daily dose<br>(2x0,5mg)=€8,74 | Fixed prescription<br>charges=£7,85 |

## Results

As the table shows, there are noticeable differences between the countries analysed with Germany and Finland displaying the highest “list/final” prices and Spain and Belgium, as well as the UK (in cases of generic availability) presenting lower prices.

Patient contributions showed a similar pattern with Finnish patients contributing more towards the final prices, while Spanish and Belgian patients had, in general lower patient copayments in absolute terms.

Contributions in Germany represent a 10% charge over prices but German patients pay a minimum of €5 and a maximum of €10. Depending on the pack size and the recommended daily dose this may represent a large or smaller contribution towards a specific medical product. The case of the UK is also particular. A fixed fee is paid per prescription. This fee is close to GBP8 which makes it very expensive for the patient in

those cases in which they seek just one product from the pharmacy, but represents a much lower proportion when multiple items are included in a prescription.

Bearing in mind the diverse prices and patient copayments seen above, one can foresee situations in cross-border prescribing and dispensing in which a patient would not only pay significantly more upfront when getting their medication in another member state but they would also be reimbursed, a very small amount, following the rules in their country of origin, making their final overall contribution much larger in a cross-border situation. This would be particularly the case for patients coming from “lower price countries” such as Spain or Belgium, travelling to higher priced countries such as Finland or Germany.

## 4.5 Discussion

A number of factors not taken into consideration in the directive remain worthwhile considering. These include first of all, the category of the medicinal product. Given that drug classification remains to this date a national responsibility and despite the fact that differences are unlikely to be common, our analysis show that some exist at present in particular between the UK and the other EU countries here studied. Differences could continue or even become more common if the different countries put in place policies incentivising the reclassification of drugs after they have proven their safety for a number of years.

Secondly, reimbursement also remains a national responsibility. Given the lack of a single funding and reimbursement system as well as of a “single” EU price, and the fact that patients travelling with a prescription will need to pay the price of the medicine in full and claim reimbursement when they are back at their place of residency, delays are likely to happen. Furthermore, in some cases the price paid for and the difference between the price paid in the country they visit and that reimbursed by the social security in their place of residency can leave room for differences and situations in which the patient would end up contributing more to the price of their medicine that they would have done so if they had acquired it in their country.

Although secondary, these are all factors worthwhile considering and reflection should be encouraged in order to facilitate the life of EU chronic patients travelling across-borders.



## CHAPTER 5. GENERAL CONCLUSIONS

Little was known at the time of the introduction of the Directive 2011/24/EU and its Article 11 on mutual recognition of prescriptions coming from another member state, about the real obstacles that both pharmacists and patients could face at the time of its application as well as ways in which those obstacles could be overcome or, at the very least, reduced to ensure an effective implementation.

This thesis studies in detail a number of influential factors likely to play a role in the acceptance of prescriptions coming from another member state with the aim to recommend measures that could be taken to ensure a rapid and effective uptake of the application of the Directive.

The analysis of policies on prescribing and dispensing across the five European countries of focus already highlighted an important number of factors intrinsic to the functioning of the health systems that could potentially affect the cross-border prescribing and dispensing of POMs.

1. First, an “incomplete” prescription means different things in different countries, with countries like Belgium requiring less information and others like Finland requiring the most for considering a prescription as “valid”.

However, discussions with stakeholders indicated that pharmacists apply the laws with some flexibility and thus, certain missing information may, at least in theory, not pose an important impediment to the dispensation of a product,

particularly in cases of emergency or chronic medications that do not pose a safety risk to patients.

A commonality across the countries' studies was that all would be less likely to dispense if the information on the patient or that of the prescriber was missing.

2. A second important factor highlighted in the policy analysis has to do with the possibility or not for a pharmacist to substitute a specific brand by an equivalent product. Those countries where generic substitution is not "legal" or is legal only under very few or specific circumstances (e.g. Germany or Belgium), the room for pharmacists to deal with foreign prescriptions with commercial product names, strengths or sizes that may not be available in their own country dose could pose a serious legal obstacle to the dispensation of prescriptions coming from another member state.

The case of the UK is a special one, since although no substitution is allowed the majority of prescribing is done by molecule and thus, obstacles to product recognition/availability are unlikely.

3. Differences in the professionals able to prescribe present a further aspect worth considering. If an authorised prescriber in one country drafts a prescription for a patient travelling to a member state where that specific professional is not able to prescribe this could pose some legal problems that at present are difficult to be dealt with, in particular since there is currently no way to identify EU prescribers and check their credentials and specialities.
4. Discussions with stakeholders placed great importance in the impossibility of checking the validity of a foreign prescription given the lack of available tools that could help in this.

The mystery shopping exercise completed as part of this thesis, the largest empirical research undertaken up to date in this field, had as its main objective to test in practice the difficulties detected via the discussions with stakeholders, literature review and analysis of the policies and practices in prescribing and dispensing across-borders.

The results from the experiment showed that, despite all potential theoretical challenges, a majority of foreign prescriptions would in practice be dispensed.

This was despite the fact that Belgium (one of the countries where prescriptions were drafted) was the country requesting less information to be included on the “prescription” form, for it to be legally valid.

Thus, the first of the theoretical obstacles identified via our policy analysis, linked to the specific differences in the physical prescriptions and the items in them included was not considered as a crucial one during our practical experiment. Nevertheless, when asked, pharmacists recognised familiarity with foreign prescriptions and the items in them included would be of help for them in differentiating “legal” from false prescriptions and may also shorten the time to deal with prescriptions coming from another member state avoiding some checks currently performed (checking in the internet or questions to the patient) .

