

The Pharmaceutical Industry in Figures

Key Data * 2017



THE PHARMACEUTICAL INDUSTRY: A KEY ASSET TO SCIENTIFIC AND MEDICAL PROGRESS

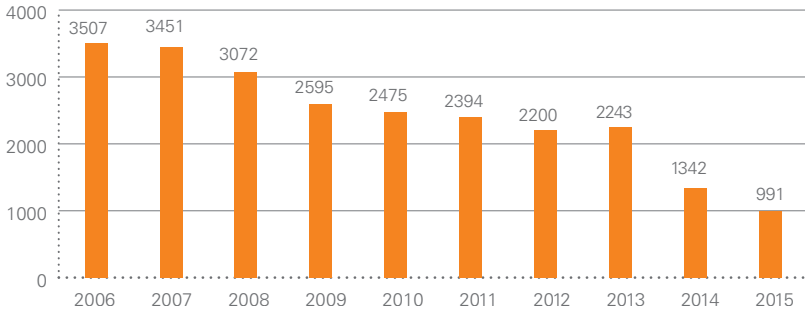
Thanks to advances in science and technology, the research-based pharmaceutical industry is entering an exciting new era in medicines development. Research methods are evolving and we have many promising prospects on the horizon – from the possibilities offered by personalised medicines, to the potential offered by harnessing the power of big data. The innovative pharmaceutical industry is driven by, and drives, medical progress. It aims to turn fundamental research into innovative treatments that are widely available and accessible to patients.

Already, the industry has contributed to significant improvements in patient well-being. Today’s European citizens can expect to live up to 30 years longer than they did a century ago. Some major steps in biopharmaceutical research, complimented by many smaller steps, have allowed for reductions in mortality, for instance from HIV/AIDS-related causes and a number of cancers. High blood pressure and cardiovascular disease can be controlled with antihypertensive and cholesterol-lowering medicines; knee or hip replacements prevent patients from

immobility; and some cancers can be controlled – or even cured – with the help of new targeted treatments. European citizens can expect not only to live longer, but to live better quality lives. Yet major hurdles remain, including Alzheimer’s, Multiple Sclerosis, many cancers, and orphan diseases.



TOTAL NUMBER OF DEATHS AMONG AIDS CASES IN EUROPE (TOTAL EU/EEA)



Source: HIV/AIDS surveillance in Europe 2015, WHO Regional Office for Europe & European Centre for Disease Prevention and Control (ECDC), 2016










THE PHARMACEUTICAL INDUSTRY: A KEY ASSET TO THE EUROPEAN ECONOMY

As well as driving medical progress by researching, developing and bringing new medicines that improve health and quality of life for patients around the world, the research-based pharmaceutical

industry is a key asset of the European economy. It is one of Europe's top performing high-technology sectors.



INDUSTRY (EFPIA total)

| | 2000 | 2010 | 2015 | 2016 |
|---|---------|---------|---------|-------------|
|  Production | 127,504 | 199,400 | 238,437 | 250,000 (e) |
|  Exports (1) (2) | 90,935 | 276,357 | 365,303 | 375,000 (e) |
|  Imports | 68,841 | 204,824 | 269,012 | 275,000 (e) |
|  Trade balance | 22,094 | 71,533 | 96,291 | 100,000 (e) |
|  R&D expenditure | 17,849 | 27,920 | 33,557 | 35,000 (e) |
|  Employment (units) | 554,186 | 670,088 | 739,499 | 745,000 (e) |
|  R&D employment (units) | 88,397 | 117,035 | 113,713 | 115,000 (e) |
|  Total pharmaceutical market value at ex-factory prices | 89,449 | 153,685 | 193,742 | 202,000 (e) |
|  Payment for pharmaceuticals by statutory health insurance systems (ambulatory care only) | 76,909 | 129,464 | 131,685 | 134,000 (e) |

Values in € million unless otherwise stated

(1) Data relate to EU-27, Norway and Switzerland since 2005 (EU-15 before 2005); Croatia and Serbia included since 2010; Turkey included since 2011; Russia included since 2013

(2) Data relating to total exports and total imports include EU-28 intra-trade (double counting in some cases)

Source: EFPIA member associations (official figures) – (e): EFPIA estimate; Eurostat (EU-28 trade data 2000-2016)

MAIN TRENDS

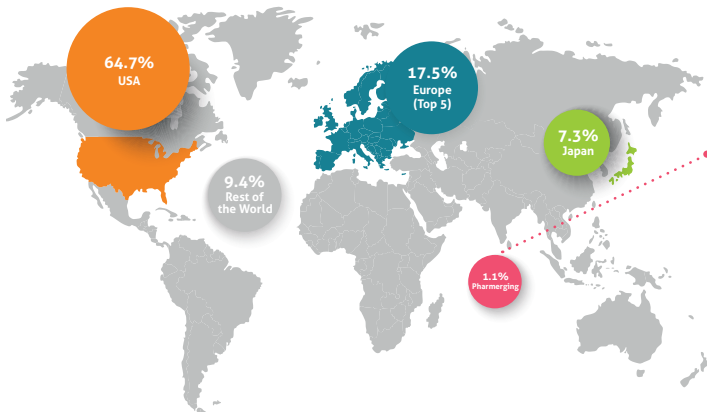
The research-based pharmaceutical industry can play a critical role in restoring Europe to growth and ensuring future competitiveness in an advancing global economy. In 2016 it invested an estimated € 35,000 million in R&D in Europe. It directly employs some 745,000 people and generates three to four times more employment indirectly – upstream and downstream – than it does directly. However, the sector faces real challenges. Besides the additional regulatory hurdles and escalating R&D costs, the sector has been severely hit by the impact of fiscal austerity measures introduced by governments across much of Europe since 2010.

* There is rapid growth in the market and research environment in emerging economies such as Brazil, China and India, leading to a gradual migration of economic and research activities from Europe to these fast-growing markets. In 2016 the Brazilian and Chinese markets grew

by 10.0% and 6.9% respectively compared to an average market growth of 4.5% for the total European Union market and 6.3% for the US market (source: IMS Health, May 2017).

- * In 2016 North America accounted for 49.0% of world pharmaceutical sales compared with 21.5% for Europe. According to IMS Health data (MIDAS May 2017), 64.7% of sales of new medicines launched during the period 2011-2016 were on the US market, compared with 17.5% on the European market (top 5 markets).
- * The fragmentation of the EU pharmaceutical market has resulted in a lucrative parallel trade. This benefits neither social security nor patients and deprives the industry of additional resources to fund R&D. Parallel trade was estimated to amount to € 5,361 million (value at ex-factory prices) in 2015.

