Did you know?
Facts and figures about the pharmaceutical industry in the UK
Second edition 2011
Introduction

The pharmaceutical industry is immensely valuable for the UK and contributes greatly to both the health of the population and the economy as a whole. It is committed to working together with UK Government and the NHS to deliver value for money from medicines, better patient access to medicines and to ensure innovation and research are rewarded.

• The pharmaceutical industry in the UK has consistently contributed to the health and economy of the nation
• The pharmaceutical industry in the UK is, and must remain, a world leader
• The pharmaceutical industry is worth investing in for the future
The health of the UK population is improving

- The pharmaceutical industry has helped to increase overall UK life expectancy

### UK life expectancy

<table>
<thead>
<tr>
<th></th>
<th>MEN</th>
<th>WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>78.0</td>
<td>82.1</td>
</tr>
<tr>
<td>Wales</td>
<td>77.1</td>
<td>81.4</td>
</tr>
<tr>
<td>Scotland</td>
<td>75.3</td>
<td>80.1</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>76.7</td>
<td>81.3</td>
</tr>
</tbody>
</table>

Life expectancy continues to increase in the UK

Patient outcomes are improving in priority disease areas

- **Cancer**: Despite an increase in cancer incidence, associated mortality rates are decreasing\(^1\)
- **Coronary heart disease**: Improvements in medical and surgical treatments have accounted for a significant reduction in CHD mortality\(^2\)

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**All-malignancies mortality**

<table>
<thead>
<tr>
<th></th>
<th>MEN</th>
<th>WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>decrease (1999–2008)(^1)</td>
<td>12%</td>
<td>8%</td>
</tr>
</tbody>
</table>

**Medical and surgical treatment**

36% CHD mortality reduction (1998–2007)\(^2\)

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**Cancer mortality rates are decreasing in the UK\(^1\)**

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UK cancer survival remains lower than the European average

- Despite improvements in mortality rates, the UK continues to lag behind other countries.

UK relative 5-year cancer survival compared with the European average

The UK has one of the highest breast cancer mortality rates

2. EUROCARE 4 Survival Analysis. 1993–1999. Available at www.eurocare.it
Uptake of new medicines is slow in the UK

- **Cancer:** UK usage of new cancer medicines is less than half of that in France, and significantly less than those of Germany, Denmark and Hungary¹
  - NICE technology single and multiple appraisals for cancer take an average of 75 and 95 weeks, respectively,² which can contribute to slower uptake of new medicines

Uptake of new medicines varies across disease areas (UK ranking out of 14 countries)³

1. USA
2. Spain
3. France
4. Denmark
5. Australia
6. Switzerland
7. Canada
8. UK
9. Austria
10. Norway
11. Germany
12. Italy
13. Sweden
14. New Zealand

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1. Fédération Européenne d’Associations et d’Industries Pharmaceutiques Cancer report key findings.
The medicines bill as a proportion of the total NHS bill is decreasing

- Between 1996 and 2008, the total NHS budget has increased twice as rapidly as the medicines bill.
- Medicines expenditure is less than expected given the increased number of prescriptions from an increasingly elderly population.

<table>
<thead>
<tr>
<th>Year</th>
<th>% of total NHS budget (NHS medicines bill)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>12.5% (£6.6 billion)</td>
</tr>
<tr>
<td>2004</td>
<td>11.9% (£10.4 billion)</td>
</tr>
<tr>
<td>2008</td>
<td>9.8% (£11.6 billion)</td>
</tr>
</tbody>
</table>

The UK medicines expenditure per head is small – only 55p per day.

Medicines spend per head, per day (£, 2008)

- Housing: £8.79
- Transport: £3.89
- Education: £3.65
- Food & soft drink: £3.11
- Defence: £1.52
- Clothing & shoes: £1.32
- Holiday: £0.90
- Alcoholic drinks: £0.82
- Restaurant meals: £0.81
- Tobacco: £0.26
- Medicines: £0.55

3. Compendium of Health Statistics 2009 (OHE), updated hospital prescribing data (IC) PPA and PCA data.
Availability of generics improves patient access to medicines

- Price competition from generics saves the NHS around £7 billion annually¹
- The efficient prescription of generics helps the NHS to afford more innovative new medicines¹

The UK has one of the largest penetrations of generics in Europe³

83% of all prescriptions are for a generic²

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³. Graph adapted from EGA National Association 2007.
The UK medicines expenditure is less than the EU average

- The NHS medicines spend per capita of population in the UK is less than most comparable European countries.

The UK has one of the lowest medicines expenditures

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UK medicines prices are among the lowest in Europe

- The PPRS is jointly negotiated between the pharmaceutical industry and the Government to help ensure that medicines provide value for money for the NHS.
- Since 2005, three price cuts have been implemented to help bring further savings to the medicines budget.
- The UK has the lowest prices for medicines compared with other European countries.

