Analysis of Medicine Prices in New Zealand and 16 European Countries

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ABSTRACT

Objective: To compare prices of medicines, both originators and generics, in New Zealand and 16 European countries. Methods: Ex-factory price data as of December 2012 from New Zealand and 16 European countries were compared for a basket of 14 medicines, most of which were at least partially funded by the state in the 17 countries. Five medicines had, at least in some countries, generic versions on the market whose prices were also analyzed. Medicine price data for the 16 European countries were provided by the Pharma Price Information service. New Zealand medicine prices were retrieved from the New Zealand Pharmaceutical Schedule. Unit prices converted into euro service. New Zealand medicine prices were retrieved from the New Zealand Pharmaceutical Schedule. Unit prices converted into euro.

Results: For the 14 medicines surveyed, considerable price differences at the ex-factory price level were identified. Within the European countries, prices in Greece, Portugal, the United Kingdom, and Spain ranked at the lower end, whereas prices in Switzerland, Germany, Denmark, and Sweden were at the upper end. The results for New Zealand compared with Europe were variable. New Zealand prices were found in the lowest quartile for five medicines and in the highest quartile for seven other products. Price differences between the originator products and generic versions ranged from 0% to 90% depending on the medicine and the country. Conclusions: Medicine prices varied considerably between European countries and New Zealand as well as among the European countries. These differences are likely to result from national pricing and reimbursement policies.

Keywords: European Union, medicine prices, New Zealand.

Introduction

Access to essential medicines is a fundamental human right [1]. About one third of the world’s population is unable to access essential medicines. The concept of essential medicines as a strategy to ensure access is not only intended for low- and middle-income countries, but it was argued that rich countries should follow the lead of poor countries and adopt a more systematic way of controlling the cost of medicines [2]. The price of a medicine is an important factor in the accessibility and affordability of medicines. The World Health Organization recommends that policymakers implement strategies to manage medicine prices to ensure that medicines are accessible to the community and the individual [3]. Medicines are considered a public health commodity; hence, in many countries, medicine prices, at least for specific, usually (partially) funded medicines, are regulated by the government [4]. In the European Union (EU), common understanding has been reached that pharmaceutical pricing and reimbursement policies should balance the partially conflicting policy goals of access to medicines, reward for innovation, and budget control [5] and that member states have the authority to regulate prices of medicines purchased by, or reimbursed by, the state [6].

Pharmaceutical pricing policies are thus affected by governments with regard to public health objectives, such as access to affordable medicines, and national industry policies, such as reward for innovation. In response to the pricing framework set by government authorities, the pharmaceutical industry often reacts by developing the most appropriate pricing strategies from its perspective [7]. An example would, for instance, be submission to the National Institute for Health and Care Excellence. It is well known that the National Institute for Health and Care Excellence in the United Kingdom, which operates with an approximately £30k threshold, receives a large proportion of submissions with a cost of approximately £29k per incremental cost-effectiveness ratio.

As a result of both government policies and pharmaceutical industry strategies, medicines prices differ among countries [8,9]. Differences may occur at different price levels; for instance, a country might have a comparably low ex-factory price level (i.e.,...
the United Kingdom, and in Norway and Switzerland. How-applied in all EU member states except Denmark, Sweden, and

countries, and usually a lower rate is applied on medicines

increased by several fees, duties, and taxes, the value-added tax

[23]. Unlike many other countries in which prices for patients are

services such as in England, The Netherlands, and Switzerland

fee-for-service remuneration, which covers the cost of pharmacy

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some element of value-based pricing is being used[22]. Whole-

doing so now. Nevertheless, nearly in all European countries,
policy: It is in place only in Sweden. The United Kingdom had

government, resulting in no cost for the inpatients[18].

some high-cost medicines are used that are fully funded by the
government, resulting in no cost for the inpatients[18].

