Do generics offer significant savings to the UK National Health Service?

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Abstract and summary

The UK has traditionally had strong proxy demand-side measures favouring generic drug use. The supply-side has been subject to price regulation, and the recent requirement for manufacturers/wholesalers to report prices net of discounts to the DoH, indicate that reimbursed prices for generics may not be at commodity level.

The objective of this paper is to investigate the level of discounts given to pharmacy and determine whether the NHS could have a better deal from generic drug purchasing.

Data on net prices were acquired for different presentations of 12 generic molecules selected across different therapeutic categories and included in the 50 most selling generic prescription-only products in the UK in the first quarter of 2005. For these products, 31 out of a possible 34 presentations (90%) were surveyed. The data sources were price lists of three leading full-line wholesalers (one national, two regional), out of a possible 11 full-line wholesalers (27.2%), and three leading generic drug manufacturers, out of a possible 15 manufacturers (20%). Survey data were benchmarked with official sources, notably the Drug Tariff price and the market price, which are publicly available.

In 2004, generic prescribing in the selected molecules was 94.6%, above the national average of 77.5%, and the total net ingredient cost (NIC) was £675 million, of which £607.5 million (90%) was generic. The average cost of generic script was £8.60 and the average branded cost of a branded script was £18.10.

The survey suggests that significant discounts off the Drug Tariff price may be available. In 20 of the product presentations reviewed (64.5%), maximum discounts exceeded 60% off the Drug Tariff price, whereas in 7 (22.6%) maximum discounts ranged between 50 – 60% off the Drug Tariff Price. As a result, reimbursed prices for leading generic molecules may be significantly higher than their pharmacy acquisition cost.

The NHS is reimbursing generic medicines at prices higher than their acquisition cost and it appears that a significant proportion of the reimbursed price accrues to the distribution chain in a fashion that resembles an indirect subsidy. The NHS can improve
efficiency as well as increase savings, by purchasing generics close to their market price. This might require changes in the way pharmacies are reimbursed, for instance, by changing the way the clawback is calculated, or altogether abolishing discounts and introducing a fixed dispensing fee. As the cost per generic script is, very frequently, below the dispensing fee, the current reimbursement system for generics may result in a re-distribution from patients and the NHS to the retail distribution chain.

**Acknowledgements**

I am grateful to four anonymous academic referees for comments and suggestions on earlier drafts. All outstanding errors are my own.
Background

The increased use of generic medicines internationally is underpinned by their equivalence to the originator molecule and the conviction that, because of their lower prices, they can yield significant savings to health insurance. Several countries, such as the UK, the Netherlands, Germany, Sweden, Australia, Canada and Denmark have traditionally encouraged their use strongly, and the same holds increasingly for countries such as France, Spain, Italy and Portugal.

In the UK, the government has provided strong incentives to promote generic prescribing and use. This has been done through guidance, financial incentives, and through prescribing by international non-proprietary name (INN), and is in line with policies elsewhere. GPs are able to use software (PRODIGY) which indicates generic alternatives. Generic substitution is not allowed in community pharmacy in the UK, but is allowed in hospitals. In addition, pharmacies have incentives to procure from the cheapest possible sources, or the sources that give them the greatest possible discounts.

As a result of the above policies, the rate of generic prescribing in the UK is high compared with other major European pharmaceutical markets, and the Department of Health (DoH) considers that substantial cost savings are achieved on the UK drugs bill. In 2003, 77.8% of prescriptions were written generically, the remainder being written by brand name; of all generically written prescriptions, 55.4% were dispensed generically, with a net ingredient cost (NIC) share of 23.7%. The average cost of a generic in England is £4.83, whilst the cost of an originator product is £19.33, indicating
that prices of UK generics are low and, according to some sources, among the lowest in Europe.\textsuperscript{xiv}

Recently, manufacturers and wholesalers reached agreement with DoH to provide information on sales of generic medicines.\textsuperscript{xv,xvi} Manufacturers provide information on ex-factory prices and wholesalers provide information on average wholesaler prices, net of discounts offered in both cases. The aim of this initiative is to ensure that the National Health Service (NHS) pays a fair price for generic medicines. Market prices, supplied by manufacturers, together with Drug Tariff prices, the prices which the government is prepared to reimburse, are now publicly available.\textsuperscript{xvii} A comparison of Drug Tariff prices and market prices suggests that for 600 (generic) products and product presentations, the price differences are significant, with Drug Tariff prices frequently being three or four times higher than published market prices.\textsuperscript{xviii}

Within the UK pharmacy market, pharmacists make purchasing decisions predominantly on the basis of the price of alternative supplies of medicines. Pharmacists and wholesalers therefore negotiate with manufacturers and suppliers of generics to agree discounts from the published price lists which form the basis of the reimbursement price in the Drug Tariff. In order to determine reimbursement of pharmacies on the basis of their actual acquisition price, rather than the full NHS price, the DoH undertakes a "discount (margin) inquiry" to estimate average levels of discount, and then seeks to recover that discount from pharmacists, a practice that is known as the "clawback". A deduction from pharmacists’ payments is made by the Prescription Pricing Authority (PPA), at a level based on an annual survey of the average levels of discounts that are available (scale ranging between 5.93% and 12.52%) to them. Chain pharmacies are
excluded from the discount inquiry. Although the government’s objective is to remove the entire discount from the system, it may not be possible to do so.