![PPRS price cuts](image)

January 2005 7% reduction

January 2009 3.9% reduction

January 2010 1.9% reduction

The UK has the lowest medicines prices within Europe

Price index for the top 150 UK branded medicines

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>USA</td>
<td>209</td>
<td>1</td>
<td>188</td>
<td>1</td>
<td>252</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>91</td>
<td>3</td>
<td>105</td>
<td>2</td>
<td>142</td>
<td>2</td>
</tr>
<tr>
<td>Ireland</td>
<td>83</td>
<td>4</td>
<td>105</td>
<td>2</td>
<td>134</td>
<td>3</td>
</tr>
<tr>
<td>Belgium</td>
<td>78</td>
<td>9</td>
<td>97</td>
<td>6</td>
<td>122</td>
<td>4</td>
</tr>
<tr>
<td>Finland</td>
<td>83</td>
<td>4</td>
<td>96</td>
<td>7</td>
<td>119</td>
<td>5</td>
</tr>
<tr>
<td>Sweden</td>
<td>NA</td>
<td>NA</td>
<td>103</td>
<td>4</td>
<td>116</td>
<td>6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>81</td>
<td>6</td>
<td>94</td>
<td>8</td>
<td>115</td>
<td>7</td>
</tr>
<tr>
<td>Austria</td>
<td>77</td>
<td>10</td>
<td>94</td>
<td>8</td>
<td>111</td>
<td>8</td>
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<tr>
<td>Spain</td>
<td>64</td>
<td>11</td>
<td>85</td>
<td>11</td>
<td>109</td>
<td>9</td>
</tr>
<tr>
<td>France</td>
<td>80</td>
<td>7</td>
<td>89</td>
<td>10</td>
<td>108</td>
<td>10</td>
</tr>
<tr>
<td>Italy</td>
<td>79</td>
<td>8</td>
<td>78</td>
<td>12</td>
<td>101</td>
<td>11</td>
</tr>
<tr>
<td>UK</td>
<td><strong>100</strong></td>
<td><strong>2</strong></td>
<td><strong>100</strong></td>
<td><strong>5</strong></td>
<td><strong>100</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### R&D is a long and costly process

- The development of a new pharmaceutical takes between 12 and 15 years.\(^1\)
- Only 5 of 25,000 compounds tested in the laboratory are actually approved by regulatory authorities following clinical testing.\(^2\)

### Regulations

<table>
<thead>
<tr>
<th>Regulations</th>
<th>Final patent application</th>
<th>Investigational new drug application</th>
<th>Marketing application</th>
<th>Marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (years)</td>
<td>Year 1</td>
<td>Year 4</td>
<td>Year 10</td>
<td>Year 12</td>
</tr>
<tr>
<td>Basic research</td>
<td>Discovery research</td>
<td>Development research</td>
<td>Regulatory review</td>
<td>Post-marketing development</td>
</tr>
<tr>
<td>Phases of drug development</td>
<td>Synthesis Biological testing &amp; pharmacological screening</td>
<td>Phase I</td>
<td>Phase II</td>
<td>Phase III</td>
</tr>
<tr>
<td>Attrition rates</td>
<td>25,000</td>
<td>25</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>£0</td>
<td></td>
<td></td>
<td>approximately £1000m</td>
</tr>
</tbody>
</table>

4. ABPI data on file.
The pharmaceutical industry invests more in R&D than any other industry within the UK

- The pharmaceutical industry in the UK invests £12.1 million in R&D every day\(^1\)

R&D as a percentage of sales (2009)\(^2\)

- Pharmaceutical: 36.3%
- Aerospace: 8.0%
- Motor vehicles: 4.2%

Pharmaceutical R&D expenditure has been steadily increasing\(^1\)

One sixth of the most popular prescription medicines were developed in the UK¹

- The UK needs to create the optimal environment to continue to attract global R&D investment

One sixth of the most popular prescription medicines were developed in the UK¹

- The UK needs to create the optimal environment to continue to attract global R&D investment

Proportion of global R&D expenditure²

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>9%</td>
</tr>
<tr>
<td>USA</td>
<td>53%</td>
</tr>
<tr>
<td>France</td>
<td>6%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>6%</td>
</tr>
<tr>
<td>Germany</td>
<td>6%</td>
</tr>
<tr>
<td>Spain</td>
<td>1%</td>
</tr>
<tr>
<td>Italy</td>
<td>2%</td>
</tr>
</tbody>
</table>

The UK has the greatest R&D investment within Europe³,⁴

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1. OHE calculations based on IMS World Review data, extracted 2010.
2. EFPIA member associations, PhRMA, JPMA.
3. National Trade Associations. Data collected annually.
4. Exchange rates, ONS, collected annually.
The pharmaceutical industry is a major UK employer

- The pharmaceutical industry in the UK employs around 72,000 people directly\(^1,2\)

27,000 people employed in pharmaceutical R&D in the UK\(^1\)

15,000 people employed in Wales in the bioscience sector\(^3\)

4,000 people employed in Northern Ireland in the life-sciences sector\(^3\)

30,500 people employed in Scotland in the life-sciences sector\(^3\)

Although the total number of people employed within the pharmaceutical industry (including sales and management) is fluctuating, the number of employees dedicated to R&D is relatively stable\(^1,2\)

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*The life-sciences sector includes a variety of sub-sectors such as biotechnology, therapeutics, medical diagnostics and devices, drug delivery, gene therapy, bioinformatics, clinical trials, agri biotech and industrial biotech.

†The bioscience sector in Wales includes analysis technologies, drug development and primary research, post development research, marketing and applications, instrument and devices and medical technology research, infrastructure and support.

3. ABPI data on file.
Generating a positive trade balance

• The pharmaceutical sector continues to generate an ever-widening trade surplus1

• The pharmaceutical sector now makes a greater contribution to the UK economy than any other industrial sector2

Pharmaceutical sector trade surplus

£7 billion

(2009)3

The pharmaceutical industry generates the greatest trade surplus compared with other industrial sectors3*

* Sectors displayed are top and bottom 10 in terms of trade balance.
1. OHE calculations performed in 2010. Based on HM Customs and Excise data. The pharmaceutical sector’s trade balance compared with other industrial sectors.
2. Business Monitor MM20 (HM Customs and Excise) and Business Monitor MQ20 (HM Customs and Excise).