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ORIGINAL RESEARCH

Ostomy appliance prices in Europe

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Abstract

Objective: This article aims to compare market prices (i.e., third-party reimbursement and patient co-payment) of one-piece and two-piece colostomy, ileostomy and ureterostomy appliances in Belgium, Denmark, England and the Netherlands in 2005.

Methods: Data were collected through contacts with health authorities, health insurance companies, manufacturers, industry associations and distributors. The price difference between Belgium and another country was expressed as a proportion of the Belgian price.

Results: A total of 64 out of the 72 ostomy appliance products considered were cheaper in Belgium. Prices of one-piece colostomy appliances and two-piece ileostomy appliances were consistently lower in Belgium. The highest prices of ostomy appliances were observed in the Netherlands. Sixteen out of 20 products and 21 out of 25 products were more expensive in Denmark and England, respectively, than in Belgium. Colostomy appliances were more expensive in England than in Belgium.

Conclusions: Market prices varied substantially between countries, indicating that manufacturers adapt their pricing strategy to the policy environment existing in the ostomy appliance market of each country. Also, there appears to be scope for reducing prices in some countries.

Keywords: colostomy, Europe, ileostomy, ostomy appliances, price, ureterostomy

Introduction

When patients lose normal bowel or bladder function due to an accident or disease, they may undergo surgery that diverts the small or large intestine (ileostomy or colostomy) or the urinary passage (ureterostomy) to the surface of the skin. Ostomy appliances are attached to the patient's skin on a temporary or permanent basis to catch and store the waste that leaves the body through the stoma. Such appliances consist of a flange and a pouch as a one-piece or two-piece system, and usually have built-in odour filters and skin-friendly layers on the body side.

The ostomy appliance market is associated with substantial expenditure. In Belgium, public expenditure on colostomy and ileostomy appliances in ambulatory care amounted to €15,392,574 in 2005¹. This corresponded with a volume of 4,449,160 colostomy

appliance and 1,112,290 ileostomy appliances. Public expenditure is set to grow in the future as a result of the ageing population, more active lifestyles and demands for increased quality of life, constant innovation in medical technology, income growth and increasingly extensive health insurance systems that facilitate access to devices. The number of Belgian ostomy patients was estimated to be 9,708 in 2003².

There is a need for European data on price levels of ostomy appliances. The market for ostomy appliances is characterised by a lack of transparency and a lack of competition³. Also, as pricing of ostomy appliances is an area of national responsibility, countries have adopted different approaches to pricing. Information about the comparative price level of products between countries may aid decision makers in reforming the ostomy appliance market and lead to a more efficient use of limited resources. Finally, the European ostomy

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appliance market is dominated by major international manufacturers. This trend towards internationalisation underlines the importance of gaining insight into European market prices of ostomy appliances.

The aim of this paper is to conduct a European comparison of market prices of selected colostomy, ileostomy and ureterostomy appliances. If there is price variation of ostomy appliances between countries, this would suggest that some excess profits are being made and that there are consequent inefficiencies in government budgets. As a result, information provided by this study can serve to guide future policy options regarding pricing of ostomy appliances in Europe. This study was carried out as part of a larger research project under the authority of the Belgian Healthcare Knowledge Centre which, in addition to the European comparison of prices, calculated production and distribution costs of selected appliances and compared regulations governing national ostomy appliance markets⁴.

Regulatory framework

Regulation governing ostomy appliances has been described in detail elsewhere², but a summary of pricing and reimbursement procedures is provided here with a view to setting the context of the European price comparison. The price of ostomy appliances is free to the consumer in Belgium. The price to distributors is multiplied by the so-called 'Walkiers coefficient' to set the tariff reimbursed by the RIZIV/INAMI, the Belgian third-party payer. The Walkiers coefficient covers a pay-off for general costs, wages, costs of materials, and is currently set at 1.64. The public price of ostomy appliances tends to be equal to or higher than the tariff. Depending on the extent to which an ostomy appliance meets a medical necessity, it is allocated to one of three reimbursement categories. If the appliance corresponds to an absolute medical indication (Class A products), it is fully reimbursed by the third-party payer. For Class B appliances that meet a relative medical indication – meaning that the appliance has additional features beyond those that are required to treat the medical indication – the third-party payer reimburses the same amount as if the appliance had Class A status and a supplement of up to 25% of the tariff can be charged to the patient. Class C appliances have additional features that substantially exceed those needed to treat the medical indication. In this case, reimbursement is limited to the amount paid as if the appliance had Class A status. There are no limits on the patient co-payment.