The combination of maximum prices that the NHS is prepared to reimburse together with the existence of discount practices to independent as well as chain community pharmacies, which are not entirely visible and which may significantly exceed the clawback, may be taken to imply that there are still inefficiencies in the UK off-patent sector at the expense of the NHS in terms of higher prices for “commodity” drugs. By conducting a survey of price lists of major wholesalers and a number of manufacturers, the objective of this paper is to investigate the indicative level of discounts given to pharmacy and attempt to shed light on whether the NHS obtains a good deal from generic drug purchasing, or whether there may still be room for improvements.

The following section discusses the process of pharmacy procurement and reimbursement and develops a conceptual framework for the analysis that ensues; subsequently, the methodology followed in the paper is outlined, including product selection and data sources; the results of the survey are then presented and discussed and, in a final section, the main conclusions are drawn.

Procurement of and reimbursement for generic products in UK community pharmacy: stylized facts

Medicines prescribed by GPs and dispensed by pharmacies in the UK are, in the vast majority of cases, distributed to pharmacists on behalf of the manufacturers by wholesalers. Payment for this service is made by giving the wholesaler a discount off the NHS list price or basic price (as appropriate), included in the Drug Tariff. The NHS list
price, is the price on which reimbursement of the NIC is based. The Drug Tariff also
includes maximum prices for certain unbranded generic medicines set by the Secretary of
State for Health in 2000.\textsuperscript{xix} Statutory instrument No. 3798 prohibits the sale of certain
unbranded generic medicines to community pharmacies and dispensing doctors at more
than the maximum price.\textsuperscript{xx} This regulation applies where companies fail to comply with a
voluntary scheme to report product prices.

In the case of most products, the standard discount of 12.5\% applies to
wholesalers, but this is not invariable. As part of the competition for pharmacists'
business, wholesalers pass on a proportion of this 12.5\% as discounts to pharmacy based
on the volume/value of their purchases. In addition, in a relatively small number of cases
manufacturers may deal directly with pharmacies, usually the larger ones. In this case,
they offer similar volume/value discounts. For a small proportion of drugs no discount is
offered to the pharmacist. This usually applies in the case of a drug whose supply incurs
atypically high costs (such as short shelf life, the need to preserve a ‘cold chain’, the need
for high security in relation to controlled drugs and so on). In this case, the DoH classifies
these as ‘Zero Discount’ drugs. The normal clawback arrangements are not applied to the
retail pharmacy’s reimbursement in relation to Zero Discount drugs.

In either case, the purchase and dispensing of drugs by a pharmacy is intended to
be cost-neutral. In the case of discounted drugs, the reimbursement of the NHS list or
basic price minus the deduction is a somewhat crude but easily-administered system
which is intended to reimburse pharmacies roughly what they paid for the drug. There
may be transactions where due to the level of discount available to them from
wholesalers, pharmacies may make a profit. Equally, there will be transactions where for
the same reason pharmacies may make a loss. The aim is that the pharmacy's reimbursement, taken as a whole, will equal its purchase costs. In the case of zero discount drugs, the price at which pharmacies purchase drugs is also the price at which it is reimbursed for them by the government and there is no profit element to the transaction.

With regards to generics, published evidence suggests that generic entry leads to price reduction in the off-patent sector, which may not affect downwards the prices of the branded product. In the UK, generic drugs will account for approximately half of a product’s market four years following patent expiry and the average price differential between branded and generic versions of the same drug is approximately 80%. Although this market segment is usually characterized by significant price competition, certain developments in the UK over the past few years suggest that there may have been room for improvements. First, the government implemented a maximum price scheme in May 2000, following overpricing in several generic products. And, second, the DoH removed £500 million from the pharmacy contract in April 2004, as this was thought to be additional revenue by pharmacists as a result of discounts by manufacturers or wholesalers.

Dispensing in the UK occurs in one of approximately 12,000 pharmacies. Pharmacy chains accounted for 40% of all pharmacy outlets in November 2001, with the top three accounting for 27% of the total, but this share has increased since then following recent merger and acquisition (M&A) activity. Vertical integration is not disallowed and, indeed, some of the key players in UK community pharmacy are vertically integrated with wholesalers. Physicians, particularly in rural areas, also have
dispensing rights and in 2001 there were 5,071 such doctors in 1,565 practices, although this paper is concerned with community pharmacy dispensing only.

