Pricing and reimbursement of in-patent drugs in seven European countries: A comparative analysis

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Abstract

The main objective of this comparative analysis was to assess regulations applied by EU governments to reward potentially innovative drugs.

We focused on the pharmaceutical policy for in-patent drugs in seven EU countries: Belgium, France, Germany, Italy, the Netherlands, Spain, and the UK. A common scheme was applied to all seven countries: first, pricing and reimbursement procedures for new and innovative drugs were investigated; secondly, we focused on the use in the regulatory process of economic evaluations. The analysis involved reviewing the literature and interviewing a selected panel of local experts in each country.

According to our comparative analysis, a first sensible step might be to classify active ingredients as those addressing neglected pathologies and those for diseases that are already successfully treated, thus offering more limited therapeutic gains by definition.

A reasonable solution to reward real innovation could be to admit a premium price for very innovative drugs according to their estimated cost-effectiveness. New drugs with modest improvement could be grouped in therapeutic clusters and submitted to a common reference price, despite patent expiry.

Such a “dual approach” could be a sensible compromise to restrict pharmaceutical expenditure while at the same time rewarding companies that invest in high-risk basic research.

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1. Introduction

The pharmaceutical market is heavily regulated in many EU countries, mainly because governments have to balance various objectives, such as the protection of the health of the general population, access to effective drugs, and the containment of pharmaceutical expenditure. Despite this wide variety of interests to be pursued and protected, at present the primary objective of EU health authorities seems to be to control public pharmaceutical expenses which normally tend to rise far beyond budgets and have become a major concern for national policy makers [1].

From a policy perspective, cost containment regulations in Europe are currently part of a wider strategy aimed at making allocation more efficient, by reduc-
ing the economic resources absorbed by mature drugs on the one hand and rewarding investment in highly innovative medicines on the other. The pharmaceutical industry is facing substantial criticism from many directions [2], being considered the main cause of the increasing expenditure despite the low numbers of new active ingredients with added therapeutic value recently launched [2–4]. Big pharmaceutical companies argue that their research investments in Europe have been undermined by cost containment measures introduced by public authorities [5,6].

We have analysed the drug policies to regulate pricing and reimbursement of in-patent drugs in a sample of seven EU countries. The main objective was to assess regulations applied by EU governments to reward potentially innovative drugs within cost containment measures.

2. Methods

The analysis focused on the pharmaceutical policy updated to end 2005 in seven EU countries for in-patent drugs reimbursed and delivered through the retail channel. Therefore, in-patent drugs dispensed through hospitals only, off-patent drugs, and OTCs were excluded. We selected the basket of countries according to two main criteria: France, Germany, Italy, Spain and the UK because of their relevance in the EU, Belgium and the Netherlands since they are two old EU members often referred to by other EU countries as benchmark for pricing.

A common scheme of analysis was applied to all seven countries. First, pricing and reimbursement procedures for new and innovative drugs were investigated. Although price setting and reimbursement are normally embedded in an overall process of pharmaceutical policy that blends macro- and micro-economic tools, we tried to isolate them inside the local context. Secondly, we focused on the use and importance in the regulatory process of the emerging “fourth hurdle” [7]—economic evaluation. Here, we distinguished between full economic evaluations (FEEs) and budget impact (BI) analyses, i.e. the two groups of economic studies often mentioned and mixed up in pharmaceutical regulatory documents, since their objectives and requirements are quite different: the former address the issue of cost-effectiveness [8] while the latter forecast the impact of new drugs on health care budgets [9].

The analysis involved:

- reviewing the literature on pharmaceutical policy in national and international journals;
- interviewing a selected panel of local experts in each country, composed of at least one representative of the national health authorities, one manager from the pharmaceutical industry, and one health economist.

Setting up objective criteria for selecting the literature proved impossible as there is so little international bibliography on pharmaceutical policy, and most information came from local publications.

We interviewed all the members of the local expert panels personally in their own country and kept in contact to collect further information afterwards, clarifying doubts raised when drafting the manuscript.