In Denmark, prices of ostomy appliances are set freely through a process of public procurement at the level of the 'Kommuner' (i.e., municipality), of which there were 271 throughout Denmark at the time of the study. The distributor that wins the procurement process needs

to guarantee delivery of ostomy appliances to the home of the patient. The cost of ostomy appliances is fully reimbursed by the Danish Health Service. Reimbursement is based on the price that emerges from the public procurement process.

There is free pricing of ostomy appliances in England: prices are negotiated between manufacturers and community pharmacies. Ostomy appliances are fully reimbursed by the National Health Service and reimbursement is determined on the basis of tariffs listed in Part IX C of the Drug Tariff. Tariffs are negotiated between the National Health Service Prescription Pricing Authority and several manufacturers. As community pharmacies may be able to obtain discounts from manufacturers, tariffs of ostomy appliances are discounted using a sliding scale depending on the number of prescriptions.

Free pricing of ostomy appliances prevails in the Netherlands. Prices are determined as a result of negotiations between health insurance companies and manufacturers and, therefore, may vary between health insurance companies. As health insurance companies are free to decide which ostomy appliances to offer, they are able to put pressure on prices and to exclude expensive appliances from reimbursement. Health insurance companies may also be able to obtain discounts from large-volume distributors. Ostomy appliances are fully reimbursed in ambulatory care by the health insurance company.

Methods

Data source

Information about the pricing of selected ostomy appliances was derived from direct contacts with health authorities, health insurance companies, manufacturers, industry associations, (wholesale) distributors and retailers (e.g., bandagers and community pharmacies). The main sources of price data for the different countries are as follows: Belgian data were derived from the nomenclature of ostomy appliances, which consists of a number of codes describing the public reimbursement and market prices applying to ostomy appliances in combination with a description of the product Class for each code. Additional data originated from manufacturers participating in public tenders in Denmark; from the 'Z-index' – a list of market prices of medical devices (including ostomy appliances) – in the Netherlands; and from Part IX C of the Drug Tariff compiled by the Department of Health in England.

Selection of countries

As this study was carried out in Belgium, prices of selected ostomy appliances in Belgium were compared

Table 1. Reference ostomy appliance list for Belgium.

	<i>Manufacturer</i>	<i>Product name</i>	<i>Market price (€)</i>
One-piece colostomy appliances			
1	A-products		2.47
2	BBraun	Crysalis Quiétude	2.69
3	Coloplast	Alternia Free closed	2.81
4	Convatec	Colodress plus	2.63
5	Hollister	Moderma Flex	2.64
Two-piece colostomy appliances			
1	A-products		1.48
2	BBraun	System 2 Colo pouches	1.60
3	Coloplast	Alternia free closed	1.69
4	Convatec	Combihesive II S Colo WF comfort	1.58
5	Hollister	Conform 2 Colo	1.59
One-piece ileostomy appliances			
1	A-products		3.37
2	BBraun	Almarys Preference Ileo	3.98
3	Coloplast	Alternia free ileo + hide away closure	4.01
4	Convatec	Ileodress plus TM	3.66
5	Hollister	Moderma Flex Ileo	3.74
Two-piece ileostomy appliances			
1	A-products		1.45
2	BBraun	Almarys Twin Ileo + filter	1.67
3	Coloplast	Alternia free ileo + hide away closure	1.76
4	Convatec	Combihesive II S zakje with drainage - transparent	1.55
5	Hollister	Conform 2 Ileo	1.62
Two-piece ureterostomy appliances			
1	A-products		2.99
2	BBraun	System 2	3.29
3	Coloplast	Alternia uro	3.36
4	Convatec	Combihesive II S Uro	3.18
5	Hollister	Conform 2 Uro	3.19

with prices in Denmark, England and the Netherlands. These countries were selected for their comparable living standards and geographic proximity to Belgium. Furthermore, the chosen countries provide insight into the variety of regulatory approaches towards pricing and reimbursement of ostomy appliances (cfr. supra). Finally, health expenditure is primarily financed by the public payer in each of these countries⁵.