Data and methods

In order to investigate whether additional discounts are available or potentially available to community pharmacies, a survey of list and net prices was conducted for a sample of 12 generic Prescription Only Medicines (POMs) sold in the UK retail market in May 2005, and which were selected across a number of therapeutic categories (Table 1). The products were drawn out of the 50 most selling (generic) POMs in the UK, on the basis of sales in the first quarter of 2005, as reported by Intercontinental Medical Statistics (IMS). Thirty one out of a total of 34 presentations (91%) were selected for the 12 generic products. It was ensured that all medicines that could also be available over the counter (OTC) were excluded from the survey. The research also excluded any molecules subjected to zero discount as for these no discounts beyond the list (Drug Tariff) price would apply. List prices for the selected generics were obtained from the UK Drug Tariff, May 2005 issue. In order to place the survey into context, for each molecule, the number of scripts and net ingredient cost were obtained for the year prior to the survey (2004) for both the originator (branded) product and its generic versions in England and these are summarised in Table 1. Some of the identified molecules were also subjected to the Maximum Price Scheme, as shown on Table 2.

An inquiry into net prices (i.e. prices after discounts) was subsequently conducted for the selected molecules and their presentations. This involved a review of price lists of wholesalers and generic manufacturers. In particular, three full-line wholesalers were
included in the survey, notably, one leading national wholesaler and two regional wholesalers out of a possible total of 11 full-line national wholesalers operating in the UK in 2004 (27.3%). The UK market is concentrated with the top 3 full-line wholesalers accounting for 52% of the market. Full-line wholesalers have a 75% market share of different distributors in the pharmacy market, the remainder being made up from short-line wholesaling and direct distribution. Approximately 30% of full-line wholesalers operate on a nation-wide level, whereas the remaining 70% operated only regionally. Three leading manufacturers of generics were also included in the survey in order to generate the information on prices paid by retail pharmacists, out of a total of 15 generic manufacturers in the UK (20%). The enquiries and interviews were conducted in May 2005.

All price lists covered May 2005, although some were valid for May, June and July 2005. The objective was to identify the variation between the reimbursed (Drug Tariff) price and the price that individual wholesalers or generic manufacturers were reported to have sold to pharmacies. However, the price lists are representative of national and regional wholesalers. The manufacturer or supplier is not always stated in the price list, but was, in the majority of cases identifiable.

Results

Table 1 summarises the dispensing of prescriptions for the list of the identified products for England in 2004. The NIC relates to the reimbursement received by pharmacists, not including dispensing costs or fees. The total NIC for the molecules selected was £675 million in 2004, whereas 90% of that cost (£607.5 million) was
accounted for by generic products. The ratio of generic versus overall scripts was 94.6%, indicating very high generic prescribing and dispensing, above the national average of 77.5% and 55% respectively. This translates to an average cost of £8.6 per generic script and £18.1 per branded script. The cost per generic script ranged from £1.48 (amoxicillin) to £51.7 (mesalazine), whereas that for a branded script ranged from £4.69 (Amoxil™) to £84.3 (Zocor™).

The evidence indicates that significant savings can be made by the NHS through the use of generic products. For instance, lipid-lowering drugs, British National Formulary (BNF) section 2.12, was the section with the largest increase in NIC in 2003, (£144 million), which accounts for 21.7 per cent of the overall increase in the cardiovascular group. The NIC for this section was £715 million in 2003 and it is the section with the largest NIC for the third year running. The lipid-lowering segment is dominated by the statins and the number of prescription items dispensed has been rising rapidly for several years, increasing from 17.6 million in 2002 to 22.7 million in 2003. The National Service Framework (NSF) on Coronary Heart Disease (CHD) recommended the use of statins in secondary prevention for patients at high risk of coronary vascular disease. Simvastatin came out of patent in May 2003 and accounted for 43 per cent of the cost of this section.

The net ingredient cost of antihypertensive therapy (BNF Section 2.5) was £576 million in 2003. This was an increase of £69 million over 2002, which represents 10.4 per cent of the overall increase in net ingredient cost. This section was the second largest both in increase in net ingredient cost and in overall net ingredient cost. The number of prescription items dispensed increased from 29.6 million in 2002 to 33.8 million in 2003.
The NSF on CHD encourages GPs to actively seek out and treat hypertension. In 2003 ACE inhibitors (BNF 2.5.5.1) accounted for nearly two thirds (65%) of the total number of prescription items of drugs used in antihypertensive therapy, and just over half (51%) of the total net ingredient cost. The inclusion of generic Lisinopril (98% generic scripts) has meant that significant savings could be made on this occasion compared with the originator drug (Zestril).

The results of the survey into net prices are shown in Table 2. The table includes (a) all Drug Tariff prices that applied in May 2005, including the latest maximum prices, for those products to which maximum prices applied; Drug Tariff prices are publicly available; (b) the market prices for the products selected, which are also publicly available; (c) the lowest net prices (excluding discounts) that we were able to acquire from the list of wholesalers and generic drug manufacturers; and (d) the ranges of wholesaler and manufacturers’ prices, showing lowest and highest price per product presentation. The Drug Tariff price and the lowest price indicated on table 2 also determine the maximum price difference for each product in question.