3. Belgium

Price setting applies to prescription products seeking admission for reimbursement. Requests must be submitted to the Ministry of Economic Affairs; drug files are transmitted to the Pricing Commission for Pharmaceutical Proprietary Drugs (Commission des Prix des Spécialités Pharmaceutiques, CPSP).

The Ministry of Economic Affairs sets the maximum price (MP). The Ministry has 90 days to decide on the product MP, expressed as price per pack and per unit to be applied in community care. The main variables considered for setting the MP are: (i) the ex-factory price in other European countries, (ii) the prices of similar products in Belgium, (iii) the manufacturer’s personnel, overhead, and administrative costs, and (iv) manufacturer’s investments in research and development.

The reimbursement procedure is dealt with by the National Institute for Sickness and Invalidity Insurance (Institut National d’Assurance Maladie et d’Invalidité, INAMI), with the advice on therapeutic relevance and package size provided by experts of the Medicines Reimbursement Commission (Commission de Remboursement des Médicaments, CRM).

Companies have to submit a reimbursement request to the CRM the same day as the pricing application. Depending on the added therapeutic value set
by the CRM each in-patent drug admitted for reimbursement is listed either in: Class 1 (specialties with increased therapeutic value) or Class 2 (specialties with no increase in therapeutic value). Prices of drugs in Class 1 may be higher than those of similar products already marketed if there is a proven therapeutic benefit; however, Class 2 drug prices should not exceed those of their equivalents.

To assess the reimbursement price proposed by the manufacturer, the CRM takes account of the following factors: (i) therapeutic value, (ii) MP set by the Ministry of Economic Affairs, (iii) reimbursement price proposed by the manufacturer, (iv) importance to fulfil current therapeutic and social needs in medical practice, (v) budgetary implications, and (vi) cost/effectiveness ratio.

The Ministry of Social Affairs and Public Health must issue its final decision on reimbursement status and price within 30 days of receiving the CRM’s final suggestion, otherwise the reimbursement conditions initially proposed by the manufacturer will be automatically adopted. According to the CRM’s suggestions, the Ministry of Social Affairs and Public Health has also to assign a reimbursement category to each drug, in order to set the co-payment level. The reimbursement level varies from 100% for life-saving drugs to 30% for specific therapeutic groups (e.g. antispastics, migraine treatments, and oral contraceptives).

According to the 2002 reform [10], the manufacturer has to provide a pharmacoeconomic study if Class 1 inclusion is requested for a product with added therapeutic value. Official guidelines state that the manufacturer should assess total costs, effectiveness, cost-effectiveness ratios and target population [11]. FEEs are not mandatory for other drugs.

4. France

Drug pricing and reimbursement in France results in a sophisticated and complex mix of regulations and negotiations. Community drugs are first assessed by the Transparency Committee (Commission de la Transparence, CT), then by the Pricing Committee (Comité Economique des Produits de la Santé, CEPS).

The CT decides whether or not a product is to be reimbursed and if so for which set of indications. Reimbursement rates are established on the basis of the medical benefit (Service Médical Rendu, SMR), which varies from one to four (I = major, IV = insufficient) and the seriousness of the disease; the rates range from 65% to 35% of the public price (SMR IV for non-serious disease products are not reimbursed). The SMR is reassessed every 4 years and this can lead to a change in the reimbursement status.

Drug prices are set by the CEPS primarily according to the improvement in medical benefit rating (Amélioration du Service Médical Rendu, ASMR) judged by the CT, which ranks a product on a scale from one to five (I = major improvement, V = no improvement).

Public authorities set a contractual agenda with the pharmaceutical industry association which lasts 4 years (the Accord Cadre), the last agreement being valid for 2003–2006. Then a specific contract is to be signed by each company individually, including forecasts of global and per-product sales based on epidemiologic evaluations. An annual payback by companies is due if real expenditures exceed the expected ones. Post-marketing studies are also part of the negotiation between CEPS and each single company when discussing pricing: the government requires post-marketing studies to be funded by industry.