In European countries, prices of reimbursable medicines tend
to be regulated at ex-factory or wholesale (i.e., pharmacy pur-

chasing) price level, whereas manufacturers are usually permit-
ted to set the price of nonreimbursable medicines [19]. A key

methodology guiding public authorities in deciding on the med-
icine prices is external price referencing, that is, the practice of
using the price(s) of a medicine in one or several countries to
derive a benchmark or reference price for the purposes of setting
or negotiating the price [20]. This is a frequently used approach,

apped in all EU member states except Denmark, Sweden, and

the United Kingdom, and in Norway and Switzerland [21]. How-

ever, value-based pricing, when the price of a medicine is set

according to the value it generates, is much less common as a

cy: It is in place only in Sweden. The United Kingdom had

planned to introduce it in 2014; however, it has refrained from
doing so now. Nevertheless, nearly in all European countries,
some element of value-based pricing is being used [22]. Whole-
sale and pharmacy remuneration is added, usually for all med-
icines. They usually take the form of fixed mark-ups and regressive margin schemes, but they might also be organized as
fee-for-service remuneration, which covers the cost of pharmacy
services such as in England, The Netherlands, and Switzerland
[23]. Unlike many other countries in which prices for patients are
increased by several fees, duties, and taxes, the value-added tax
is the only add-on on the pharmacy retail prices net in European
countries, and usually a lower rate is applied on medicines
compared with the standard rate, amounting to around 5% till
20% [24,25].

A number of studies that analyze and compare medicine
prices in European countries have been published. In some
studies, several European countries have been selected whereas
in others a comparison has been done with the United States [8-
10,26–34]. Some price analyses focused on generic medicine
prices compared with the originators [35–38]. To our knowledge,
no comparison between New Zealand prices and prices in other
high-income economies, such as European countries, has been
undertaken. Moreover, it has often been thought that medicines
available on the Pharmaceutical Schedule in New Zealand and
subsidized by the government have very low prices in interna-
tional terms; however, very little empirical evidence is available
to substantiate this claim [39].

Hence, in this study, we compare medicine prices in European
countries with New Zealand prices for a basket of medicines, all
of which are funded in New Zealand and most of which are, at
least partially, funded by the government in the European
countries. This research will allow the assessment of differences
in prices of medicines, including originator and generic medi-
cines, among the countries.

Methods

Country Selection

Seventeen countries were selected for the price survey and the
analysis. These were New Zealand and 16 European countries:
Austria, Belgium, Denmark, Germany, Greece, Finland, France,
Italy, Ireland, The Netherlands, Norway, Portugal, Spain, Sweden,
Switzerland, and the United Kingdom. Fourteen of the 16 Euro-
pean countries are members of the EU (Norway and Switzerland
are nonmembers), and they have similar economic situations to
New Zealand even though some countries (Greece, Portugal,
Spain, and Ireland) have been strongly hit by the global financial
crisis [23]. All selected European countries apply price regulation
for at least part of the medicines on the market [40]. Three of the
14 European countries (Denmark, Sweden, and the United King-
dom) currently do not use international price comparisons
(external price referencing) in the pricing decisions.

Medicine Selection

Selecting the basket of medicines was guided by the following
principles: to have an equal balance of medicines of different
indications, of different price segments (medicines to be known
as high-price medicines and those of high volume but lower
prices), different patent expiry status, and different reimburse-
ment status. Another major selection criterion for the medicines,
and particularly for the pharmaceutical presentation subject to
the analysis, was the actual availability of medicines on the
market in most of the countries.