The results suggest that there is considerable variation in prices and significant discounts off the Drug Tariff price, depending on the wholesaler and the manufacturer. For amoxicillin and co-amoxiclav, pharmacies may obtain product with a discount of up to 76.6% (for the 21 capsule pack of 500mg) and 68% (for the 21 tablet pack of 375mg) respectively, compared to the Drug Tariff price. There is less choice of wholesaler for the purchase of lisinopril/hydrochlorothiazide combination tablets. A regional wholesaler provided the lowest price, with a 65% discount off the Drug Tariff price for 28 tablets of 10/12.5mg. For iron ferrous, the ferrous sulphate 200mg 28 tablet pack size was offered
at a 77% discount from the Drug Tariff price. Discounted prices up to 77% were available for lisinopril tablets (based on the price for a pack of 28, 5mg tablets). The greatest discount for mesalazine was 72% for 400mg, 120 tablets, available through the national wholesaler. The largest discount for metformin, of 86% off the Drug Tariff price, was available through a regional wholesaler for 28 tablets of 500mg. Ritalin 10mg tablets were available as a generic. The difference in the Drug Tariff price between the proprietary and generic version was £0.05. A generic version was available through the national wholesaler at a discount of 8%. Omeprazole was available at a discount of up to 65% (for 28 tablets of 10mg) off the drug tariff price. A discount of 57% was available for 30 tablets of 20mg of paroxetine. The proprietary version, Seroxat was listed in the Drug Tariff at around twice the price of the generic version. A discount of up to 53% was available for the salbutamol CFC-free inhaler. Finally, a discount of 79% off the Drug Tariff price was available for the 20 tablet pack of 10mg simvastatin and lower discounts were available for other strength packs of the same molecule.

Overall, it appears that manufacturers and (regional) wholesalers are in a position to offer significant discounts off the Drug Tariff prices and that discounted prices are close to the market prices, which have become public information and are quoted on the Drug Tariff website.

Discussion

These results raise a number of questions related to the efficient purchasing of generic medicines by the NHS and pharmacy policy altogether. First, they confirm the significant discrepancy between the Drug Tariff and the market price for the selected
molecules and their presentations. This means that if manufacturers or wholesalers are able to procure at the market price, then the difference between the drug tariff and the market price accrues to pharmacy. Second, if the market price is the manufacturer’s or wholesaler’s best price and pharmacy is in a position to benefit from this, then basic economic theory would suggest that the highest benefit from discounting can be achieved by entities of larger size. For instance, bulk purchasing, particularly by chain pharmacies, may enable the latter to secure significant discounts for generic products off the Drug Tariff Price; and they have a financial incentive to do so. Nevertheless, these discounts cannot be picked up by the “margin inquiry” as chain pharmacies are excluded from it. It is, therefore, unclear what chain pharmacy discounts are, whether they apply to all products, and whether all pharmacies can achieve such high discounts on a consistent basis. Based on their size, individual pharmacies may be in a less advantageous position than chains. Overall, greater transparency would be required to address this, also from a policy-making perspective.

Third, the fact that the majority of the UK market comprises unbranded generics enhances the ability of manufacturers to offer products at low prices, without this having an impact on the quality or endangering their ability to stay on the market. While generic prices do lead to significant cost savings from a payer perspective, these may not be maximised as discounts may not be recouped in their entirety by the clawback. This may amount to indirectly subsidizing the distribution chain, despite the DoH position that pharmacies should not be rewarded for their efficient purchasing. If this is the case, it represents an inefficient solution for the NHS. For instance, greater savings from generic use could be achieved if the clawback were reviewed altogether by
including chain pharmacies in the margin inquiry conducted by the DoH. By doing so, a more representative range of discounts could be captured and policy be revised accordingly. The changing nature of retail dispensing in the UK, whereby chains currently occupy a significantly higher market share would probably justify a shift in policy. Alternatively, pharmacy reimbursement could be reformed altogether, for instance, by introducing a global fixed fee per dispensed item and disallowing discounts, in line with policies in other EU countries.xlv

Fourth, if further savings can be achieved on generic drug procurement, these could be allocated elsewhere to improve patient services, including access to newer treatments. To that end, the long standing argument that generics can provide headroom for innovationxlvii has only partial validity in the, otherwise competitive, UK generics market.

Fifth, the recent introduction of schemes “M” and “W”, as part of the government’s attempts to rationalize reimbursement of generic medicines, could help make reimbursement prices more reflective of the market situation, but (a) would probably need to be supplemented with discount information to different pharmacy types and (b) the available information would need to be followed up on a regular basis, meaning that the NHS would reimburse pharmacies close to the market price, as opposed to Drug Tariff price minus the clawback.

Sixth, putting the cost of a single generic prescription into perspective, our evidence suggests that this is significantly below the current dispensing fee of £6.65 for several products. Other than this implying that patients are net contributors to their drug costs, it also implies that the current reimbursement system for generics leads to a re-
distribution of benefits from patients and the NHS to the retail distribution system, as follows: If the actual cost of a generic script is as low as £0.45 or £0.65 (e.g. for a monthly supply of 10mg of lisinopril, or 10mg of simvastatin), then the NHS receives the difference between the dispensing fee and the Drug Tariff price from the consumers, whereas the pharmacies receive the difference between the Drug Tariff price (minus the clawback) and the net price from the NHS.