The most important innovation of the last Accord Cadre was that, in order to speed up the average time for granting a price and a reimbursement status for new products approved through the European centralised procedure, a pre-application can be submitted directly to the CEPS and the CT, which will then be able to start the assessment of the dossier earlier. As soon as the CT makes its recommendations, the CEPS will be able to take an informed decision and set a price within 75 days. This accelerated process regards drugs whose expected ASMR is I–IV. Moreover, the manufacturer will be allowed to set a free price which benefits from this fast-track decision for products with an ASMR I, II, and III (limited to products with expected sales under €40 million after 3 years of marketing). Prices should not exceed those in the UK and German markets and must be in line with those in Italy and Spain. The CEPS must give an answer within 15 days; if it does not, the price is tacitly accepted for the next 5 years. If the actual sales for the first 4 years exceed expected volumes, companies have to return part of the extra-revenue to the sickness funds, unless they can prove that “the over-spending improved the health of patients”.
In general, the role of FEEs in France is still very limited from a regulatory perspective [12]. FEEs are not required either for the dossiers sent in to the CT, or for those addressed to the CEPS. No member of the CT is an economist, and cost-effectiveness is not a criterion for assessing ASMR. Requirements for economic data mainly concern the identification of the target population and the BI of a new product [12]. However, the Haute Autorité en Santé (HAS), a recently constituted independent public agency whose goal is to review and provide recommendations on therapeutics strategies, has stated the objective of integrating EEs into healthcare decisions.

5. Germany

Manufacturers are free to set prices of all drugs at their own discretion in Germany, with no formal procedures. Pharmaceutical companies are not required to undertake any specific step to obtain reimbursement of their products. In principle, all prescription drugs are automatically reimbursed once market approval has been obtained, unless they are included in the negative list. However, since 1989 any drug may be subject to the reference price (RP) system (Festbeträgssystem), which determines the maximum amount reimbursable by Sickness Funds [13]. Patients have to cover the difference for prices exceeding the RP. The Federal Joint Committee (Gemeinsamer Bundesausschuss, GemBA) is responsible for group setting.

There are three possible RP levels: (i) level 1 (composed of off-patent drugs only and containing the same active ingredients), (ii) level 2 (products with pharmacologically/therapeutically comparable active ingredients), and (iii) level 3 (products with comparable therapeutic effects, particularly combination products). Levels 2 and 3, the so-called therapeutic RP groups [14], can comprise either in-patent drugs only (minimum of three drugs) or both in- and off-patent drugs [13].

The association of sickness funds (Spitzenverbände der Krankenkassen, SpiK) calculates price ceilings for each group through multiple regression models based on the so-called standard pack (usually the most frequently sold one within a group) [15]. The RPs are reviewed every year by the SpiK and adjusted after any substantial change in the market. Levels 2 and 3 were in fact frozen from 1996 to 2003, then readopted and updated as of 2004. This has recently led to four new level 2 groups: proton pump inhibitors, statins, angiotensin II antagonists, and tryptans. Of these four groups, the first two (often called “jumbo groups” [16]) are made up of both in- and off-patent analogue drugs, while the other two comprise in-patent drugs only. Mixing in- and off-patent drugs inside the “jumbo groups” led to lower RPs, and this was harshly criticised and contested by pharmaceutical companies [17,18].

Only drugs considered to represent a significant therapeutic advance should now be guaranteed to be excluded from RPs [19], although many other drugs seem to be not yet covered by RPs and hence are fully reimbursed. The RP groups include 46.3% of all reimbursed medications and represent 69.8% of all prescriptions.

Economic evaluations do not yet play any formal role in the German health care system. It is worth noting that, with the 2004 reform bill, a public agency called the Institute for Quality and Economic Efficiency (Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen, IQWiG) was created. Despite its name, IQWiG’s main task is to assess the effectiveness of drugs and then issue prescribing recommendations to physicians, more than evaluating cost-effectiveness as originally intended [20].