We drew up a preliminary sample of 43 medicines, applied the
selection criteria, and generated a final list of 14 medicines. The
medicines were checked to ensure that for every medicine each
country had available price data for identical or at least com-
parable presentations. Comparable presentations were defined as
medicines with the same pharmaceutical form (e.g., tablets and
vial), the same dosage, and the same or, if not available, the
closest pack size. If price data on generics were available, the
lowest-priced generic version was chosen. In total, for 5 of the 14
medicines, generics versions were available, however, with var-
iations in country coverage. In case the originator medicines were
available under two brands with a different price, the lower
priced brand was selected. If the originator presentation was
available only in a different pack size than the one of the selected
presentation, this pack size was also chosen for the generic
version, if available, to ensure comparability. Table 1 presents
the selected medicines and the actual presentation chosen for
the price comparison and analysis and provides information on
the country coverage and possible limitations. Although high
country coverage (at least 14 of the 17 countries) was ensured for
the selected medicines with regard to the originator, the coverage
of the generics was poor in most of the cases. We still decided to
<table>
<thead>
<tr>
<th>Active ingredient</th>
<th>Trade name</th>
<th>Therapeutic indication</th>
<th>Selected presentation</th>
<th>Number of countries available for analysis</th>
<th>Comments and limitations related to availability/comparability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abacavir sulphate</td>
<td>Ziagen</td>
<td>HIV infection</td>
<td>60 f/c tablets 300 mg</td>
<td>16</td>
<td>Data for selected presentation available in 16 countries. Data for IT were available in considerably different pack size (10 f/c tablets) and were not included.</td>
</tr>
<tr>
<td>Adefovir dipivoxil</td>
<td>Hepsera</td>
<td>Hepatitis B infection</td>
<td>30 tablets 10 mg</td>
<td>16</td>
<td>Data for selected presentation available in 16 countries. No price data for PT available.</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>Abilify</td>
<td>Schizophrenia, bipolar disorder, antipsychotic</td>
<td>28 tablets 10 mg</td>
<td>17</td>
<td>Data for selected presentation available in 14 countries. Data for NZ (30 f/c tablets) and for NO and SE (14 f/c tablets) available in different pack size.</td>
</tr>
<tr>
<td>Cyclosporin</td>
<td>Neoral/ Sandimmune</td>
<td>Immunosuppressant</td>
<td>50 capsules 100 mg</td>
<td>17</td>
<td>Data for selected presentation available in 12 countries. Data for ES, IT, IE, NL, and UK in different pack size (30 capsules) available; in IT, IE, and UK, both Neoral and Sandimmune were available in 30 capsules 100 mg—Neoral was chosen because in NZ only Neoral is available.</td>
</tr>
<tr>
<td>Cyclosporin</td>
<td>Generic versions</td>
<td>Immunosuppressant</td>
<td>50 capsules 100 mg</td>
<td>7</td>
<td>Data for selected presentation available in 5 countries. Data for NL and UK in different pack size (30 capsules) available. No price data for 10 countries. Data for selected presentation available in 17 countries.</td>
</tr>
<tr>
<td>Darunavir ethanolate</td>
<td>Prezista</td>
<td>HIV infection</td>
<td>60 tablets 600 mg</td>
<td>17</td>
<td>Data for selected presentation available in 14 countries. Data for EL and DE in different pack size (20 and 14 f/c tablets) available; they were included. No price data for escitalopram O in NZ available (but not reimbursed; generic version reimbursed and sole supply). In EL, ES, IT, and SE, 2 O with same price for identical presentation are available.</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>Lexapro, Cipralex, Esertia, Entact, Seroplex, Sipralexa</td>
<td>Depression, anxiety, antidepressant</td>
<td>28 f/c tablets 10 mg</td>
<td>16</td>
<td>Data for selected presentation available in 3 countries. Data for EL and FI in different pack size (EL and FI 30 f/c tablets and EL also 14 f/c tablets) available. EL: 14 f/c tablets were chosen to have the identical presentation as for O.</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>Generic versions</td>
<td>Depression, anxiety, antidepressant</td>
<td>28 f/c tablets 10 mg</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Indinavir</td>
<td>Crixivan</td>
<td>HIV infection</td>
<td>180 capsules 400 mg</td>
<td>16</td>
<td>Data for selected presentation available in 16 countries. No price data available for IE (medicine not on market).</td>
</tr>
<tr>
<td>Insulin lispro</td>
<td>Humalog</td>
<td>Diabetes mellitus</td>
<td>3-ml cartridge 100 u/ml</td>
<td>16</td>
<td>Data for selected presentation available in 16 countries. No data available for this presentation in ES.</td>
</tr>
<tr>
<td>Lopinavir/ritonavir</td>
<td>Kaletra</td>
<td>HIV infection</td>
<td>120 tablets 200 mg/50 mg</td>
<td>16</td>
<td>Data for selected presentation available in 16 countries. No price data available for IE (medicine not on market).</td>
</tr>
<tr>
<td>Mycophenolate mofetil</td>
<td>Cellcept</td>
<td>Immunosuppressant</td>
<td>50 tablets 500 mg</td>
<td>17</td>
<td>Data for selected presentation available in 13 countries. Data for AT, BE, CH, and DK in different pack size (150 tablets) available and included.</td>
</tr>
</tbody>
</table>