The analysis shown in the previous sections presents a number of limitations. First, the analysis was conducted at a particular point in time and, consequently, it is not possible to comment whether purchasing conditions have changed over time. Second, the availability of information for such an exercise is limited and only official or publicly available sources of information were reviewed. Third, products are not available from all wholesalers. This may, in principle, limit the ability of pharmacies to realize (significant) discounts on all products. However, most retail pharmacies will contract with at least two pharmaceutical wholesalers and in some cases, more, as this will improve their opportunities to benefit from prices lower than the Drug Tariff. Fourth, product availability and prices fluctuate. A product may be specified at a price on a price list, but stocks may no longer be available. Short-term offers for some product lines may be available through some wholesalers, but not from others. In order to take advantage of the ‘best’ and lowest prices for any product, pharmacies must be vigilant, or risk losing substantial potential benefits and this may introduce an additional transaction cost at pharmacy level, which cannot be captured. Fifth, within the context of this research not all UK based wholesalers and generic manufacturers were reviewed. Therefore, the picture obtained is partial. This could also mean that the variation in prices could be
greater and the gap between Drug Tariff Price and the market price, higher. Finally, the data does not enable the distinction between discounts offered to chains and to smaller pharmacies to be drawn. Clearly, smaller pharmacies may get poorer deals on discounts and this may impact reimbursement prices upwards; but the rising share of chain pharmacies means that significant discounts are available for a large share of the retail market.

**Conclusion**

By acquiring data on net prices for 31 presentations of 12 generic molecules drawn from the 50 most selling generic products in the UK and by benchmarking with official sources, the paper has argued that, first, it is likely that reimbursed generic prices may be too high, second, a significant proportion of the reimbursed price accrues to the distribution chain in a fashion that resembles an indirect subsidy; third, that it is possible for a single purchaser, such as the NHS, to purchase generic drugs more cheaply than it is prepared to pay for, and, consequently, to realize further cost savings for the NHS that could be allocated elsewhere in the service. For these to be achieved in the current environment, it is probably important to reform the pharmacy payment system even further to one where the rules of the game are more explicitly known to all players.
Table 1
Prescriptions and sales for specified list of generic products, primary care, England, 2004

<table>
<thead>
<tr>
<th>Products (INN)</th>
<th>2004 number of RX(^1), brand(^2) only; (000)</th>
<th>2004 number of RX, Generic(^3) (000)</th>
<th>2004 number of RX TOTAL (000)</th>
<th>2004 NIC cost; brand only (£000)</th>
<th>2004 NIC Cost; generic (£000)</th>
<th>2004 NIC cost; TOTAL (£000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omeprazole</td>
<td>Losec: 346.7</td>
<td>5,250.4</td>
<td>5,597.2</td>
<td>Losec: 13,483.5</td>
<td>90,213.2</td>
<td>103,698.9</td>
</tr>
<tr>
<td>Simvastatin</td>
<td>Zocor: 58.2</td>
<td>12,622.7</td>
<td>12,680.9</td>
<td>Zocor: 4,906</td>
<td>248,769.2</td>
<td>253,675.2</td>
</tr>
<tr>
<td>Lisinopril</td>
<td>Zestril: 134.8</td>
<td>6,805.4</td>
<td>6,940.2</td>
<td>Zestril: 1,842.1</td>
<td>56,343</td>
<td>58,185.1</td>
</tr>
<tr>
<td>Salbutamol</td>
<td>Ventodisks, Ventolin: 1,749.7</td>
<td>14,432.7</td>
<td>16,182.4</td>
<td>Ventodisks, Ventolin: 11,490</td>
<td>73,055.8</td>
<td>84,546.1</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>Seroxat: 376.3</td>
<td>2,012.0</td>
<td>2,388.3</td>
<td>Seroxat: 12,463</td>
<td>39,350.8</td>
<td>51,814.1</td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>Amoxil: 343.7</td>
<td>12,161.0</td>
<td>12,504.7</td>
<td>Amoxil: 1,610.6</td>
<td>18,055.7</td>
<td>19,666.3</td>
</tr>
<tr>
<td>Clavulanic acid</td>
<td>Augmentin: 250.5</td>
<td>1,391.4</td>
<td>1,641.9</td>
<td>Augmentin: 2,827.9</td>
<td>15,526.8</td>
<td>18,354.7</td>
</tr>
<tr>
<td>Metformin</td>
<td>Glucophage: 60.6</td>
<td>7,355.4</td>
<td>7,416.0</td>
<td>Glucophage: 203</td>
<td>22,357</td>
<td>22,560.0</td>
</tr>
<tr>
<td>Mesalazine</td>
<td>Asacol: 295.8</td>
<td>461.8</td>
<td>757.6</td>
<td>Asacol: 16,871</td>
<td>23,844.8</td>
<td>40,715.8</td>
</tr>
<tr>
<td>Methylenediphenylacetamide</td>
<td>Ritalin: 67.8</td>
<td>291.3</td>
<td>359.1</td>
<td>Ritalin: 1,594.5</td>
<td>10,951.8</td>
<td>12,546.3</td>
</tr>
<tr>
<td>Iron ferrous(^5)</td>
<td>Ferrograd: 131.5</td>
<td>4,050.1</td>
<td>4,181.6</td>
<td>Ferrograd: 88.6</td>
<td>9,071.1</td>
<td>9,159.7</td>
</tr>
<tr>
<td>Hydrochlorothiazide</td>
<td>0</td>
<td>0.1</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>3,471.9</strong></td>
<td><strong>66,834.3</strong></td>
<td><strong>70,649.9</strong></td>
<td><strong>67,380.2</strong></td>
<td><strong>607,540.2</strong></td>
<td><strong>674,929.4</strong></td>
</tr>
</tbody>
</table>