6. Italy

Until recently the Ministry of Health’s Drug Committee (Commissione Unica del Farmaco, CUF) was responsible for drug approval, pricing and reimbursement [21]. With the introduction in July 2004 of the new Italian Agency for Medicines (Agenzia Italiana del Farmaco, AIFA), full responsibility for pricing and reimbursement has been transferred to the new agency. In particular, responsibility for negotiations has been taken over by the Pricing and Reimbursement Committee (Commissione Prezzi e Rimborsi, CPR), once efficacy has been assessed by the Technical and Scientific Committee (Commissione Tecnica e Scientifica, CTS). The CTS assessments greatly affect the decision taken by the CPR.

Negotiations to obtain an ex-factory price and access to reimbursement concentrate on four main areas: (i) current prices in other EU member states, (ii) prices of
similar products in Italy, (iii) market forecasts, and (iv) cost-effectiveness ratio.

Reimbursement will only be granted to new drugs: (i) with a particular therapeutic benefit or (ii) without a particular therapeutic benefit (me-too drugs) if the price is equal to or lower than those similar included in the same therapeutic class. Reimbursable products are included in the national positive list (Prontuario Farmaceutico Nazionale, PFN), which is periodically revised by AIFA. Differently from the past [22], all products listed are fully reimbursed.

In 2001 the Government introduced a “premium price ” for innovative drugs, so as to launch a new industrial policy and make Italy an attractive country for industrial investments[21]. The budget (originally 0.1% of total pharmaceutical expenditure) should have been distributed among manufacturers of newly approved innovative drugs who invest in R&D in Italy. However, there is still no trace of this strategy since no premium price has been recognised so far in practice. Pharmacoeconomic studies, although not explicitly mandatory, are expected to be one of the main points of discussion during price negotiations for innovative drugs. However, AIFA has not yet issued any guideline on how to conduct FEEs[23], so studies are still very much left to companies’ discretion and not yet systematically submitted. BI is usually more of concern to the authorities during negotiations than the result of FEEs [24].

7. The Netherlands

In 1996 the Medicines Prices Act (Wet GeneesmiddelenPrijzen, WGP) was introduced, under which all prescription drug prices in the Netherlands are referenced to the wholesale prices of four European countries: Belgium, France, Germany, and the UK.

A MP can be calculated if at least two of the four countries have a comparable product (generic included), i.e. with the same active ingredient, same unit strength and same pharmaceutical form. MPs are calculated using the set price lists of each of the four benchmark countries to determine the cheapest available comparable product (with regard to package size); once the country prices have been calculated, the average of these is equal to the prescription drug’s wholesale price in the Netherlands. The MP is reviewed every 6 months to take account of changes in the foreign lists and exchange rate fluctuations with the UK. Manufacturers are free to set and revise their price, but this cannot exceed the MP set under the WGP.

Once a product has gained marketing approval and a MP has been set, it can be included in the positive list of the Drugs Remuneration System (Geneesmiddelen Vergoedings Systeem, GVS). Responsibility for listing a product lies with the Ministry of Health, Welfare and Sport (Ministerie van Volksgezondheid, Welzijn en Sport, HVWS) on the basis of advice from the Pharmaceutical Care Committee (Commissie Farmaceutische Hulp, CFH). The CFH establishes the product therapeutic value according to its therapeutic efficacy and effectiveness, possible side effects, experience, number of potential patients, ease of administration, and improvement in the quality of a patient’s life. Sometimes the financial consequences of potential reimbursement are considered too. Approximately, 80% of all prescription drugs are reimbursed in the Netherlands.

Fully reimbursed products are listed in Annex 1, which is split into (i) Annex 1A (mutually substitutable products for which a therapeutic RP is set) and (ii) Annex 1B (unique products that fall outside the reference price scheme). The Annex 1A group includes 80% of all reimbursed medications and covers 90% of all prescriptions. Products are grouped into clusters of interchangeable active substances, i.e. with an equivalent range of indications and no clinically relevant differences, neither or not they are still under patent. The reimbursement level for a cluster is fixed according to the cost of the defined daily dose (DDD) of each product included; the price of the product directly below the average price is selected as the RP for each cluster. When a new product is added, it automatically adopts the RP of the cluster.