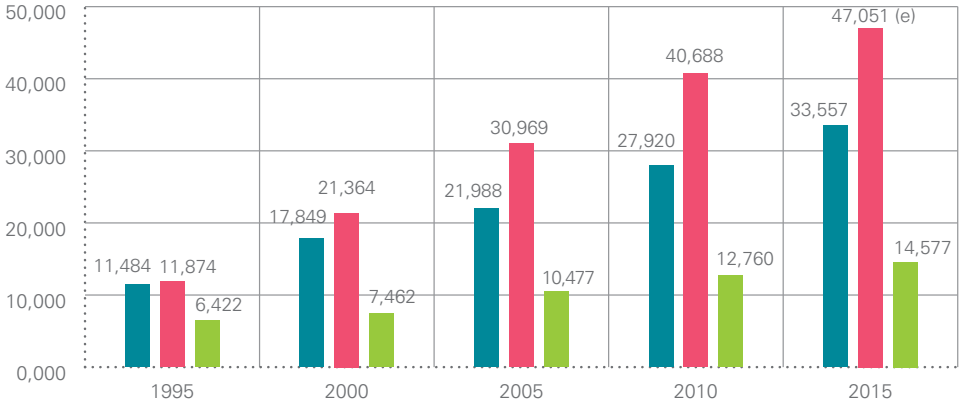
GEOGRAPHICAL BREAKDOWN (BY MAIN MARKETS) OF SALES OF NEW MEDICINES LAUNCHED DURING THE PERIOD 2011–2016



Note:
 New medicines cover all new active ingredients marketed for the first time on the world market during the period 2011-2016
 Europe (Top 5) comprises Germany, France, Italy, Spain and United Kingdom
 Pharmerging comprises 21 countries ranked by IMS Health as high-growth pharmaceutical markets (Algeria, Argentina, Bangladesh, Brazil, Colombia, Chile, China, Egypt, India, Indonesia, Kazakhstan, Mexico, Nigeria, Pakistan, Philippines, Poland, Russia, Saudi Arabia, South Africa, Turkey and Vietnam)

Source: IMS Health (MIDAS May 2017)

PHARMACEUTICAL R&D EXPENDITURE IN EUROPE, USA AND JAPAN (MILLION OF NATIONAL CURRENCY UNITS)*, 1995-2015

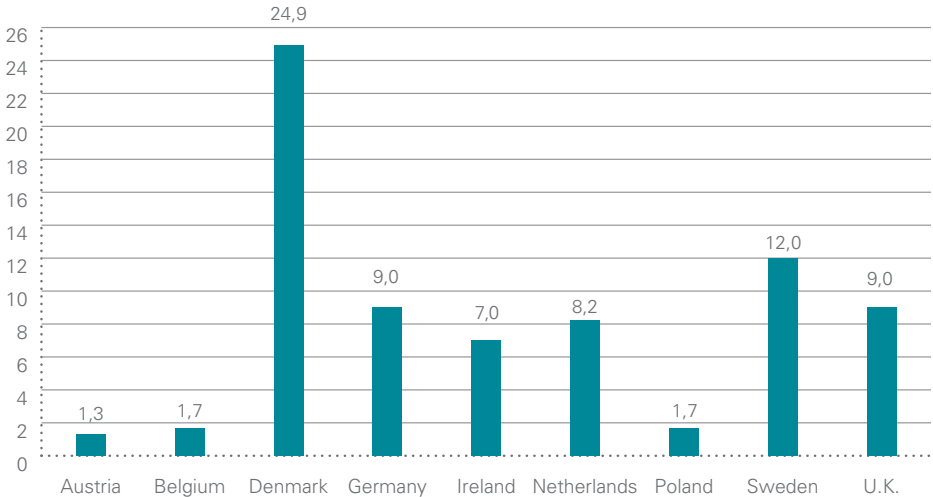


* Note: Europe: € million; USA: \$ million; Japan: ¥ million x 100
(e): estimate



Source: EFPIA member associations, PhRMA, JPMA

SHARE OF PARALLEL IMPORTS IN PHARMACY MARKET SALES (%) – 2015



Note: U.K.: in % of pharmacy market sales at consumer/retail prices

Source: EFPIA member associations (estimate)

PHARMACEUTICAL INDUSTRY RESEARCH AND DEVELOPMENT IN EUROPE

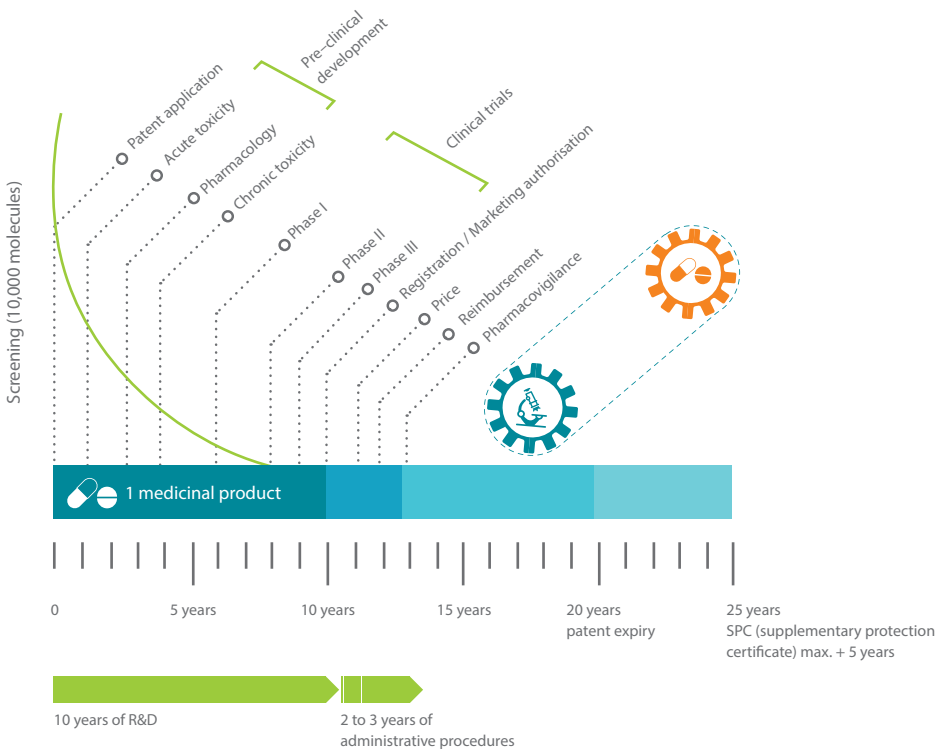
All new medicines introduced into the market are the result of lengthy, costly and risky research and development (R&D) conducted by pharmaceutical companies:

* By the time a medicinal product reaches the market, an average of 12-13 years will have elapsed since the first synthesis of the new active substance;

* The cost of researching and developing a new chemical or biological entity was estimated at € 1,926 million (\$ 2,558 million in year 2013 dollars) in 2016 (DiMasi et al, Journal of Health Economics, January 2016);

* On average, only one to two of every 10,000 substances synthesised in laboratories will successfully pass all stages of development required to become a marketable medicine.

PHASES OF THE RESEARCH AND DEVELOPMENT PROCESS



PHARMACEUTICAL INDUSTRY RESEARCH AND DEVELOPMENT IN EUROPE

| EFPIA 2015 | € million | | € million |
|--------------|-----------|-------------|---------------|
| Austria | 285 | Latvia | n.a |
| Belgium | 2,589 | Lithuania | n.a |
| Bulgaria | n.a | Malta | n.a |
| Croatia | 40 | Netherlands | 642 |
| Cyprus | 85 | Norway | 126 |
| Czech Rep. | 77 | Poland | 308 |
| Denmark | 1,497 | Portugal | 75 |
| Estonia | n.a | Romania | 98 |
| Finland | 172 | Russia | 251 |
| France | 4,564 | Slovakia | n.a |
| Germany | 6,216 | Slovenia | 183 |
| Greece | 80 | Spain | 908 |
| Hungary | 179 | Sweden | 1,104 |
| Iceland | n.a | Switzerland | 6,525 |
| Ireland | 305 | Turkey | 77 |
| Italy | 1,415 | U.K. | 5,756 |
| TOTAL | | | 33,557 |

Note:

The figures relate to the R&D carried out in each country.