Notes:
1. Number of prescriptions (scripts) in thousands. It refers to a prescription item, i.e. a single item prescribed by a physician on a prescription form. If a prescription form includes more than one medicines, then these are counted individually.
2. The drug is shown by the individual preparation name, which is the proprietary name.
3. Includes branded generics.
4. Net Ingredient Cost (NIC) refers to the cost of the drug before discounts and does not include any dispensing costs or fees. It does not include any adjustment for income obtained where a prescription charge is paid at the time the prescription is dispensed or where the patient has purchased a pre-payment certificate.
5. Total figures include ferrous fumarate, ferrous gluconate, ferrous sulphate and other iron preparations.

Source: Department of Health.
Table 2
Drug Tariff Prices and Discounts offered for generic products and their presentations,1 May 2005 (£)

<table>
<thead>
<tr>
<th>Product (BNF class, therapeutic class or indication)</th>
<th>Dose</th>
<th>Pack size</th>
<th>Drug Tariff Price3 (£)</th>
<th>Market price (£)</th>
<th>Range of regional wholesalers’ prices (£)5</th>
<th>National wholesaler’s prices (£)6</th>
<th>Range of manufacturers’ prices (£)</th>
<th>Lowest available price</th>
<th>Discount off Drug Tariff price (%)7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amoxicillin4 (5.1.1.3, Antibiotic)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amoxicillin caps</td>
<td>500mg</td>
<td>100</td>
<td>5.64</td>
<td>2.50</td>
<td>2.20 – 2.48</td>
<td>5.64</td>
<td>N/A</td>
<td>2.20</td>
<td>61%</td>
</tr>
<tr>
<td>Amoxicillin caps</td>
<td>250mg</td>
<td>21</td>
<td>1.27</td>
<td>0.32</td>
<td>0.30 – 1.21</td>
<td>1.27</td>
<td>0.44 – 0.53</td>
<td>0.30</td>
<td>76.4%</td>
</tr>
<tr>
<td>Amoxicillin caps</td>
<td>500mg</td>
<td>21</td>
<td>2.22</td>
<td>0.53</td>
<td>0.52 – 1.79</td>
<td>2.22</td>
<td>0.64 – 0.82</td>
<td>0.52</td>
<td>76.6%</td>
</tr>
<tr>
<td>Amoxicillin oral</td>
<td>3g</td>
<td>2</td>
<td>6.23</td>
<td>3.52</td>
<td>2.80 – 4.02</td>
<td>6.23</td>
<td>2.96</td>
<td>2.80</td>
<td>55.1%</td>
</tr>
<tr>
<td>Amoxicillin syrup</td>
<td>250/5ml</td>
<td>-</td>
<td>1.78</td>
<td>0.48</td>
<td>0.48 – 0.98</td>
<td>1.78</td>
<td>0.69</td>
<td>0.48</td>
<td>73%</td>
</tr>
<tr>
<td><strong>Clavulanic Acid4 (5.1.1.3, Antibiotic)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-amoxiclav susp</td>
<td>250/62</td>
<td>-</td>
<td>6.97</td>
<td>3.01</td>
<td>2.95 – 2.99</td>
<td>6.97</td>
<td>3.75 – 4.53</td>
<td>2.95</td>
<td>57.7%</td>
</tr>
<tr>
<td>Co-amoxiclav tabs</td>
<td>375mg</td>
<td>21</td>
<td>5.77</td>
<td>2.22</td>
<td>1.85 – 2.47</td>
<td>5.77</td>
<td>2.88 – 4.12</td>
<td>1.85</td>
<td>67.9%</td>
</tr>
<tr>
<td>Co-amoxiclav tabs</td>
<td>625mg</td>
<td>21</td>
<td>14.24</td>
<td>6.31</td>
<td>6.27</td>
<td>14.24</td>
<td>6.94 – 9.98</td>
<td>6.27</td>
<td>56%</td>
</tr>
<tr>
<td><strong>Hydrochlorothiazide (2.2.1.0, Anti-hypertensive)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisinopril/hydrochlorothiazide tabs</td>
<td>10/12.5mg</td>
<td>28</td>
<td>12.26</td>
<td>4.01</td>
<td>4.25 – 10.51</td>
<td>N/A</td>
<td>8.22</td>
<td>4.25</td>
<td>65.3%</td>
</tr>
<tr>
<td>Lisinopril/hydrochlorothiazide tabs</td>
<td>20/12.5mg</td>
<td>28</td>
<td>13.86</td>
<td>4.01</td>
<td>4.25 – 11.89</td>
<td>N/A</td>
<td>8.81</td>
<td>4.25</td>
<td>69.3%</td>
</tr>
<tr>
<td><strong>Iron ferrous4 (9.1.1.1, Iron deficiency)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrous gluconate</td>
<td>300mg</td>
<td>1000</td>
<td>36.55</td>
<td>8.16</td>
<td>8.10 – 9.32</td>
<td>36.55</td>
<td>N/A</td>
<td>8.10</td>
<td>77.8%</td>
</tr>
<tr>
<td>Ferrous sulphate</td>
<td>200mg</td>
<td>28</td>
<td>1.50</td>
<td>0.31</td>
<td>0.35 – 0.74</td>
<td>N/A</td>
<td>0.58 – 0.76</td>
<td>0.35</td>
<td>76.7%</td>
</tr>
<tr>
<td><strong>Lisinopril (2.5.5.1, ACE1 inhibitor for hypertension)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisinopril tabs</td>
<td>10mg</td>
<td>28</td>
<td>1.78</td>
<td>0.62</td>
<td>0.65 – 0.73</td>
<td>1.78</td>
<td>0.78 – 0.93</td>
<td>0.65</td>
<td>63.5%</td>
</tr>
<tr>
<td>Lisinopril tabs</td>
<td>20mg</td>
<td>28</td>
<td>2.43</td>
<td>1.00</td>
<td>0.98 – 0.99</td>
