

# Life Science Competitiveness Indicators

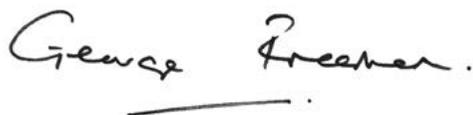
## Ministerial Foreword

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I am delighted to introduce the second in the annual series of Life Science Competitiveness Indicators. Since the launch of the UK Life Science Strategy in 2011, Government has secured £6bn of inward investment, leading to 17,000 jobs. Today, the UK has one of the strongest and most productive health and life sciences industries in the world, and this report helps to show why.

The report includes a set of internationally comparable metrics of UK performance relative to competitor countries. The data shows the continued strength of the sector: in 2015 the UK received the highest level of life science foreign direct investment projects in Europe, second only to the US and increased on the previous year. It also highlights our other areas of comparative strength: a strong academic science base and clinical research environment and high levels of health and life sciences industry productivity. And I am pleased that the most recent data for the UK shows an increase between 2014 and 2015 of 17 per cent in pharmaceutical exports and 3 per cent in medtech exports – underlining this Government's export ambitions. We are on track to increase total life science trade and exports from £30bn to £40bn by 2020.

As the Prime Minister set out when launching the Life Science Strategy, we are not complacent. Alongside the UK's areas of strength, the report also shows where we face significant competition from other countries, particularly the United States and Germany, for inward investment, exports and skilled workers. Our ambition remains for the UK to be the best place in the world to develop and launch innovative medicines, technologies and diagnostics, benefiting patients and boosting growth, and we are making good progress toward that. We are particularly well placed to lead in emerging areas of global competition – for example, in genomics, where the UK's science base provides a boost for biopharmaceutical industries. Government actions currently under way, such as the Early Access to Medicines Scheme and our wide-ranging Accelerated Access Review, should also ensure the UK remains well placed to respond to international competition, but this is an area we must keep under active review.



**George Freeman MP**  
Parliamentary Under Secretary of State for Life Sciences



This Office for Life Sciences (OLS) report brings together international comparisons of a set of indicators on the competitiveness of the life science environment in the UK. It is the second time OLS have published this report. It complements the other annual OLS publication – Strength & Opportunity – which provides a more detailed analysis of the life science industry landscape in the UK only.

Improvements made since the 2015 publication include:

- Adding narrative text to describe trends
- Incorporating supplementary data into the narrative in some cases to support up to date understanding of the UK position
- Publishing a spreadsheet with underlying data for the majority of indicators (where data is from a proprietary source this has not been possible).

As with most internationally comparable data, it takes time for the data to be collated and updated. In some cases we have used UK specific data to provide a more up-to-date picture of the UK position. Internationally comparable data limitations mean that, while this is the most complete picture we can provide, the set of indicators cannot be looked at in aggregate to provide an overall country ranking. Each indicator should be considered individually.

The data is mostly sourced from published data sets. The web links and caveats are provided where this is the case, along with the data in the accompanying spreadsheet. In a few instances, it has been necessary for data to be sourced commercially or obtained directly from the organisation holding it. In these cases, the supplier is clearly credited against relevant charts. In cases where the data is from a proprietary source, we have not been able to reproduce the underlying data tables.

The choice of indicators was informed by engagement with life science sector stakeholders, including trade associations, life science companies, research organisations, regulators and government bodies. We have selected comparator countries on advice from stakeholders, however, in some cases this choice has been limited by data availability.

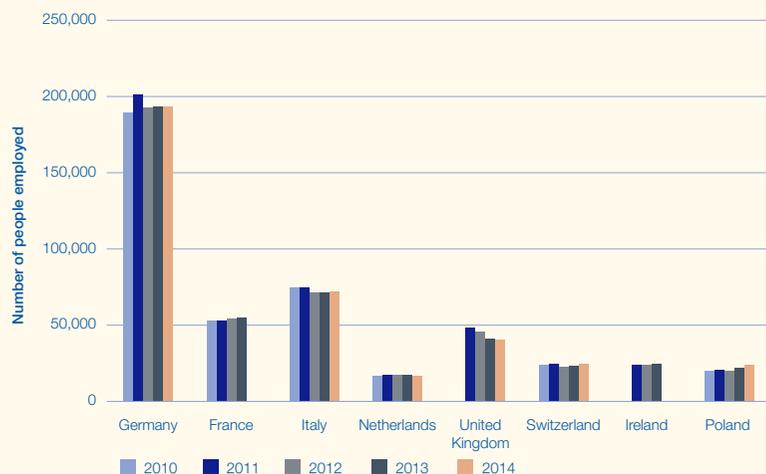
We would like to thank all of those who have contributed to the development of this report.