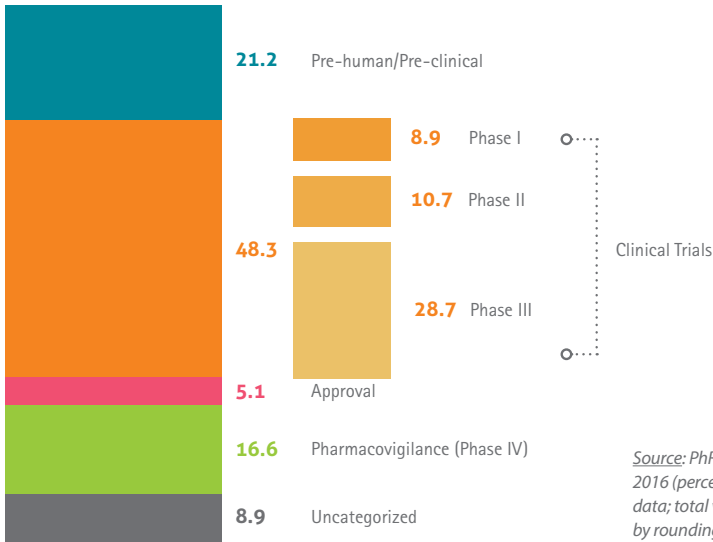
Portugal, France: 2014 data; Austria, Cyprus, Greece, Hungary, Ireland, Slovenia: 2013 data; Czech Republic: 2012 data; Croatia, Netherlands: 2011 data

Belgium, Croatia, Denmark, France, Germany, Greece, Ireland, Italy, Netherlands, Norway (LMI members), Poland, Romania, Slovenia, Sweden (LIF members), Switzerland (Interpharma members), Turkey: estimate

Source: EFPIA member associations (official figures)

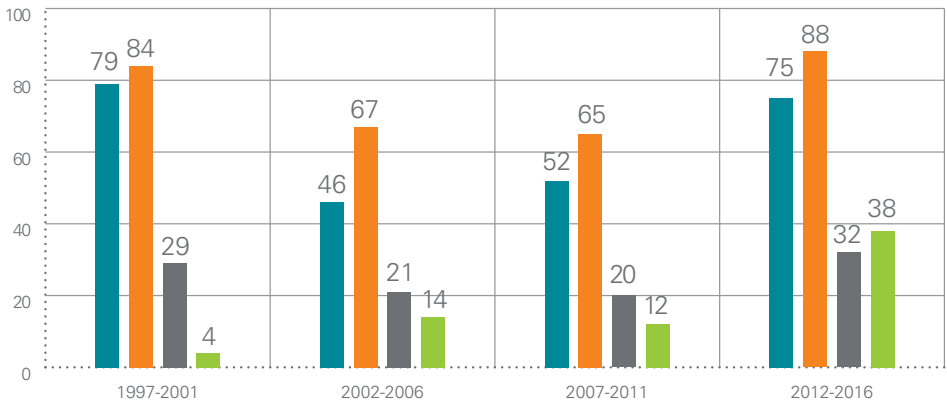


ALLOCATION OF R&D INVESTMENTS BY FUNCTION (%)



Source: PhRMA, Annual Membership Survey 2016 (percentages calculated from 2014 data; total values may be affected by rounding)

NUMBER OF NEW CHEMICAL OR BIOLOGICAL ENTITIES (1997-2016)



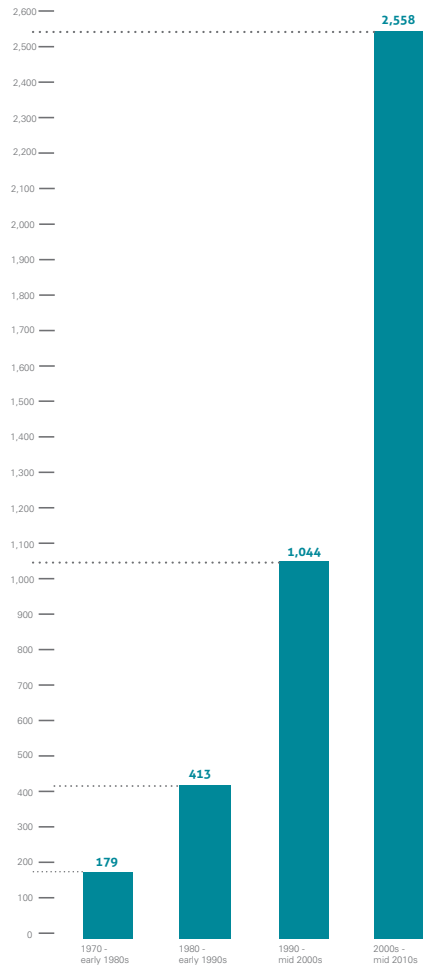
Source: SCRIIP – EFPIA calculations (according to nationality of mother company)

IMPORTANCE OF PHARMACEUTICAL R&D

In 2015 the pharmaceutical industry invested nearly € 33,600 million in R&D in Europe. A decade of strong US market dominance led to a shift of economic and research activity towards the US from 1995-2005. Additionally, Europe is now facing increasing competition from emerging economies: rapid growth in the market and research environments in countries such as Brazil and China are contributing to the move of economic and research activities to non-European markets. The geographical balance of the pharmaceutical market – and ultimately the R&D base – is likely to shift gradually towards emerging economies.

ESTIMATED FULL COST OF BRINGING A NEW CHEMICAL OR BIOLOGICAL ENTITY TO MARKET (\$ MILLION – YEAR 2013 \$)

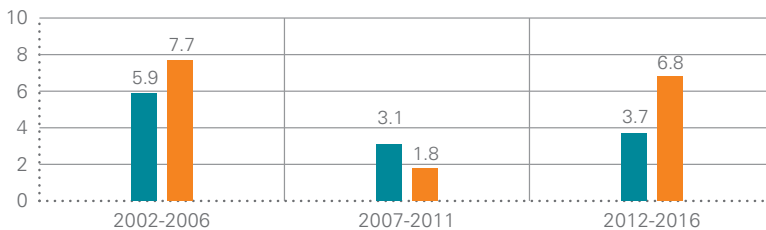
Source: Joseph. A. DiMasi, Henry G. Grabowski, Ronald W.Hansen, *Innovation in the pharmaceutical industry: New estimates of R&D costs*, *Journal of Health Economics*, 47 (2016), 20–33



PHARMACEUTICAL R&D EXPENDITURE – ANNUAL GROWTH RATE (%)

Note: USA: data relate to the period 2012-2015

Source: EFPIA, PhRMA



Europe

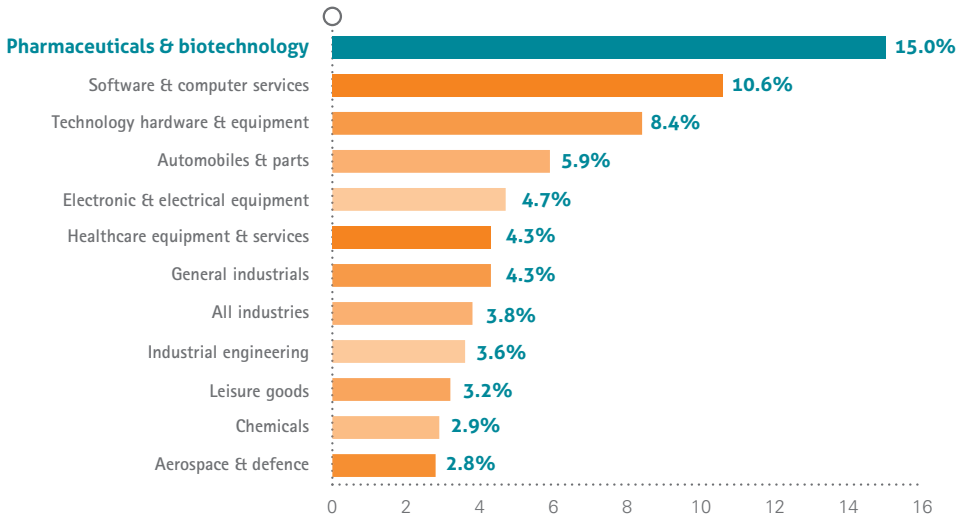


USA

According to EUROSTAT data, the pharmaceutical industry is the high technology sector with the highest added-value per person employed, significantly higher than the average value for high-tech and manufacturing industries. The pharmaceutical industry is also the sector with

the highest ratio of R&D investment to net sales. According to the 2016 EU Industrial R&D Investment Scoreboard the pharmaceutical and biotechnology sector amounts to 19.1% of total business R&D expenditure worldwide.