<td>2.43</td>
<td>1.24 – 1.47</td>
<td>0.98</td>
<td>59.7%</td>
</tr>
<tr>
<td>Lisinopril tabs</td>
<td>5mg</td>
<td>28</td>
<td>1.98</td>
<td>0.40</td>
<td>0.45 – 0.47</td>
<td>1.98</td>
<td>0.64 – 0.76</td>
<td>0.45</td>
<td>77.3%</td>
</tr>
<tr>
<td><strong>Mesalazine4 (1.5.0.0, Large bowel disease)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesalazine gastro-resistant tabs</td>
<td>400mg</td>
<td>120</td>
<td>38.71</td>
<td>11.92</td>
<td>11.45 – 11.85</td>
<td>38.71</td>
<td>10.99</td>
<td>10.99</td>
<td>71.6%</td>
</tr>
<tr>
<td><strong>Metformin4 (6.1.2.2, diabetes)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metformin tabs</td>
<td>500mg</td>
<td>28</td>
<td>1.41</td>
<td>0.20</td>
<td>0.20 – 0.49</td>
<td>1.41</td>
<td>0.25 – 0.29</td>
<td>0.20</td>
<td>85.8%</td>
</tr>
<tr>
<td>Medicine</td>
<td>Presentation</td>
<td>Quantity</td>
<td>Unit</td>
<td>Price 1</td>
<td>Price 2</td>
<td>Price 3</td>
<td>Price 4</td>
<td>Price 5</td>
<td>Price 6</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------</td>
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<td>------</td>
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<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Metformin tabs</td>
<td>850mg</td>
<td>56</td>
<td>tabs</td>
<td>1.88</td>
<td>0.59</td>
<td>0.57 – 1.09</td>
<td>1.88</td>
<td>0.74 – 0.88</td>
<td>0.57</td>
</tr>
<tr>
<td>Metformin tabs</td>
<td>500mg</td>
<td>84</td>
<td>tabs</td>
<td>2.09</td>
<td>0.60</td>
<td>0.69 – 1.15</td>
<td>2.09</td>
<td>0.76</td>
<td>0.69</td>
</tr>
<tr>
<td>Methylphenidate (4.4.0.0, Ritalin for Attention Deficit &amp; Hyperactivity Disorder [ADHD])</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methylphenidate tabs</td>
<td>10mg</td>
<td>30</td>
<td>tabs</td>
<td>N/A</td>
<td>N/A</td>
<td>5.39</td>
<td>4.88</td>
<td>4.88</td>
<td>8.3%</td>
</tr>
<tr>
<td>Omeprazole (1.3.5.0, Proton Pump Inhibitor [PPI] for treatment of peptic ulcer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omeprazole caps</td>
<td>10mg</td>
<td>28</td>
<td>caps</td>
<td>7.72</td>
<td>4.67</td>
<td>4.50 – 7.72</td>
<td>7.72</td>
<td>4.47 – 6.09</td>
<td>4.47</td>
</tr>
<tr>
<td>Omeprazole caps</td>
<td>20mg</td>
<td>28</td>
<td>caps</td>
<td>12.75</td>
<td>7.35</td>
<td>7.99 – 12.75</td>
<td>12.75</td>
<td>7.99 – 9.71</td>
<td>7.99</td>
</tr>
<tr>
<td>Omeprazole tabs</td>
<td>10mg</td>
<td>28</td>
<td>tabs</td>
<td>11.40</td>
<td>4.01</td>
<td>3.99 – 4.80</td>
<td>11.40</td>
<td>4.51</td>
<td>3.99</td>
</tr>
<tr>
<td>Omeprazole tabs</td>
<td>20mg</td>
<td>28</td>
<td>tabs</td>
<td>12.75</td>
<td>7.80</td>
<td>4.80 – 8.50</td>
<td>12.75</td>
<td>4.79</td>
<td>4.79</td>
</tr>
<tr>
<td>Paroxetine (4.3.3.0, Serotonin Selective Re-Uptake Inhibitor [SSRI] for treatment of depression)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paroxetine tabs</td>
<td>20mg</td>
<td>30</td>
<td>tabs</td>
<td>6.86</td>
<td>3.42</td>
<td>2.95 – 3.40</td>
<td>6.86</td>
<td>3.55</td>
<td>2.95</td>
</tr>
<tr>
<td>Paroxetine tabs</td>
<td>30mg</td>
<td>30</td>
<td>tabs</td>
<td>39.54</td>
<td>19.66</td>
<td>17.50 – 29.16</td>
<td>39.54</td>
<td>N/A</td>
<td>17.50</td>
</tr>
<tr>
<td>Salbutamol (3.1.1.1, beta agonist for asthma)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salbutamol inhaler</td>
<td>100mcg</td>
<td>200</td>
<td>dos</td>
<td>2.99</td>
<td>1.41</td>
<td>1.40</td>
<td>N/A</td>
<td>1.47 – 1.71</td>
<td>1.40</td>
</tr>
<tr>
<td>Simvastatin (2.12.0.0, statin for reduction of lipid levels )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simvastatin tabs</td>
<td>10mg</td>
<td>28</td>
<td>tabs</td>
<td>2.12</td>
<td>0.45</td>
<td>0.45 – 1.85</td>
<td>2.12</td>
<td>0.65 – 0.65</td>
<td>0.45</td>
</tr>
<tr>
<td>Simvastatin tabs</td>
<td>20mg</td>
<td>28</td>
<td>tabs</td>
<td>2.26</td>
<td>0.59</td>
<td>0.59 – 2.30</td>
<td>2.26</td>
<td>0.89 – 0.89</td>
<td>0.59</td>
</tr>
<tr>
<td>Simvastatin tabs</td>
<td>40mg</td>
<td>28</td>
<td>tabs</td>
<td>4.87</td>
<td>1.96</td>
<td>1.95 – 4.95</td>
<td>4.87</td>
<td>2.89 – 2.89</td>
<td>1.95</td>
</tr>
<tr>
<td>Simvastatin tabs</td>
<td>80mg</td>
<td>28</td>
<td>tabs</td>
<td>26.79</td>
<td>14.88</td>
<td>13.50 – 18.50</td>
<td>26.79</td>
<td>16.99 – 18.50</td>
<td>13.50</td>
</tr>
</tbody>
</table>