continued on next page
<table>
<thead>
<tr>
<th>Drug</th>
<th>Generic versions</th>
<th>Condition</th>
<th>Pack size</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycophenolate mofetil</td>
<td>Generic versions</td>
<td>Immunosuppressant</td>
<td>50 tablets 500 mg</td>
<td>Data for selected presentation available in 15 countries. Data for BE and DK in different pack size (150 tablets) available. Data for 50 and 150 tablets available in AT and CH; 150 tablets chosen to ensure comparability between O and G.</td>
</tr>
<tr>
<td>Pioglitazone Actos</td>
<td>Generic versions</td>
<td>Diabetes mellitus</td>
<td>28 tablets 30 mg</td>
<td>Data for selected presentations available in 17 countries. No price data available for FR (no longer marketed) and NZ (no longer reimbursed, generic version is reimbursed).</td>
</tr>
<tr>
<td>Pioglitazone Generic versions</td>
<td>Diabetess mellitus</td>
<td>28 tablets 30 mg</td>
<td>6</td>
<td>Data for selected presentations available in 6 countries. No price data available in 11 countries (no generics on the market).</td>
</tr>
<tr>
<td>Prasugrel Efent</td>
<td>Prophylaxis of thrombotic events, antiplatelet</td>
<td>28 tablets 10 mg</td>
<td>17</td>
<td>Data for selected presentation available in 16 countries. Data for FR in similar pack size (30 capsules) available.</td>
</tr>
<tr>
<td>Sunitinib Sutent</td>
<td>Renal cell carcinoma, gastrointestinal stromal tumors Depression, anxiety, antidepressant</td>
<td>28/30 capsules 12.5 mg</td>
<td>17</td>
<td>Data for selected presentation available in 17 countries, either 28 or 30 capsules.</td>
</tr>
<tr>
<td>Venlafaxine Efexor XR</td>
<td>Depression, anxiety, antidepressant</td>
<td>28/30 prolonged-release capsules 75 mg</td>
<td>16</td>
<td>Data for selected presentation available in 13 countries. Data for DE (50 prolonged-release capsules retard), DK (98 prolonged-release capsules), and IT (14 prolonged-release capsules) available in different pack size and included. No data on prolonged-release capsules in SE available.</td>
</tr>
<tr>
<td>Venlafaxine Generic versions</td>
<td>Depression, anxiety, antidepressant</td>
<td>28/30 prolonged-release capsules 75 mg</td>
<td>17</td>
<td>Data for selected presentations available in 15 countries. Data for DE (50 prolonged-release capsules retard) and IT (14 prolonged-release capsules) in different pack size available.</td>
</tr>
</tbody>
</table>

AT, Austria; BE, Belgium; CH, Switzerland; DE, Germany; DK, Denmark; EL, Greece; ES, Spain; fl, film coated; FR, France; FI, Finland; IE, Ireland; IT, Italy; NL, The Netherlands; NO, Norway; NZ, New Zealand; PT, Portugal; SE, Sweden; UK, the United Kingdom (England, Wales).
keep the generics included but did an additional analysis for originator medicines only.

Sourcing European and New Zealand Price Data

The national price data from 16 European countries were provided by the Pharmaceutical Price Information (PPI) service by Gesundheit Österreich GmbH/Austrian Health Institute [41]. The PPI service offers, at request, medicine prices of the EU member states covering all price types. It was established to support, according to the Austrian General Social Insurance Law [42], the Austrian Pricing Committee, which calculates the EU average price. This is required for price setting because Austria applies external price referencing and sets its prices on the basis of the average of the prices in all other EU member states. Price data were given for all presentations (different pharmaceutical forms, dosages, and pack sizes) of the originator brands and the "most common" generic medicines. Prices were given at all price types; the ex-factory price, pharmacy purchasing price, pharmacy retail price net, and pharmacy retail price gross (including value-added tax) if applicable (for hospital medicines, only the ex-factory price was indicated because no distribution margins were applied). Price data were official ones; that is, they did not consider any (confidential) discounts and rebates. Prices were displayed per unit (e.g., per tablet, vial) in national currency from June 2012. The price data from the European countries did not always include information whether these medicines were reimbursed by the government funding authorities or not; however, it is most likely that most of them are reimbursed (information provided by PPI data providers).

New Zealand price data at ex-factory price level for funded medicines were sourced from the New Zealand August 2012 Pharmaceutical Schedule [15].

Data Management and Analysis

For each of the 14 medicines, the price (if indicated different than the euro) was converted to euro for international comparison. For price conversions, the monthly average exchange rate as of June 2012 as indicated by the European Central Bank was used [28]. Unit prices were compared at the ex-factory price level for medicines of comparable presentations because this price type had data available for almost all the 17 countries and because for medicines in hospital only this price type is available (Table 1). Data analysis was carried out using Microsoft Office Excel 2007 and in R 2.15.2.