RANKING OF INDUSTRIAL SECTORS BY OVERALL SECTOR R&D INTENSITY (R&D AS PERCENTAGE OF NET SALES – 2015)



Note:

Data relate to the top 2,500 companies with registered offices in the EU (590), Japan (356), the US (837), China (327) and the Rest of the World (390), ranked by total worldwide R&D investment (with investment in R&D above € 21 million).

Source: The 2016 EU Industrial R&D Investment Scoreboard, European Commission, JRC/DG RTD

PHARMACEUTICAL PRODUCTION

| EFPIA 2015 | € million | | € million |
|--------------|-----------|-------------|----------------|
| Austria | 2,864 | Latvia | 120 |
| Belgium | 11,232 | Lithuania | n.a |
| Bulgaria | 121 | Malta | n.a |
| Croatia | 434 | Netherlands | 6,180 |
| Cyprus | 180 | Norway | 745 |
| Czech Rep. | n.a | Poland | 2,964 |
| Denmark | 13,080 | Portugal | 1,490 |
| Estonia | n.a | Romania | 655 |
| Finland | 1,598 | Russia | 5,092 |
| France | 20,554 | Slovakia | n.a |
| Germany | 29,536 | Slovenia | 1,354 |
| Greece | 929 | Spain | 15,213 |
| Hungary | 2,933 | Sweden | 7,809 |
| Iceland | n.a | Switzerland | 42,479 |
| Ireland | 19,305 | Turkey | 2,931 |
| Italy | 29,326 | U.K. | 19,313 |
| TOTAL | | | 238,437 |

Note:

All data based on SITC 54

Ireland: 2014 data; Latvia, Romania: 2013 data; Norway: 2012 data; Cyprus, Netherlands: 2010 data

Croatia, Czech Republic, Denmark, France, Ireland, Italy, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland: estimate

Bulgaria, Croatia, Cyprus, France, Germany, Hungary, Ireland, Latvia, Norway, Poland, Portugal, Romania, Slovenia: veterinary products excluded

Source: EFPIA member associations (official figures)



EMPLOYMENT IN THE PHARMACEUTICAL INDUSTRY

| EFPIA 2015 | units | | units |
|--------------|---------|-------------|----------------|
| Austria | 14,140 | Latvia | 1,971 |
| Belgium | 34,617 | Lithuania | 1,220 |
| Bulgaria | 10,500 | Malta | 445 |
| Croatia | 5,740 | Netherlands | 12,000 |
| Cyprus | 1,140 | Norway | 3,800 |
| Czech Rep. | 17,900 | Poland | 29,700 |
| Denmark | 26,963 | Portugal | 7,500 |
| Estonia | 400 | Romania | 25,600 |
| Finland | 5,233 | Russia | n.a |
| France | 98,690 | Slovakia | 3,000 |
| Germany | 114,069 | Slovenia | 8,961 |
| Greece | 26,000 | Spain | 38,677 |
| Hungary | 23,000 | Sweden | 11,012 |
| Iceland | n.a | Switzerland | 43,848 |
| Ireland | 26,373 | Turkey | 22,000 |
| Italy | 63,500 | U.K. | 61,500 |
| TOTAL | | | 739,499 |

Note:

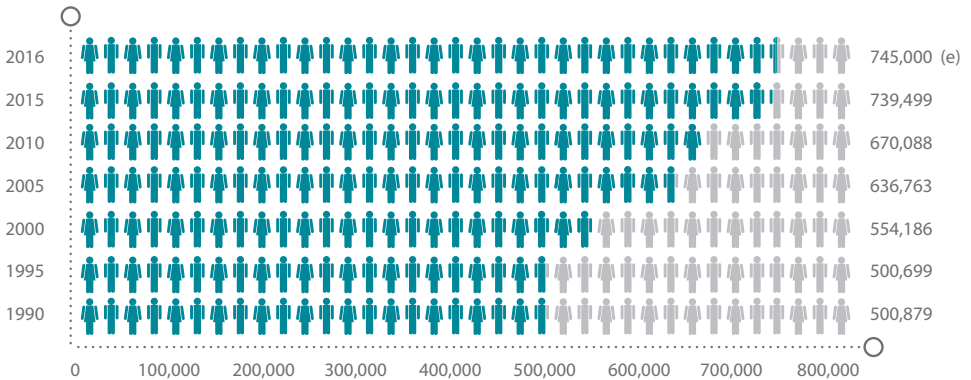
Croatia, Czech Republic, Ireland, Netherlands, Spain, Sweden: 2014 data; Denmark, Lithuania: 2013 data; Latvia: 2012 data; Slovakia: 2011 data; Cyprus: 2007 data; Malta: 2004 data
 Austria, Belgium, Bulgaria, Croatia, Estonia, France, Greece, Ireland, Italy, Malta, Netherlands, Norway, Poland, Romania, Slovenia, Sweden, Switzerland, Turkey, United Kingdom: estimate

Source: EFPIA member associations (official figures)

The research-based pharmaceutical industry is one of Europe’s major high-technology industrial employers. Recent studies in some countries showed that the research-based pharmaceutical industry generates three to four times more employment indirectly - upstream and downstream - than it

does directly. Further, a significant proportion of these are valuable skilled jobs, for instance in the fields of academia or clinical science, which can help maintain a high-level knowledge base and prevent a European “brain drain”.

EMPLOYMENT IN THE PHARMACEUTICAL INDUSTRY (1990–2016)

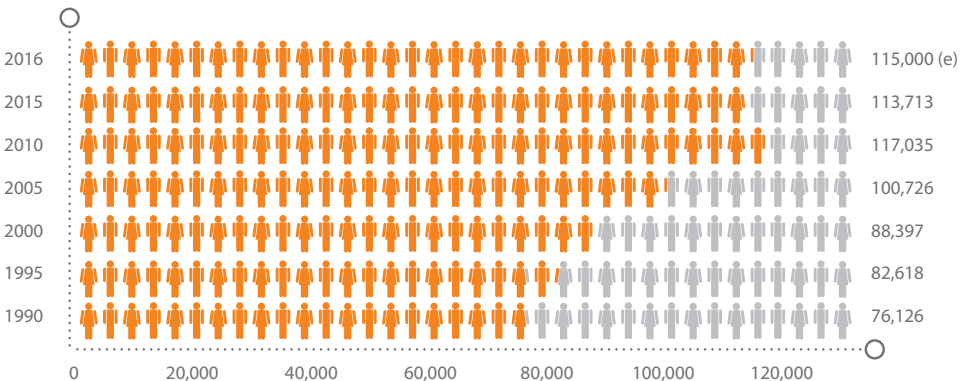


Note:

Data includes Turkey (since 2011), Croatia and Lithuania (since 2010), Bulgaria, Estonia and Hungary (since 2009), Czech Republic (since 2008), Cyprus (since 2007), Latvia, Romania & Slovakia (since 2005), Malta, Poland and Slovenia (since 2004)

Source: EFPIA member associations (official figures) – (e): EFPIA estimate

EMPLOYMENT IN PHARMACEUTICAL R&D (1990–2016)



Note:

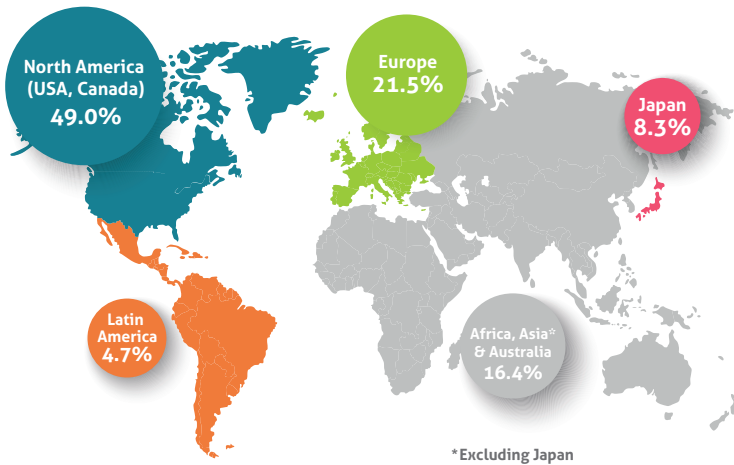
Data includes Greece & Lithuania (since 2013), Bulgaria and Turkey (since 2012), Poland (since 2010), Czech Republic, Estonia and Hungary (since 2009), Romania (since 2005) and Slovenia (since 2004)
Croatia, Cyprus, Latvia, Malta, Serbia, Slovakia: data not available

Source: EFPIA member associations – (e): EFPIA estimate

PHARMACEUTICAL SALES

The world pharmaceutical market was worth an estimated € 763,101 million (\$ 844,676 million) at ex-factory prices in 2016. The North American market (USA & Canada) remained the world's largest market with a 49.0% share, well ahead of Europe and Japan.

BREAKDOWN OF THE WORLD PHARMACEUTICAL MARKET – 2016 SALES



Note:
Europe includes Turkey and Russia; percentages might not add up due to rounding

Source: IMS Health (MIDAS), May 2017 (data relate to the 2016 audited global retail and hospital pharmaceutical market at ex-factory prices)

PRICE STRUCTURE

Distribution margins, which are generally fixed by governments, and VAT rates differ significantly from country to country in Europe. On average, approximately one third of the retail price of a medicine reverts to distributors (pharmacists and wholesalers) and the State.

BREAKDOWN OF THE RETAIL PRICE OF A MEDICINE, 2015 (%)



Note:
Non-weighted average for Europe (average estimate for 23 countries)

Source: EFPIA member associations

PHARMACEUTICAL MARKET VALUE (at ex-factory prices)

| EFPIA 2015 | € million | | € million |
|--------------|-----------|-------------|----------------|
| Austria | 3,550 | Lithuania | 373 |
| Belgium | 4,708 | Malta | 77 |
| Bulgaria | 937 | Netherlands | 4,821 |
| Croatia | 659 | Norway | 1,624 |
| Cyprus | 180 | Poland | 5,587 |
| Czech Rep. | 2,290 | Portugal | 2,933 |
| Denmark | 2,306 | Romania | 2,633 |
| Estonia | 265 | Russia | 13,271 |
| Finland | 2,246 | Serbia | 564 |
| France | 27,645 | Slovakia | 1,184 |
| Germany | 30,038 | Slovenia | 562 |
| Greece | 4,058 | Spain | 15,625 |
| Hungary | 2,133 | Sweden | 3,809 |
| Iceland | 108 | Switzerland | 5,040 |
| Ireland | 1,818 | Turkey | 7,383 |
| Italy | 22,703 | U.K. | 22,375 |
| Latvia | 238 | | |
| TOTAL | | | 193,742 |

Note:

Medicinal products as defined by Directive 2001/83/EEC

Cyprus, Denmark, Finland, Iceland, Latvia, Lithuania, Norway, Russia, Slovenia, Sweden: pharmaceutical market value at pharmacy purchasing prices

Iceland: 2013 data; Serbia: 2011 data; Malta: 2007 data

Belgium, France, Germany, Ireland, Italy, Malta, Norway, Spain, United Kingdom: estimate

Source:

EFPIA member associations (official figures) – Latvia, Lithuania, Norway: IMS Health

The figures above are for pharmaceutical sales, at ex-factory prices, through all distribution channels (pharmacies, hospitals, dispensing doctors, supermarkets, etc.), whether dispensed on prescription or at the patient's request. Sales of veterinary medicines are excluded.



VAT RATES APPLICABLE TO MEDICINES

The table below shows the VAT rates applied to medicines in European countries as of 1 January 2017.

| Country | Standard VAT rate (%) | VAT rates applied to medicines | |
|---------------|-----------------------|--------------------------------|---------|
| | | Prescription (%) | OTC (%) |
| Austria | 20,0 | 10,0 | 10,0 |
| Belgium | 21,0 | 6,0 | 6,0 |
| Bulgaria | 20,0 | 20,0 | 20,0 |
| Croatia | 25,0 | 5,0 | 5,0 |
| Cyprus | 19,0 | 5,0 | 5,0 |
| Czech Rep. | 21,0 | 10,0 | 10,0 |
| Denmark | 25,0 | 25,0 | 25,0 |
| Estonia | 20,0 | 9,0 | 9,0 |
| Finland | 24,0 | 10,0 | 10,0 |
| France (1) | 20,0 | 2,1 | 10,0 |
| Germany | 19,0 | 19,0 | 19,0 |
| Greece | 24,0 | 6,0 | 6,0 |
| Hungary | 27,0 | 5,0 | 5,0 |
| Iceland | 24,0 | 24,0 | 24,0 |
| Ireland (2) | 23,0 | 0–23,0 | 0–23,0 |
| Italy | 22,0 | 10,0 | 10,0 |
| Latvia | 21,0 | 12,0 | 12,0 |
| Lithuania (3) | 21,0 | 5,0 | 21,0 |
| Luxembourg | 17,0 | 3,0 | 3,0 |
| Malta | 18,0 | 0,0 | 0,0 |
| Netherlands | 21,0 | 6,0 | 6,0 |
| Norway | 25,0 | 25,0 | 25,0 |
| Poland | 23,0 | 8,0 | 8,0 |
| Portugal | 23,0 | 6,0 | 6,0 |
| Romania | 19,0 | 9,0 | 19,0 |
| Russia | 18,0 | 10,0 | 10,0 |
| Serbia | 20,0 | 10,0 | 10,0 |
| Slovakia | 20,0 | 10,0 | 10,0 |
| Slovenia | 22,0 | 9,5 | 9,5 |
| Spain | 21,0 | 4,0 | 4,0 |
| Sweden | 25,0 | 0,0 | 25,0 |
| Switzerland | 8,0 | 2,5 | 2,5 |
| Turkey | 18,0 | 8,0 | 8,0 |
| U.K. | 20,0 | 0,0 | 20,0 |