A common set of items required to be included in prescriptions drafted for patients likely to travel to other EU member state could help to address pharmacists concerns and minimise the time and checks required at the time of dispensation.

Two further crucial obstacles to recognition were disclosed via the experiment:

First, the incapability of recognising a specific brand name not available in the country of dispensation. This proved to be a real challenge for pharmacists, constituting the main reason for not dispensing against a foreign prescriptions.

This refusal in cases where the brand name was unknown in the country of presentation may have in some cases been aggravated by the impossibility by law of product substitution by pharmacists.

One obvious solution is for prescriptions written in the EU to use INNs. In the short term, an internet-based European product database allowing pharmacists to compare product names and identify the correct molecules would be very helpful.

The second crucial obstacle uncovered via the experiment was, in the case of the UK, a lack of understanding or misinterpretation of national legislation. Although a real obstacle in practice this would also be one easily overcome.

Specific guidelines for pharmacists on how to deal with prescriptions coming from another member state and a broad information campaign targeted specifically to pharmacists via the national pharmacist associations could help in clarifying the situation specifically in those countries such as the UK where national legislation is being wrongly interpreted.

A further factor which could in some cases become important and which was not looked at prior to the approval or implementation of the Directive has to do with the differences in the classification of medicinal products across-borders. The analysis performed to identify some examples of products requiring a prescription in one

country and not in another showed that differences are not uncommon and places on the table a topic that should not be neglected.

Finding ways of overcoming differences in the classification of products would not be an easy task. For as long as no common “single” classification exists across Europe, these differences would exist and may even become more important in the future. Informative databases that could be consulted by patients and prescribers on the need for prescriptions in the different EU countries for specific products could, however, help to minimise the potential hurdles of patients travelling across-borders.

The reimbursement of medicinal products remain a responsibility of the country of residence and this can bring situations in which the upfront patient contribution towards a medicinal product in their home country may differ greatly to that they would face in a cross-border situation. Delays in receiving their reimbursement once they are back in their country of residence are also likely although our study could not explore them due to the lack of data on this regard to this date and the difficulties to generate such data.

The research here presented is not exempt of limitations and in particular with reference to the empirical exercise undertaken:

This was subject to geographical limitations and its sample size, although considerable for the specific methodology used (mystery shopping), was not large enough to allow for a quantification of the actual obstacles to recognition of prescriptions coming from another member state. Pragmatic decisions on the sample size, and to a lesser extent on the geographic horizon, had to be taken bearing in mind the limited availability of resources, and in particular of human resources. Nevertheless, it is important to

recognise that the study is the largest of this kind in the field and covered a number of European countries with different health systems. Furthermore, large urban areas and small populations as well as more deprived areas were included in the experiment to check if they play an important role in the acceptance of foreign prescriptions. Special attention was placed in taking into consideration in our analysis all the recommendations for further research and limitations mentioned in the only prior attempt to explore willingness to dispensed in EU cross-border situations i.e. the Finnish study by Makinem et al. (Makinen, Forsstrom, & Rautava, 2001).

For a total of seven of the eight visits in Belgium in which pharmacists were unwilling to dispense the actual reasons were not captured. Although a detailed analysis was performed and it was observed that the majority of these visits involved prescriptions written by brand name, in a country where substitution is not allowed, the lack of data does not allow us to conclude anything on this regard. Nevertheless, a majority of pharmacists were still willing to dispense.

In Germany 18% of the pharmacists approached (via email) informing them that a mystery shopping exercise would take place in their area opted out. Such proportion was much larger than in any of the other countries and no clear reasons were provided for the refusals. It has to be noted that the higher rate of refusal could have introduced some biases in the Germany responses. Nevertheless, no specific information on what the experiment was about was provided in the email and thus, reasons for refusing to participate cannot be linked to cross-border prescribing or dispensing in particular, and are more likely to represent a negative response towards “mystery shopping” in general.

Despite all the recognised limitations the empirical experiment constitutes, together with the work done by MATRIX, the only large scale sources of information available in this field.

Prior to the implementation of the Directive, the EU Commission adopted a number of measures aimed at facilitating the application of the Directive. The measures took into consideration the recommendations derived from the ECAB project and in particular the results from our empirical study (Van de Steen, 2013).

Amongst the measures adopted, two in particular are worth mentioning:

1. The drafting by the Commission of a non-exhaustive list of elements/information that would need to be included in a prescription to be valid across-borders. This was primarily aimed at avoiding fraud and helping pharmacists to recognize the validity of the prescriptions.
2. Pharmaceuticals should be referred to by their common, generic molecule name, in order to avoid the possible confusion that could come up when a prescription written in a member state is presented in another with a brand name which does not exist in the country of dispensation, thus impeding or challenging the identification of the appropriate product. The common name to be used would either be the International Non-proprietary name (INN) recommended by the World Health Organisation or, if such name does not exist, the usual common name. The brand name of a medicinal product should only be used to ensure clear identification of biological medicinal products. Medical devices do not have common names as medicinal products. Therefore the prescription should also include direct contact details of the prescriber

which enable the dispensing professional, where necessary, to enquire about the prescribed medical device and correctly identify it.

As the overall impact of cross-border healthcare is thought to be limited, the non-exhaustive list of elements should apply only to prescriptions intended to be used in another Member State.

A follow-up on the impact of the measures taken by the Commission has not yet been put in place.

Further research to assess whether the work done has truly influenced pharmacists' willingness to accept prescriptions coming from another member state of the EU would be required before the effectiveness of the implementation strategy can be measured.



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