Selection of ostomy appliances

The analysis examined one-piece and two-piece colostomy appliances, one-piece and two-piece ileostomy appliances,

and two-piece ureterostomy appliances. One-piece ureterostomy appliances were not considered due to the limited public expenditure involved (less than €30,000 in Belgium in 2005)¹. The selection was based on the Belgian nomenclature of ostomy appliances and the nomenclature codes that generated the highest public expenditure in 2005 were chosen for each type of ostomy appliance (i.e., colostomy, ileostomy and ureterostomy appliances). Five nomenclature codes for colostomy and ileostomy appliances and three codes for ureterostomy appliances were selected. Public expenditure for these nomenclature codes made up 91% of public expenditure on ostomy appliances in Belgium in 2005¹.

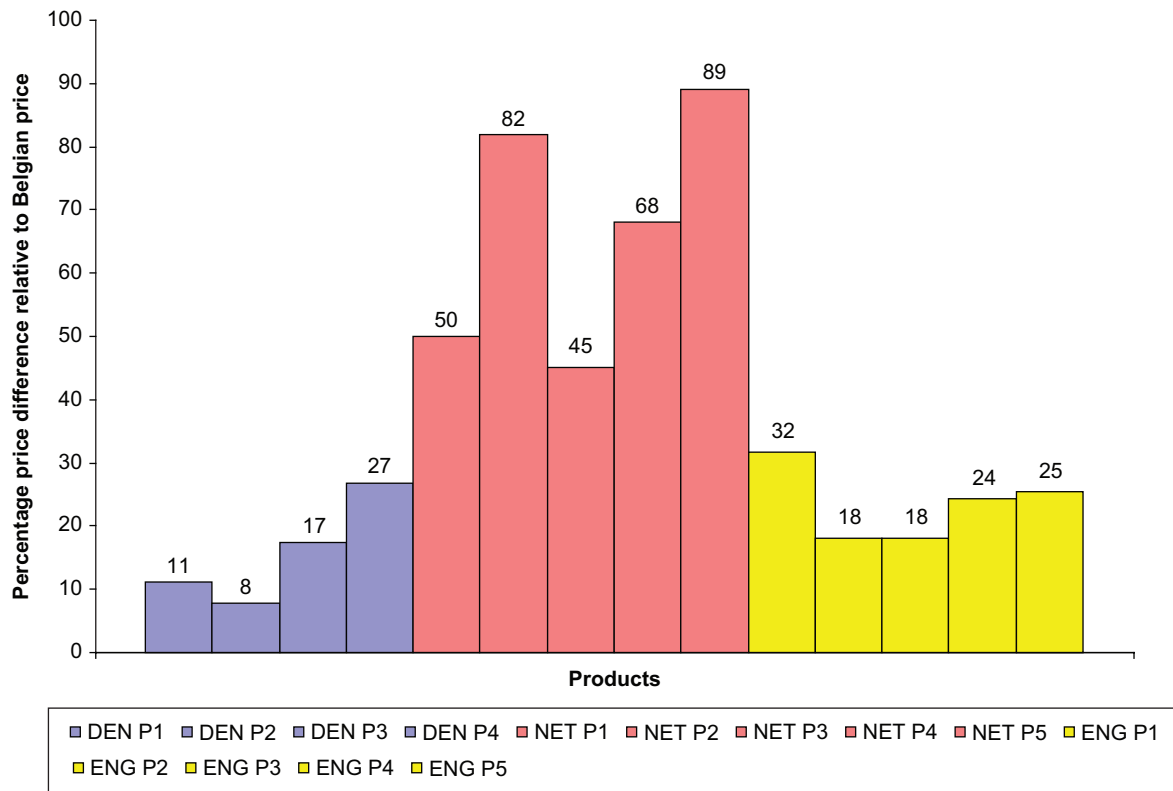


Figure 1. European price comparison of one-piece colostomy appliances in 2005.
Price of products (P) in Denmark (DEN), Netherlands (NET) and England (ENG).