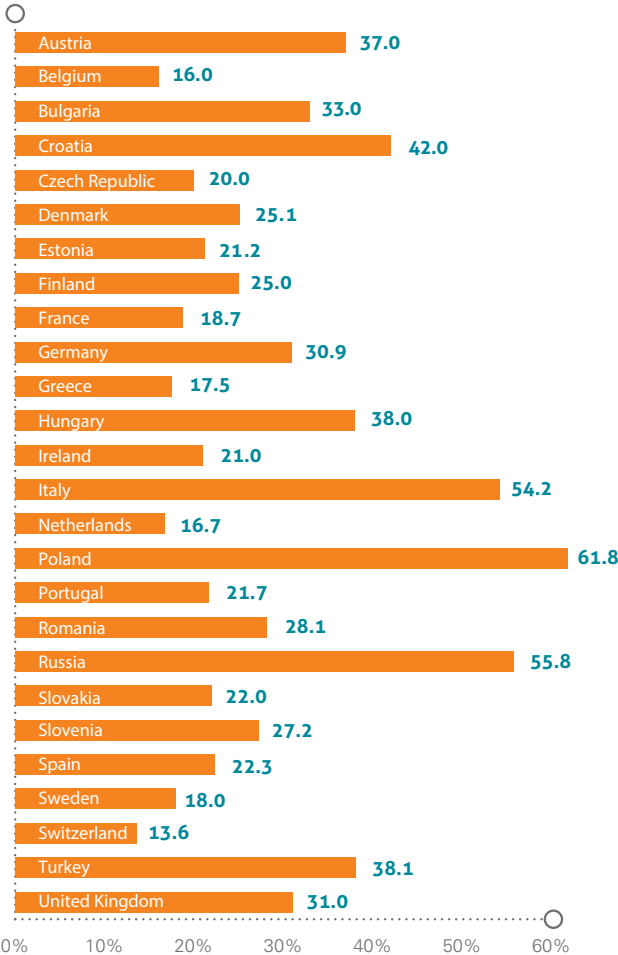
(1) France: reimbursable medicines 2.1%; non-reimbursable medicines 10.0% (2) Ireland: oral medication 0%; other medication 23%

(3) Lithuania: reimbursable medicines 5.0%; non-reimbursable medicines 21.0%

GENERICIS

The term 'generic' is widely used but its definition is not always consistent between countries. Generics are usually produced by a manufacturer who is not

the inventor of the original product, and are marketed when intellectual property protection rights are exhausted.



SHARE (ESTIMATE – IN %) ACCOUNTED FOR BY GENERICS IN PHARMACEUTICAL MARKET SALES VALUE (AT EX-FACTORY PRICES), 2015

Note:

Croatia, Denmark, Estonia, Finland, Greece, Hungary, United Kingdom: share of generics in pharmacy market sales
 Austria, Belgium, Bulgaria, France, Germany, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain: share of generics in reimbursable pharmacy market sales
 Czech Republic, Poland, Romania, Russia, Slovakia, Sweden, Switzerland, Turkey: share of generics in total market sales
 Cyprus, Iceland, Latvia, Lithuania, Malta, Norway, Serbia: 2015 data not available
 France: data relate only to those active substances listed on the official list of medicines
 Definition: 'generic' means a medicine based on an active substance that is out of patent and which is marketed under a different name from that of the original branded medicine.

Source: EFPIA member associations

PHARMACEUTICAL EXPORTS

| EFPIA 2015 | € million | | € million |
|----------------|-----------|----------------|----------------|
| Austria | 8,472 | Lithuania | 632 |
| Belgium | 41,003 | Luxembourg | 300 |
| Bulgaria | 819 | Malta | 241 |
| Croatia | 562 | Netherlands | 27,434 |
| Cyprus | 255 | Norway | 705 |
| Czech Republic | 2,148 | Poland | 2,841 |
| Denmark | 11,537 | Portugal | 920 |
| Estonia | 64 | Romania | 851 |
| Finland | 852 | Russia | 277 |
| France | 27,857 | Slovakia | 480 |
| Germany | 68,706 | Slovenia | 2,413 |
| Greece | 1,018 | Spain | 10,934 |
| Hungary | 4,448 | Sweden | 7,600 |
| Ireland | 30,231 | Switzerland | 58,127 |
| Italy | 19,052 | Turkey | 849 |
| Latvia | 332 | United Kingdom | 33,343 |
| TOTAL | | | 365,303 |

Note:

All data based on SITC 54

Norway: veterinary products excluded, 2014 data

Source: Eurostat (COMEXT database – May 2017)

Norway: Statistics Norway; Switzerland: Swiss Federal Customs Administration



PHARMACEUTICAL IMPORTS

| EFPIA 2015 | € million | | € million |
|----------------|-----------|----------------|----------------|
| Austria | 8,002 | Lithuania | 964 |
| Belgium | 34,694 | Luxembourg | 390 |
| Bulgaria | 1,151 | Malta | 132 |
| Croatia | 803 | Netherlands | 19,168 |
| Cyprus | 222 | Norway | 1,597 |
| Czech Republic | 3,678 | Poland | 4,912 |
| Denmark | 3,592 | Portugal | 2,360 |
| Estonia | 361 | Romania | 2,614 |
| Finland | 2,010 | Russia | 6,873 |
| France | 23,659 | Slovakia | 1,660 |
| Germany | 42,282 | Slovenia | 1,059 |
| Greece | 2,790 | Spain | 13,826 |
| Hungary | 3,647 | Sweden | 3,576 |
| Ireland | 5,752 | Switzerland | 20,688 |
| Italy | 21,372 | Turkey | 4,165 |
| Latvia | 510 | United Kingdom | 30,503 |
| TOTAL | | | 269,012 |

Note:

All data based on SITC 54

Norway: veterinary products excluded, 2014 data

Source: Eurostat (COMEXT database – May 2017)

Norway: Statistics Norway; Switzerland: Swiss Federal Customs Administration



PHARMACEUTICAL TRADE BALANCE

| EFPIA 2015 | € million | | € million |
|----------------|-----------|----------------|---------------|
| Austria | 470 | Lithuania | -332 |
| Belgium | 6,309 | Luxembourg | -90 |
| Bulgaria | -332 | Malta | 109 |
| Croatia | -241 | Netherlands | 8,266 |
| Cyprus | 33 | Norway | -892 |
| Czech Republic | -1,530 | Poland | -2,071 |
| Denmark | 7,945 | Portugal | -1,440 |
| Estonia | -297 | Romania | -1,763 |
| Finland | -1,158 | Russia | -6,596 |
| France | 4,198 | Slovakia | -1,180 |
| Germany | 26,424 | Slovenia | 1,354 |
| Greece | -1,772 | Spain | -2,892 |
| Hungary | 801 | Sweden | 4,024 |
| Ireland | 24,479 | Switzerland | 37,439 |
| Italy | -2,320 | Turkey | -3,316 |
| Latvia | -178 | United Kingdom | 2,840 |
| TOTAL | | | 96,291 |

Note:

All data based on SITC 54

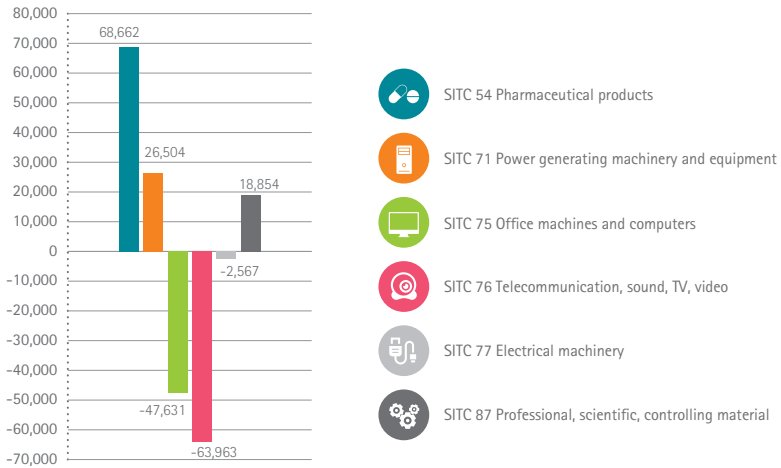
Norway: veterinary products excluded, 2014 data