Results

Data for the 16 European countries and New Zealand showed a high variation in medicine prices. For most of the selected medicines, the price of the product in the highest-priced country was at least twice the price of the medicine in the country with the lowest price. For a few medicines, particularly generics, the cross-country price differences amounted up to 1000% and more (Fig. 1; see Appendix 1 in Supplemental Materials found at http://dx.doi.org/10.1016/j.jval.2015.01.003).

Among the European countries, Greece and Portugal, and also, but to a lesser extent, Spain, United Kingdom, and The Netherlands frequently ranked in the lowest quartile (first quartile), and have displayed the lowest price in some cases. Countries ranking at the higher end (highest quartile, i.e., fourth quartile) were Switzerland and Germany and also Denmark and Sweden (Fig. 2; see Appendix 2 in Supplemental Materials found at http://dx.doi.org/10.1016/j.jval.2015.01.003). The data for New Zealand showed higher variability: within the 17 countries surveyed, New

Fig. 1 – Price differences between highest- and lowest-priced medicine. A total of 19 presentations (14 on-patent medicines plus a comparable generic version for 5 medicines). Information on data availability (cf. Table 1). Difference between the price of a medicine in the country with the highest price and the price of the medicine in the country with the lowest price is indicated in percentage on the basis of the lowest-priced medicine. G, generic version; O, originator medicine; if not indicated, only the originator version is available.
Zealand’s prices were in the lowest quartile in five cases and ranked lowest in four cases (abacavir, escitalopram generic version, mycophenolate mofetil originator version, and pioglitazone generic version), whereas they were in the highest quartile in seven cases, thereof ranking highest in one case (prasugrel). The six other medicines in the highest quartile in New Zealand were darunavir ethanolate, indinavir, insulin lipro, sunitinib, and venlafaxine, the latter being both the originator and the comparable generic version.

Table 2, Figure 2, and Figure 3 highlight the differences between New Zealand and European prices. In the four cases in which New Zealand ranks lowest, the New Zealand prices are 6% (mycophenolate mofetil originator), 15% (abacavir), 32% (pioglitazone generic version), and 65% (escitalopram generic version) lower than that of the lowest-priced medicine in the European countries. For prasugrel (highest price in New Zealand), the New Zealand price is 25% higher than that of the lowest-priced medicine in the European countries.

With regard to price differences between the originator and its comparable generic version, there is again variation between the countries, ranging from no price differences between the originator and the generic version (observed in Spain, for instance) to generics with prices up to 90% lower than those of the originator (e.g., in The Netherlands and the United Kingdom for some medicines; see Appendix 3 in Supplemental Materials found at http://dx.doi.org/10.1016/j.jval.2015.01.003).

Discussion

The study offered, for the first time, a price comparison of European and New Zealand medicine prices. It showed price variation between the European countries and between New Zealand and European countries.

Our findings showed that medicine prices in Greece, Portugal, and Spain, and also the United Kingdom and The Netherlands, ranked at the lower end, whereas prices in Switzerland, Germany, Denmark, and Sweden were at the higher end. The results were more or less in line with the previous price comparisons among European countries, particularly with studies of more recent times [8,9,23,26–31,33,34,38,43–45]. The major difference in the literature concerns Norway, which was found to have a rather low price level in a study by Brekke et al. [28], but not in our survey. It is important to consider more updated studies because there might have been changes over time. In studies of more than a decade ago, medicine prices in the United Kingdom, for instance, ranked high or middle-high, but in recent publications, including our survey, they ranked low or middle-low. Some European countries (Greece, Portugal, Spain, and Ireland) were hit hard by the global financial crisis, and they had to undertake “austerity measures” in pharmaceutical policy also. Medicine price cuts were frequently implemented in these countries [23,40,46], and they can explain the persisting low prices in the Mediterranean “crisis countries” that already had a low price level before the crisis as well as the move to the upper-middle price level in Ireland, previously a high-price country [8].

There is no pattern regarding the high variability in price differences between New Zealand and the European countries. In our sample, New Zealand price data frequently ranked either in the first quartile or in the highest quartile. Medicines that displayed lower prices were, in most cases, medicines for which a generic alternative existed. These findings point to New Zealand being successful in bringing prices for generics down to a lower level.