Selection of products

Within each selected nomenclature code, a number of products were chosen for the purpose of the European price comparison. To minimise the potential for selection bias, products were selected in such a way that the same or similar products were available on the market in the countries considered; they were fabricated by various manufacturers; and they were representative of the Belgian market in terms of public expenditure. Table 1 presents selected products in Belgium. Given that the selected products were representative of each appliance type in Belgium and that they were marketed by major international manufacturers, the sample of products is likely to be representative of the ostomy appliance market in the other countries.

Comparison of prices

The analysis drew on market prices at the end-user level, which cover both third-party reimbursement and possible patient co-payment. As differences in value-added tax rates between countries are a source of price variation, market prices were exclusive of value-added tax. Prices were converted using purchasing power parities, i.e. market exchange rates adjusted for differences in

purchasing power between countries and Belgium⁶. The price year was 2005.

For a specific product, the price in Belgium was compared with the corresponding price in another country. The price difference between another country and Belgium was then expressed as a proportion of the Belgian price. Hence, if the resulting figure is positive, the product is more expensive in another country and cheaper in Belgium. By contrast, if the resulting figure is negative, the product is cheaper in another country and more expensive in Belgium.

Results

Figure 1 presents the percentage price difference relative to Belgian prices of one-piece colostomy appliances. In total, 14 colostomy products in other countries were compared with Belgian products. The figure indicates that prices of selected one-piece colostomy appliances were higher in other countries than in Belgium. For instance, these appliances were 8–27% more expensive in Denmark than in Belgium. The largest price differences were observed between the Netherlands and Belgium. The European price comparison of two-piece colostomy appliances is portrayed in Figure 2. The comparison