It is worth noting that RPs have never been updated since their introduction, while MPs are updated every semester and are also affected by patent expiries in the basket of the four countries. Therefore, over time, revised MPs tend to fall under the RP, making it a sort of “ceiling price” to avoid the need for any patient’s co-payments.

Products not considered interchangeable are listed in Annex 1B and reimbursed at the manufacturer’s recommended price. The manufacturer has to document the added therapeutic value and the cost-effectiveness of the new drug. Starting from 2005 pharmacoeoco-
nomic studies are formally required to manufacturers for products claiming inclusion in Annex 1B. FEEs have to be conducted according to national guidelines [25,26], taking a societal perspective and including indirect costs due to productivity losses, direct medical and non-medical costs.

8. Spain

In Spain the pricing process for prescription drugs is controlled by the Central Government (Subdireccion General de Economia del Medicamento y Productos Sanitarios, SGEMPS) and is based first on a calculation of the product total costs estimated by the company (including R&D, manufacturing costs, and a certain level of profit) [27]. Manufacturers must submit a pricing dossier containing: (i) the company’s financial records, (ii) the proposed domestic selling price and prices abroad, (iii) the domestic and international prices of similar drugs, (iv) the expected level of sales and the resulting profit, and (v) evidence of the drug’s therapeutic advantage or innovation. A price recommendation is made by the SGEMPS, but the final pricing decision is taken by another interministerial committee (Comision Interministerial de Precios de los Medicamentos, CIPM).

Prices are supposed to be set in line with those of the other EU countries with similar purchasing power. However, it is not clearly stated what European countries are considered, although probably those with the lowest prices, since Spanish prices are usually below the European average. Actually, a frequent criticism of the Spanish system is the lack of transparency in the formal pricing process, i.e. the lack of general rules and explicit, commonly applied criteria [28].

Reimbursement in Spain is claimed by submitting an application to another committee (Subdireccion General de Asistencia y Prestacion Farmaceutica, SGAPF). Although companies are formally required to submit an application for reimbursement by a different procedure, the price agreed for reimbursement is the same as the one accepted by the CIPM. Spain has no positive list for reimbursement, so all drugs are reimbursable in principle, at three different rates varying from 100% to 60%. In 1993 a negative list was introduced which should include products with low therapeutic value and high turnover. The list was updated in 1998, excluding about one-third (29%) of the active substances on the market from reimbursement. However, these interventions did not seem to affect the market too much since the products excluded were not among the most sold and the pharmaceutical industry reacted by switching demand towards similar reimbursable drugs [28]. Moreover, some regions (e.g. Andalusia) decided to keep the reimbursement of some products included in the negative list, covering them with their own funds.

As in most European countries, providing FEEs is not yet mandatory in Spain; nevertheless, many companies submit a pharmacoeconomic report, particularly including the product BI in the pricing dossier. Pharmacoeconomic evidence is expected to acquire a stronger role in pricing and reimbursement assessment in the future, once the newly established Spanish Agency for Medicines and Health Products (Agencia Espanola de Medicamentos y Productos Sanitarios, AEMPS) becomes fully active [29].

9. The UK

In the UK public authorities do not control prices directly. Despite its name, the Pharmaceutical Price Regulation Scheme (PPRS) does not imply price setting, but more in general controls the profitability related to sales to the NHS of the branded pharmaceutical companies—excluding generics which are regulated separately. The PPRS is a voluntary agreement negotiated periodically (usually every 5 years) between the Department of Health (DoH) and pharmaceutical industry—represented by the Association of the British Pharmaceutical Industry (ABPI). The PPRS aims at discouraging promotional expenditure on pharmaceuticals, while simultaneously rewarding R&D investments. As a consequence, active substances may be priced at the discretion of the company, although, once set, the price cannot be raised without DoH approval. This can be allowed only if the company’s overall profit is too low, i.e. below the lower limit of the company’s target profit, which is rarely the case. Therefore, price changes are very infrequent, so most prices remain fixed in nominal terms for years regardless of inflation and competing products.