We acknowledge, however, that our survey focused on on-patent medicines, and a comparison of originator and generic medicine prices was not the focus of this price survey given limited availability of generic medicine prices (generics were not on the market in several countries, and in New Zealand only the generic versions and not the originator were included in the reimbursement list in three cases). Nonetheless, even for the few data available, some kind of pattern could be observed. Price differences between the highest- and the lowest-priced products across the countries were considerably higher for generics than for the other medicines of the sample (Fig. 1; see Appendix 1 in Supplemental Materials). Overall, originator versions of medicines with generics available tended to show higher price differences than did on-patent medicines without generic versions. Although these data are not representative, they are in line with other studies [35–37], which concluded that countries such as the United Kingdom, Denmark, and Sweden, which had generic competition work, apparently succeeded in bringing generic medicine prices down. These countries, however, also apply further policy options to increase generic uptake, such as mandatory generic substitution (Sweden), highly encouraged...
prescribing by International Non-Proprietary Name (the United Kingdom), and therapeutic reference pricing (Denmark and Sweden), which are likely to have contributed to higher generic market shares in the countries. According to Dylst and Simoens [37], there appears to be a negative relationship between generic market shares and generic prices.

Medicine prices in a country are the result of several pricing policies and reimbursement strategies [29]. Most European
countries and New Zealand regulate the prices of reimbursable medicines, that is, those medicines that are funded, at least partially, by the state, whereas manufacturers can freely set the prices of nonreimbursable medicines, which are often nonprescription medicines (over-the-counter medicines) [19,36,46]. It was not in the scope of our study to assess as to whether specific pricing policies, that is, external price referencing versus value-based pricing, were more successful in driving prices down. The issue of who pays, however, is an important one from a public health perspective. All medicines of the sample were so-called funded medicines in New Zealand, and most medicines were included in the outpatient reimbursement lists in the European countries. In hospital care, medicines in Europe and in New Zealand (if listed on the Hospital Medicines List) are always 100% covered by the state. Being included into reimbursement does not always correspond to funding to the full extent. In Austria, some regions in Italy, New Zealand, and the United Kingdom, a prescription fee is applied, and in Ireland patients are required to pay a deductible, that is, an initial out-of-pocket expense up to a fixed amount. The most common outpatient co-payment, which applies to all European countries of the sample except Austria, Ireland, Italy, The Netherlands, and the United Kingdom, is a so-called percentage co-payment for several medicines defined as “reimbursable,” which results in a sharing of the price between the public payer and the patient [19,36,46]. In European countries, the increase in co-payments was one of the most common cost-containment instruments during the last years, undertaken in response to the global financial crisis [23,40,46]. Co-payments risk that patients of lower socioeconomic groups refrain from purchasing medicines, or filling prescriptions, with possibly negative implications related to morbidity and mortality and, eventually, added public health care costs [47,48]. A study assessing the possible impact of the global financial crisis in Greece suggested that vulnerable groups have refrained from demanding health care services (medicines were not particularly studied) [49]. In New Zealand, there was concern that the increased cost to consumers (from NZ $3/around €1.8 an item in 2012 to NZ $5/around €3.10 per item in January 2013, with a maximum of 20 items per family per year [50]) could have an impact on the proportion of low- to middle-income earners able to access essential medicines [51].

Our study has some limitations. It is based on single medicines, and therefore our findings can only provide an indication for the price level of medicines in a country. The basket of medicines is not very large, but it includes a range of medicines addressing different indications. The rather small size of the basket resulted from limited data availability and comparability between European countries and New Zealand, since we previously started with a list of 43 medicines for which we had European price data, but then reduced the number given limited comparable products with price information in New Zealand.

The price survey is based on official list prices. We are aware that in many European countries and in New Zealand actual prices are different (i.e., lower) because discounts and rebates, in different forms (e.g., price-volume agreements and risk-sharing schemes), are granted by industry to public payers [52]. Because these discounts and rebates are mostly confidential and not disclosed, they were not included in the price data we received.

Conclusions

Medicine prices varied considerably between European countries and New Zealand. Within the European countries, Greece, Portugal, the United Kingdom, and Spain had prices at the lower end; whereas prices in Switzerland, Germany, Denmark, and Sweden were at the upper end. These differences are likely attributable to underlying national pricing and reimbursement policies, which are affected by public health and industry-related policy goals as well as by the economic situation of the country. The study confirmed that countries that were strongly hit by the global financial crisis took several cost-containment measures related to medicine prices such as price cuts. Although the study focus was not on generics, research still provided some indication that generic policies apparently have an impact on the availability and prices of the generics.

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Supplemental Materials

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