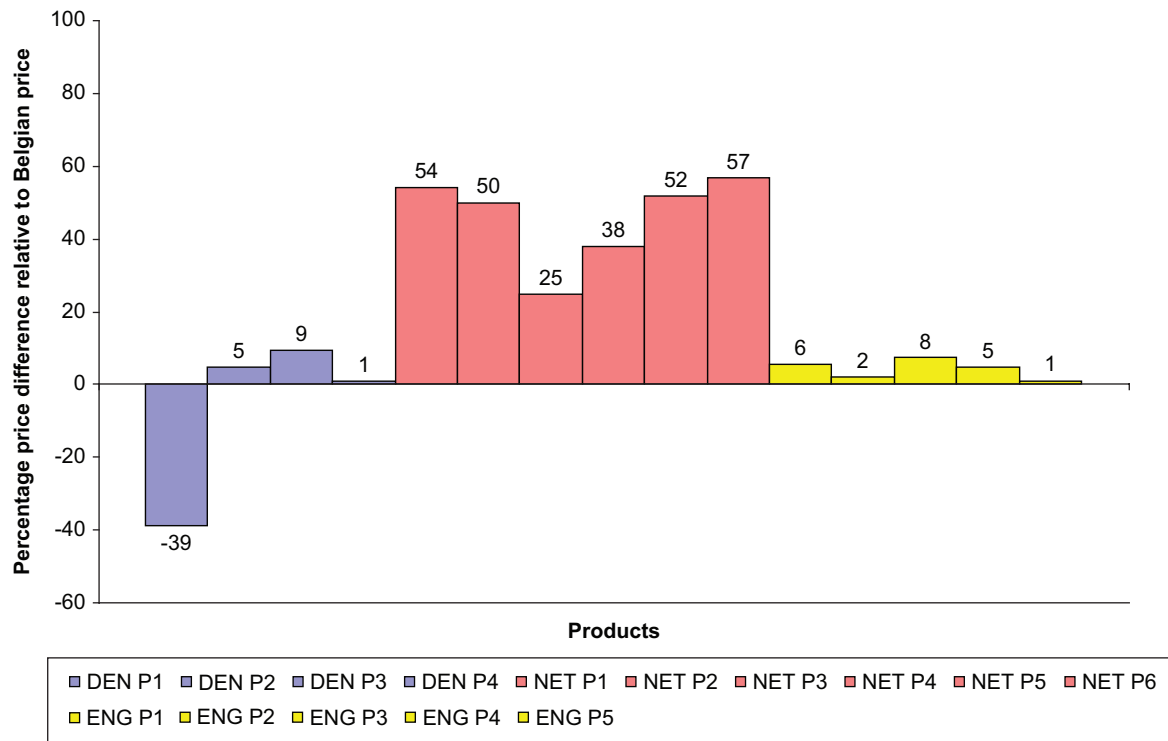


Figure 2. European price comparison of two-piece colostomy appliances in 2005.
Price of products (P) in Denmark (DEN), Netherlands (NET) and England (ENG).

involved 15 products. Prices of selected appliances tended to be similar in Belgium and England. Two-piece systems were more expensive in the Netherlands as compared with Belgium, with a price difference ranging from 25–57%. The difference between Danish and Belgian prices was more varied, with some products being more expensive in Denmark, while other products had a similar price or were cheaper.

The price comparison of 14 one-piece ileostomy appliances presents a mixed picture (see Figure 3). The difference between Belgian prices on the one hand and Danish and English prices on the other hand varied: some products were more expensive in Belgium, while other products were cheaper. Dutch prices of selected appliances were higher than Belgian prices, but the extent of the price difference varied between products. Some products were twice as expensive in the Netherlands than in Belgium.

Figure 4 shows that prices of all 15 two-piece ileostomy appliances were higher in Denmark, England and the Netherlands than in Belgium. Whereas the price difference between Belgium and England was relatively limited, the difference between Belgium and Denmark was more pronounced, but variable.

The prices of 14 two-piece ureterostomy appliances were compared (see Figure 5). Dutch prices of selected appliances were higher than Belgian prices. The difference between

Belgian prices on the one hand and Danish and English prices on the other hand varied: some products were more expensive in Belgium, while other products were cheaper.

Discussion

To the best of our knowledge, this is the first paper to quantify European differences in the price of ostomy appliances. To this effect, the study has compared market prices of selected colostomy, ileostomy and ureterostomy appliances in Belgium in 2005 with prices in Denmark, England and the Netherlands.

The price comparison indicated that Belgian prices of selected ostomy appliances tended to be lower than prices observed in other European countries: 64 out of the 72 products considered were cheaper in Belgium. One-piece colostomy appliances and two-piece ileostomy appliances were consistently cheaper in Belgium than in other countries. For each type of ostomy appliance, the highest prices were observed in the Netherlands. Sixteen out of 20 products and 21 out of 25 products were more expensive in Denmark and England, respectively, than in Belgium. Finally, colostomy appliances were more expensive in England than in Belgium.

The European price comparison showed that market prices varied substantially between countries. This price