The vast majority of new prescription drugs are automatically reimbursed after obtaining market autho-
risation from the Medicines and Healthcare Products Regulatory Agency (MHRA), unless they are classified in one of the two negative lists. The black list contains drugs that general practitioners (GPs) are not allowed to prescribe on the NHS (OTCs included); the grey list includes drugs which can be prescribed by GPs on the NHS only for specific indications and patients’ groups.

Unlike in other EU countries, in the UK there is less scope for changes in reimbursement status. The most common change occurs when a prescription-bound product is switched to OTC status after patent expiry and thus loses its eligibility for reimbursement.

FEEs on the drugs selected by the DoH for appraisal after market approval are conducted by the National Institute for Clinical Excellence (NICE), a public agency established in April 1999. The NICE assessments include hearings with manufacturers and end with the publication of a general guidance which can be periodically reviewed. During the hearings manufacturers can provide the NICE with their own EEs to support products. Guidances issued by NICE are binding, i.e. prescribers are supposed to follow these indications. If not, they are asked to provide reasons for prescriptions in contrast with the guidance [30].

10. Comparative analysis

We analysed pricing and reimbursement for in-patent drugs in seven European countries with two different types of health care systems: (i) a public health service in Italy, Spain and the UK; (ii) a health insurance system in Belgium, France, Germany, and the Netherlands.

Table 1 summarises the main characteristics of pharmaceutical policy for in-patent drugs, by country.

The only systems where free pricing formally applies are Germany and the UK where broader regulations are represented by therapeutic RPs and ceilings for companies’ profitability, respectively. In the other five countries analysed price setting is regulated mainly on the basis of negotiations between central authorities and companies, in which the prices in other EU countries and the potential degree of innovation incorporated in the drug are somehow taken into account. The Netherlands is the only country that applies an explicit formula including the prices in other EU countries in calculating the domestic ones. Also, the Netherlands, with Belgium and France, are the countries where new drugs are classified to recognise their degree of therapeutic innovation for pricing and reimbursement, while Italy is the only country where premium prices (PP) are formally regulated by law, although there is still no sign of how these are to be set and managed in practice.

In Germany and the Netherlands similar drugs can be grouped in clusters, regardless of patent expiry, to set a therapeutic RP for reimbursement based on the drug prices. In Belgium, Italy and Spain too public authorities claim to consider similar marketed products for price setting, though no explicit rules or formulas are applied in these countries.

Table 1
Comparative analysis of regulations on in-patent drugs

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<tr>
<th>Pricing</th>
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<td>Price setting based on other EU countries’ prices</td>
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<td>Adoption of therapeutic reference pricing</td>
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<td>Different classes for reimbursement</td>
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<td>Formal acknowledgement in approval procedures</td>
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<td>Official guidelines issued by public authorities</td>
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^a Applies only to a limited number of drugs.
New drugs have to be included in positive lists in Belgium, France, Italy and the Netherlands to be reimbursed; reimbursement is automatically granted in Germany, Spain and the UK once market approval has been obtained, although in these countries products can be switched to a negative list later. Where positive lists have been adopted, reimbursement procedures tend to run parallel or to coincide with pricing procedures. Different levels of reimbursement are allowed in Belgium, France, the Netherlands and Spain, while Italy is the only country where all reimbursable drugs are fully reimbursed.

Pharmacoeconomic studies are formally required to manufacturers of new drugs seeking a PP only in Belgium and the Netherlands where, with the UK, the authorities have issued official guidelines on conducting FEEs. Pharmacoeconomic studies are done by public authorities only in the UK, where the NICE conducts FEEs on new drugs selected by the DoH after market approval. In countries like Italy and Spain FEEs can be incorporated in the dossiers submitted to health authorities, but they are neither mandatory nor clearly regulated. BI analyses seem to play a greater role in these countries, like in France.