Notes:
1. The table includes actual and surveyed data. Actual data come from official sources (the Drug Tariff). In terms of the number of product presentations chosen to be included in the survey, the table includes 85% of the actual number of presentations for the selected molecules. This is broken down as follows: 5 out of 8 presentations are included for amoxicillin; 3 out of 5 presentations are included for co-amoxiclav; 2 out of 2 presentations are included for lisinopril/hydrochlorothiazide; 2 out of 2 presentations are included for ferrous gluconate and ferrous sulphate; 3 out of 4 presentations are included for lisinopril; 1 out of 1 presentation is included for mesalazine; 3 out of 3 presentations are included for metformin; 4 out of 6 presentations are included for omeprazole; 2 out of 2 presentations are included for paroxetine; 1 out of 1 presentation is included for salbutamol inhaler; and 4 out of 4 presentations are included for simvastatin.
2. BNF is British National Formulary.
3. Drug Tariff online, May 2005. This is also the official price given by the leading national wholesaler in the vast majority of cases.
4. Subjected to the Maximum Price scheme.
5. This column includes prices of the wholesaler who also makes “own brand” products available.
6. In the majority of cases, the national wholesaler charges the drug tariff price. The extent of discounts (price, or volume, or both) to pharmacy off this price, is unknown. The national wholesaler also distributes its “own brand” of generics in many instances (e.g. amoxicillin, iron ferrous, lisinopril and simvastatin), in which case, the price for this “own brand” version has been included in this column.
7. Based on lowest available price.
References


ix Soumerai SB. Benefits and risks of increasing restrictions on access to costly drugs in Medicaid. Health Aff (Millwood) 2004 Jan-Feb;23(1):135-46.