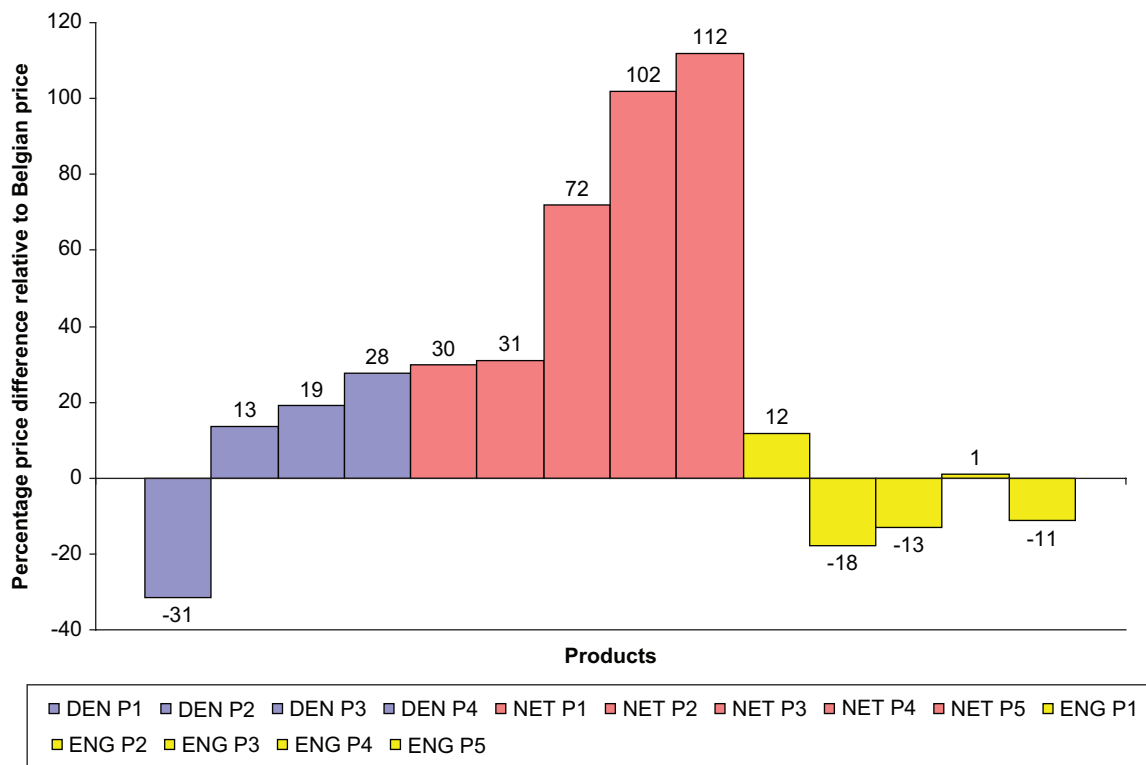


Figure 3. European price comparison of one-piece ileostomy appliances in 2005.
Price of products (P) in Denmark (DEN), Netherlands (NET) and England (ENG).

variation suggests that ostomy appliance manufacturers do not set prices at a common European level, but adapt their pricing strategy to the regulatory environment that exists in each country with regard to registration, pricing, reimbursement, distribution and prescribing of ostomy appliances. In other words, some countries are getting a better deal than others, manufacturers are segmenting the market, and competition that ideally should exist is not working to bring prices to a similar level across countries.

How can the European variation in the price level of ostomy appliances be explained? One reason for price variation is the fact that policies surrounding distribution margins for wholesalers and distributors, and the value-added tax rate vary between countries. For instance, the value-added tax rate on ostomy appliances of 25% in Denmark is higher than the 6% applicable in Belgium and in the Netherlands. To exclude this source of variation, our analysis compared market prices excluding value-added tax. However, policies surrounding distribution margins also vary between countries. Ex-manufacturer prices would be better suited for the purpose of a European comparison, but such data are not publicly available.

Prices of selected ostomy appliances tended to be higher in Denmark than in Belgium. This is surprising given that prices of ostomy appliances in Denmark are set

through a process of public procurement at the level of the municipalities. Therefore, it would be expected that municipalities use their market power to contain prices. However, the market power of municipalities may be inhibited by their limited size, the presence of few manufacturers who offer a specific range of ostomy products, and the brand loyalty of patients. Furthermore, a drawback of the Danish system is reduced price competition given that manufacturers do not have an incentive to lower prices as this would likely lead to retaliation from competitors and initiate a negative pricing spiral. Our analysis found that pricing of ostomy appliances in England tended to exceed Belgian prices. The higher prices in England may derive from the fact that competition between manufacturers takes the form of discounting to the distribution chain rather than price competition. As our analysis did not take into account discounting practices in the absence of data on discounts, price differences between England and Belgium may have been overestimated.