11. Discussion

The seven countries in this comparative analysis seem very different in terms of structure and organisation of their own pharmaceutical systems, as expected. In most cases these differences stem from historical reasons, where the weight of the local pharmaceutical industry plays a role. For instance, the PPRS seems to be “tailored” according to the features of the British pharmaceutical industry, which has always contributed positively to the national balance of payments. In contrast, the weakness of pharmaceutical companies in countries like Italy and Spain probably did not enhance national policies aimed at supporting them.

Despite the differences between the seven systems, their problems are becoming increasingly similar. A crucial issue in assessing the pharmaceutical policy of in-patent drugs is how therapeutic innovation is evaluated. In general, data on new drugs at approval are scant and are supplied to the regulatory agencies by manufacturers [31]. Most new drugs have been tested over a short period, on relatively small samples of patients, and under very strict protocol rules. Results based on this limited information may not be confirmed in practice, as is well known. Therefore, clinical effectiveness should be reassessed periodically after marketing approval in the light of evidence from clinical practice. Reassessments might lead to changes in the first pricing and reimbursement decisions taken by public authorities.

Although in most countries the authorities are expected to conduct these revisions periodically, it is hard to say whether and to what extent this is done in practice. France seems to be the country with a major commitment on this issue since reimbursement revisions are explicitly allowed for and post-marketing studies funded by industry are formally requested, as part of the negotiation between health authorities and companies when discussing pricing.

When deciding about the degree of innovation incorporated in new drugs, a first reasonable step might be to classify active ingredients as those addressing neglected pathologies and those for diseases that are already successfully treated, thus offering more limited therapeutic gains by definition. This appraisal would be more likely in countries where public authorities adopt positive lists and thus have to evaluate drugs from the beginning after their approval.

Belgium, the Netherlands and France formally classify new drugs for reimbursement according to the degree of therapeutic innovation, although the French system is peculiar in allowing a large number of classes (five) which might lead to arguable classifications open to discretion and hard to manage in practice.

A reasonable solution to reward real innovation could be to admit a PP for very innovative drugs according to their estimated cost-effectiveness, as in Belgium and the Netherlands. The UK choice to evaluate the cost-effectiveness ratio of new health technologies by a public institution seems interesting too, but is closely related to the British health care experience and thus difficult to transfer elsewhere.

Prices of the same production in other EU countries, where there are any, could also be taken into account. However, in doing this, authorities should be aware that some countries neither regulate nor negotiate prices; that is why pharmaceutical companies usually start their European approval procedures in Germany and the UK and prices tend to be higher in these countries than elsewhere. Accordingly, the Dutch authorities’
decision to include these two countries among the four used for benchmarking might lead to high domestic prices.

New drugs with modest improvement in terms of clinical effectiveness could be grouped in therapeutic clusters and submitted to a common RP, taking into account the prices on the domestic market of products with similar therapeutic effects [32], despite patent expiry, like in Germany and the Netherlands. Although it is not always easy to decide where to “draw the line” around a group, this solution, which guarantees companies formal freedom of pricing, should in the long run discourage the launch of “me-too” drugs by boosting price competition. Such a “dual approach”, where therapeutic improvement through innovative drugs would be rewarded by PPs, while drugs with modest therapeutic gains would be subject to therapeutic RPs, could be a sensible compromise to restrict pharmaceutical expenditure while at the same time rewarding companies that invest in high-risk basic research.

In conclusion, this comparative exercise provides an overview of drug policies adopted by seven EU countries to regulate pricing and reimbursement of in-patent drugs. Although further analysis is needed to assess the results of these policies in practice, we believe the lessons that can be drawn from this study may be helpful to better understand weaknesses and strengths of single domestic policies in the perspective of European harmonisation.

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