Source: Eurostat (COMEXT database – May 2017)

Norway: Statistics Norway; Switzerland: Swiss Federal Customs Administration



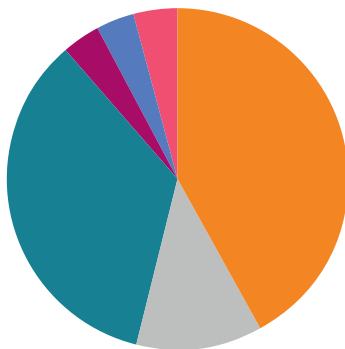
EU-28 TRADE BALANCE – HIGH TECHNOLOGY SECTORS (€ MILLION) – 2016



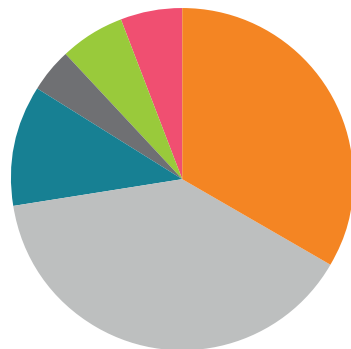
Source: Eurostat, COMEXT database, May 2017

THE EUROPEAN UNION'S TOP 5 PHARMACEUTICAL TRADING PARTNERS – 2016

| | USA | Others | Switzerland | Israel | Russia | Singapore | Japan | China |
|------------|-------|--------|-------------|--------|--------|-----------|-------|-------|
| EU imports | 42.0% | 12.1% | 34.7% | 3.8% | - | 3.5% | - | 3.9% |
| EU exports | 33.6% | 38.9% | 11.4% | - | 4.3% | - | 6.1% | 5.7% |



EU imports



EU exports

Source: Eurostat, COMEXT database, May 2017

TOTAL SPENDING (PUBLIC AND PRIVATE) ON HEALTHCARE AS A PERCENTAGE OF GDP AT MARKET PRICES

| Country | 1970 | 1980 | 1990 | 2000 | 2013 | 2014 |
|----------------|------------|------------|------------|------------|------------|------------|
| Austria | 4.9 | 7.0 | 7.7 | 9.2 | 10.1 | 10.3 |
| Belgium | 3.8 | 6.1 | 7.1 | 7.9 | 10.4 | 10.4 |
| Czech Republic | - | - | 3.8 | 5.7 | 7.8 | 7.7 |
| Denmark | - | 8.4 | 8.0 | 8.1 | 10.3 | 10.6 |
| Estonia | - | - | - | 5.2 | 6.0 | 6.1 |
| Finland | 5.0 | 5.9 | 7.2 | 6.9 | 9.5 | 9.5 |
| France | 5.2 | 6.7 | 8.0 | 9.5 | 10.9 | 11.1 |
| Germany | 5.7 | 8.1 | 8.0 | 9.8 | 10.9 | 11.0 |
| Greece | - | - | 6.1 | 7.2 | 8.7 | 8.3 |
| Hungary | - | - | - | 6.8 | 7.3 | 7.2 |
| Iceland | 4.6 | 5.9 | 7.4 | 9.0 | 8.8 | 8.9 |
| Ireland | 4.9 | 7.5 | 5.6 | 5.9 | 10.5 | 10.1 |
| Italy | - | - | 7.0 | 7.6 | 8.8 | 9.1 |
| Luxembourg | - | - | - | 5.9 | 6.5 | 6.3 |
| Netherlands | - | 6.6 | 7.1 | 7.1 | 10.9 | 10.9 |
| Norway | 4.0 | 5.4 | 7.1 | 7.7 | 8.9 | 9.3 |
| Poland | - | - | 4.3 | 5.3 | 6.5 | 6.4 |
| Portugal | 2.3 | 4.8 | 5.5 | 8.4 | 9.1 | 9.0 |
| Slovakia | - | - | - | 5.3 | 7.6 | 7.0 |
| Slovenia | - | - | - | 8.1 | 8.8 | 8.5 |
| Spain | 3.1 | 5.0 | 6.1 | 6.8 | 9.0 | 9.1 |
| Sweden | 5.5 | - | 7.3 | 7.4 | 11.1 | 11.2 |
| Switzerland | 4.9 | 6.6 | 7.4 | 9.3 | 11.2 | 11.4 |
| Turkey | - | 2.4 | 2.5 | 4.7 | 5.1 | 5.1 |
| United Kingdom | 4.0 | 5.1 | 5.1 | 6.3 | 9.9 | 9.9 |
| Europe | 4.4 | 6.1 | 6.4 | 7.2 | 8.7 | 8.8 |
| USA | 6.2 | 8.2 | 11.3 | 12.5 | 16.4 | 16.6 |
| Japan | 4.4 | 6.4 | 5.8 | 7.4 | 11.3 | 11.4 |

Note: Europe: non-weighted average (25 countries) – EFPIA calculations

Source: OECD Health Data 2015, May 2017

PAYMENT FOR PHARMACEUTICALS BY COMPULSORY HEALTH INSURANCE SYSTEMS AND NATIONAL HEALTH SERVICES (ambulatory care only)

| EFPIA 2015 | € million | | € million |
|--------------|-----------|-------------|----------------|
| Austria | 2,628 | Lithuania | 194 |
| Belgium | 3,867 | Malta | n.a. |
| Bulgaria | 330 | Netherlands | 4,466 |
| Croatia | 373 | Norway | 1,289 |
| Cyprus | 93 | Poland | 1,909 |
| Czech Rep. | 550 | Portugal | 1,183 |
| Denmark | 772 | Romania | 1,153 |
| Estonia | 113 | Russia | 1,694 |
| Finland | 1,378 | Serbia | 218 |
| France | 23,353 | Slovakia | 1,089 |
| Germany | 34,836 | Slovenia | 278 |
| Greece | 2,000 | Spain | 9,535 |
| Hungary | 1,001 | Sweden | 2,013 |
| Iceland | 92 | Switzerland | 4,985 |
| Ireland | 1,501 | Turkey | 5,982 |
| Italy | 8,477 | U.K. | 14,217 |
| Latvia | 126 | | |
| TOTAL | | | 131,685 |

Note:

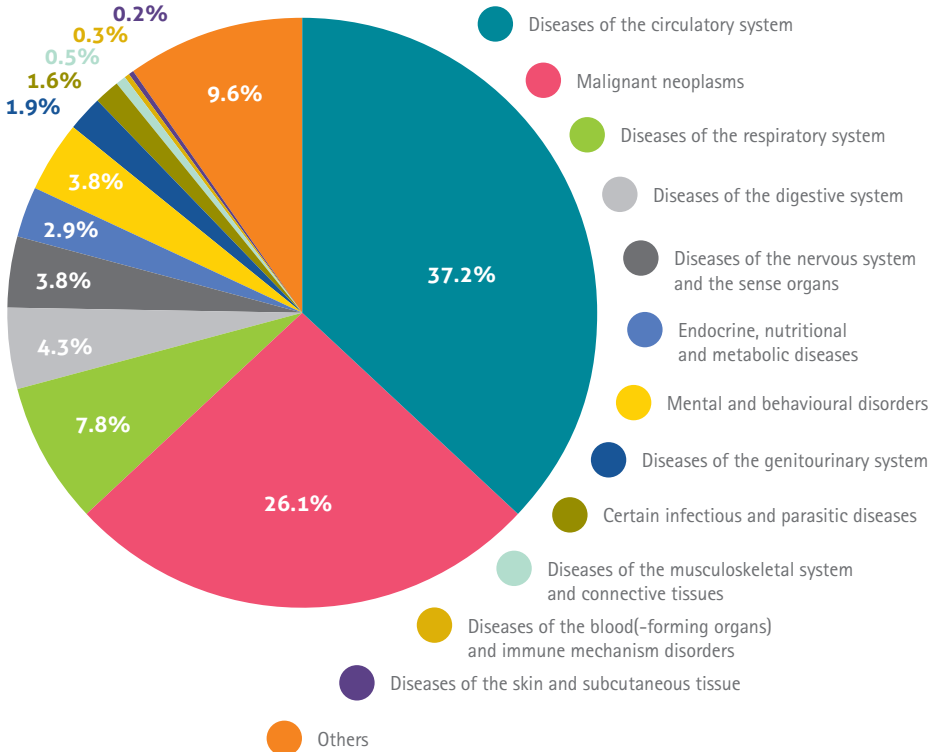
Russia: 2014 data; Iceland, Lithuania: 2013 data;

France, Ireland, Netherlands, Norway, Sweden, United Kingdom: estimate

Source: EFPIA member associations (official figures)



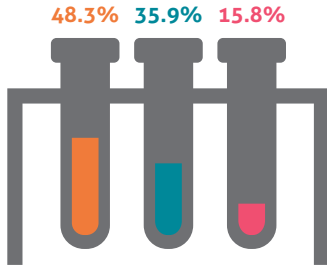
CAUSES OF DEATH BY MAJOR DISEASE AREAS IN EUROPE (EU-28)



Data Source: Eurostat, data relate to year 2014 (non-disease directly related causes of deaths: EFPIA calculations), May 2017



BREAKDOWN OF TOTAL HEALTH EXPENDITURE IN EUROPE – 2014



Outpatient care & others



In-patient care (hospital)



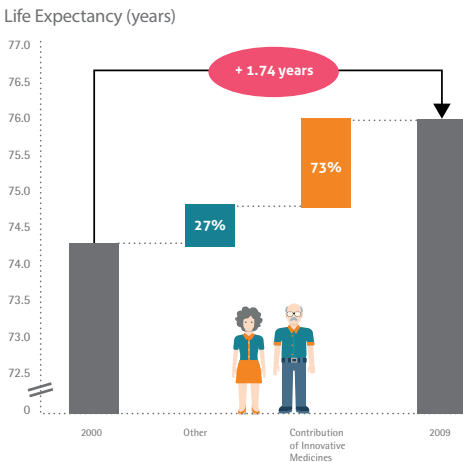
Pharmaceuticals & other medical non-durables

THE ADDED VALUE OF MEDICINES IN HEALTHCARE

Medicines constitute only a small part of healthcare costs with, on average, 15.8% of total health expenditure in Europe being spent on pharmaceuticals and other medical non-durables. In costly diseases such as cancer and rheumatoid arthritis, medicines account for even less than 10% of the total disease costs. Medicines can also generate additional savings, for example by substantially reducing costs in other areas of healthcare, including hospital stays and long-term care costs.

Source: OECD Health Statistics 2016, May 2017 – EFPIA calculations (non-weighted average for 25 EU & EFTA countries)

CONTRIBUTION OF INNOVATIVE MEDICINES TO INCREASE IN LIFE EXPECTANCY (2000–2009)



* From 2000–2009, an improvement in population weighted mean life expectancy at birth of 1.74 years was seen across 30 OECD countries.

* Innovative medicines are estimated to have contributed to 73% of this improvement once other factors are taken into account (e.g. income, education, immunisation, reduction in risk factors, health system access).

Source: Lichtenberg, F: Pharmaceutical innovation and longevity growth in 30 developing OECD and high-income countries, 2000 – 2009 (2012)

EFPIA MEMBER ASSOCIATIONS

Austria

Fachverband der Chemischen Industrie Österreichs (FCIO)

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The Danish Association of the Pharmaceutical Industry (Lif)

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Les Entreprises du Médicament (LEEM)

Germany

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Hellenic Association of Pharmaceutical Companies (SFEE)

Ireland

Irish Pharmaceutical Healthcare Association (IPHA)

Italy

Associazione delle Imprese del Farmaco (Farmindustria)

Netherlands

Vereniging Innovatieve Geneesmiddelen

Norway

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Poland

Employers Union of Innovative Pharmaceutical Companies (Infarma)

Portugal

Associação Portuguesa da Indústria Farmacêutica (Apifarma)

Russia

Association of International Pharmaceutical Manufacturers (AIPM)

Spain

Asociación Nacional Empresarial de la Industria Farmacéutica (Farmaindustria)

Sweden

Läkemedelsindustriforeningen
The Swedish Association of the Pharmaceutical Industry (LIF)

Switzerland

Verband der forschender pharmazeutischen Firmen der Schweiz (Interpharma)

Turkey

Arastirmaci Ilac Fimalari Dernegi (AIFD)

United Kingdom

The Association of the British Pharmaceutical Industry (ABPI)

ASSOCIATIONS WITH LIAISON STATUS

Bulgaria: Association of Research-based Pharmaceutical Manufacturers in Bulgaria (ARPharM)

Croatia: Innovative Pharmaceutical Initiative (IFI)

Cyprus: Cyprus Association of Pharmaceutical Companies (KEFEA)

Czech Republic: Association of Innovative Pharmaceutical Industry (AIFP)

Estonia: Association of Pharmaceutical Manufacturers in Estonia (APME)

Hungary: Association of Innovative Pharmaceutical Manufacturers (AIPM)

Latvia: Association of International Research-based Pharmaceutical Manufacturers (SIFFA)

Lithuania: The Innovative Pharmaceutical Industry Association (IFPA)

Malta: Maltese Pharmaceutical Association (PRIMA)

Romania: Association of International Medicines Manufacturers (ARPIM)

Serbia: Innovative Drug Manufacturers' Association (INOVIA)

Slovakia: Association of Innovative Pharmaceutical Industry (AIFP)

Slovenia: Forum of International Research and Development Pharmaceutical Industries (EIG)

Ukraine: Association of Pharmaceutical Research and Development (APRaD)

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European Federation of Pharmaceutical
Industries and Associations

EFPIA (The European Federation of Pharmaceutical Industries and Associations) represents the research-based pharmaceutical industry operating in Europe.

Founded in 1978, its members comprise **33** national pharmaceutical industry associations and **40** leading pharmaceutical companies undertaking research, development and manufacturing of medicinal products in Europe for human use.

Its mission is to promote pharmaceutical research and development and the best conditions in Europe for companies to bring to market medicines that improve human health and the quality of life around the world.

Through its membership, EFPIA represents the common views of more than 1,900 large, medium and small companies including the entire European research-based pharmaceutical sector whose interests also include a significant part of the generics and biosimilars segments. Two specialised groups have been created within EFPIA to address specific issues relating to vaccines (Vaccines Europe) and the needs of biopharmaceutical companies (EBE - European Biopharmaceutical Enterprises).

Further details about the Federation and its activities can be obtained from:



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