The highest prices for ostomy appliances were observed in the Netherlands. Reimbursement tariffs are negotiated between health insurance companies and manufacturers. Health insurance companies use their market power to restrict tariffs: tariffs are generally set at around 15% below market prices². This aspect was not taken into account in the analysis. However, even if the analysis

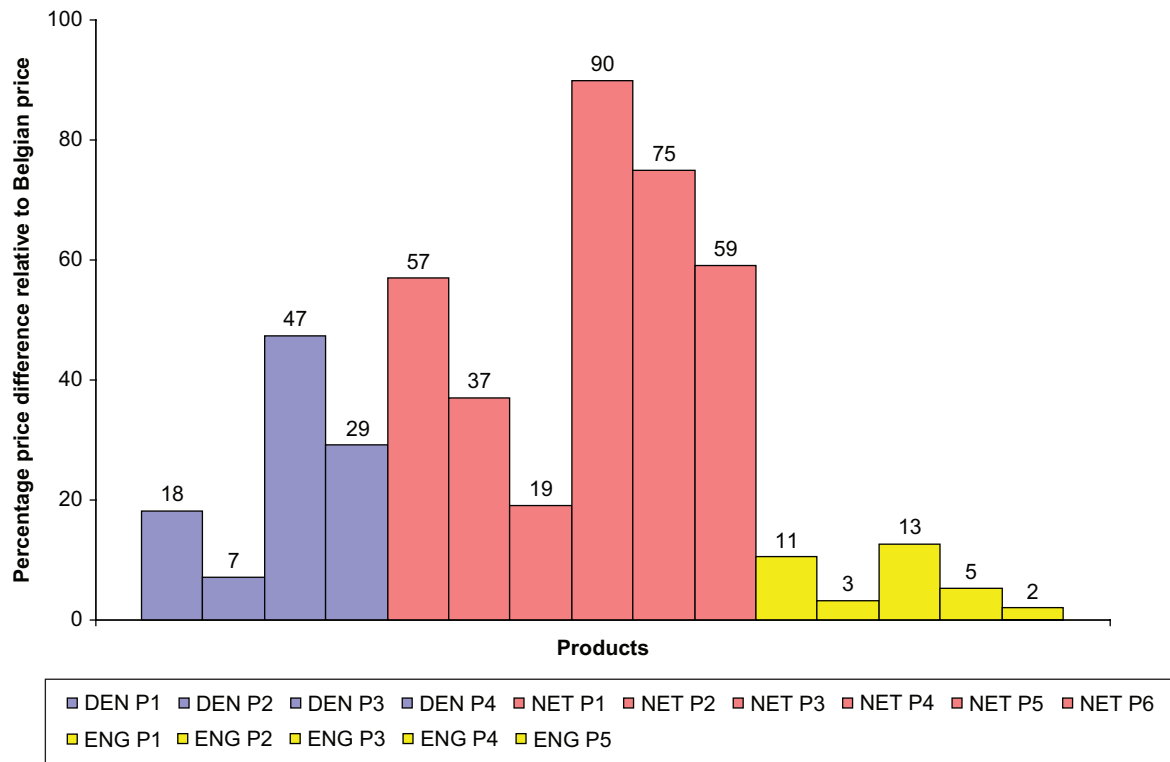


Figure 4. European price comparison of two-piece ileostomy appliances in 2005.
Price of products (P) in Denmark (DEN), Netherlands (NET) and England (ENG).

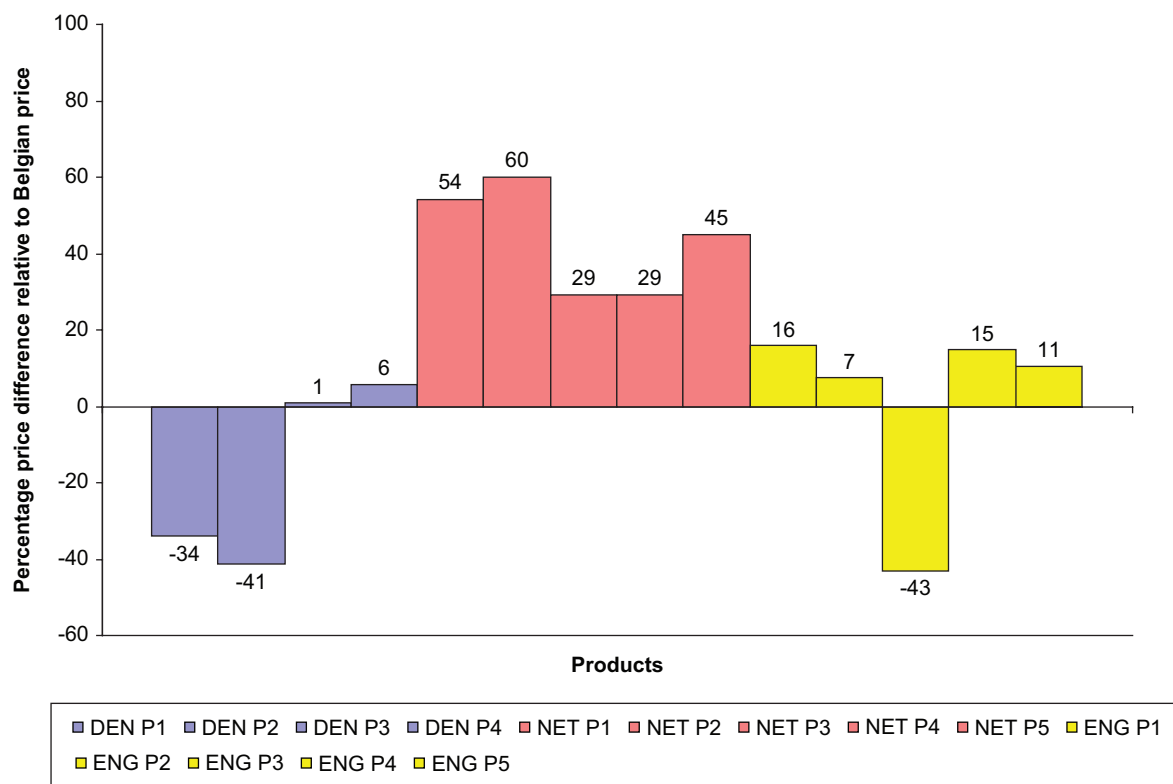


Figure 5. European price comparison of two-piece ureterostomy appliances in 2005.
Price of products (P) in Denmark (DEN), Netherlands (NET) and England (ENG)

would allow for a 15% reduction, Dutch prices would still exceed those observed in Belgium.

There does not appear to be an association between the reimbursement level and ostomy appliance prices in different countries. Even though ostomy appliances are fully reimbursed in Denmark, England and the Netherlands, the price level of appliances varies considerably between these countries. The lowest price level was observed in Belgium, where ostomy appliances are fully or partially reimbursed depending on the extent to which an appliance meets a medical necessity.

This study suffered from a number of limitations. The analysis does not claim to generate exact estimates of differences in ostomy appliance prices between countries. Ostomy appliance markets evolve rapidly so that, even though recent data relating to 2005 were used, the data may no longer reflect the current market situation. The added value of the analysis lies in the relative comparison of prices between countries.

Our analysis collected data on prices of 72 products. To this effect, a comprehensive data collection exercise was carried out by contacting various stakeholders in five countries. Although it was not possible to contrast prices of each individual product between all countries, the data allowed us to compare the price level between countries for colostomy, ileostomy and ureterostomy appliances.

As the European comparison was based on the Belgian nomenclature of ostomy appliances, selection bias may be present in that selected nomenclature codes of colostomy, ileostomy and ureterostomy appliances may not represent the ostomy appliances with the highest expenditure in each country. However, the selected appliances were internationally standardised products readily lending themselves to cross-country comparisons. Also, as this study was carried out from a Belgian perspective, those

nomenclature codes were selected that generated the highest public expenditure in Belgium in 2005.

Further research needs to be undertaken to extend the price comparison to more ostomy products in more countries. Also, attention needs to be paid to the possible determinants of the price level of ostomy appliances. In addition to pricing policies, the impact of registration, reimbursement, distribution and prescribing policies on the price level needs to be investigated.

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