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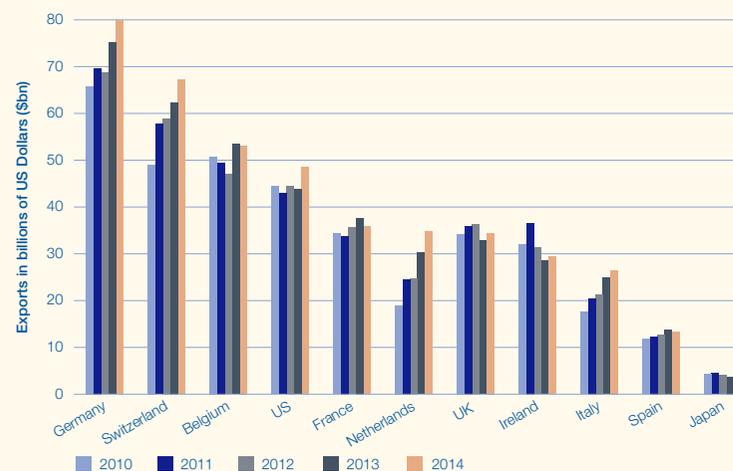
# Overview: Performance of UK Life Science Sector and Contribution to UK Economy

**Chart 1B:** Number of people employed in manufacture of medical technology products



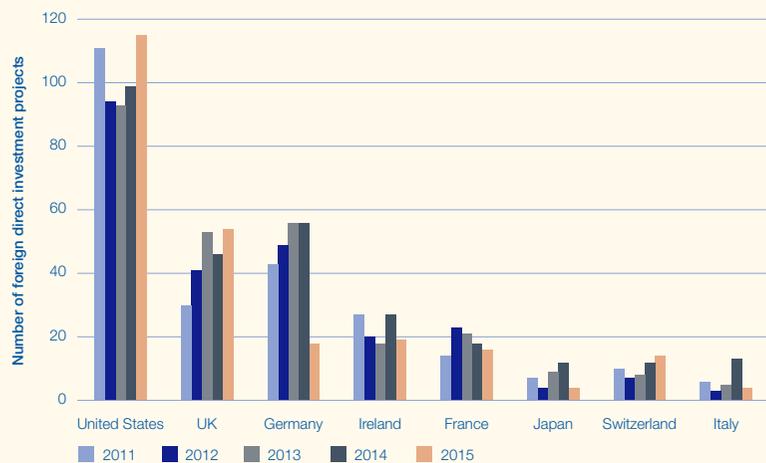
Source: Eurostat – Data Explorer, Annual detailed enterprise statistics for industry, <http://ec.europa.eu/eurostat/data/database>

**Chart 3A:** Exports of medical technology products



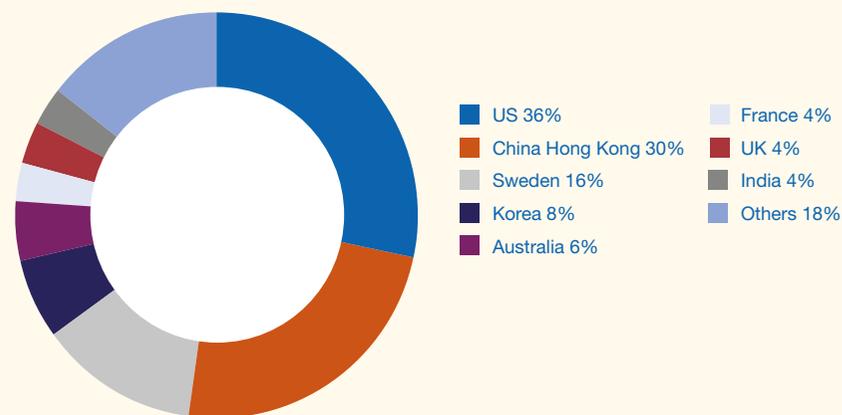
Source: UNCTAD STAT Data Center [http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS\\_ChosenLang=en](http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en)

**Chart 5A:** Life sciences foreign direct investment projects



Source: fDi Markets, from The Financial Times Ltd. <http://www.fdimarkets.com/explore/?p=sector>

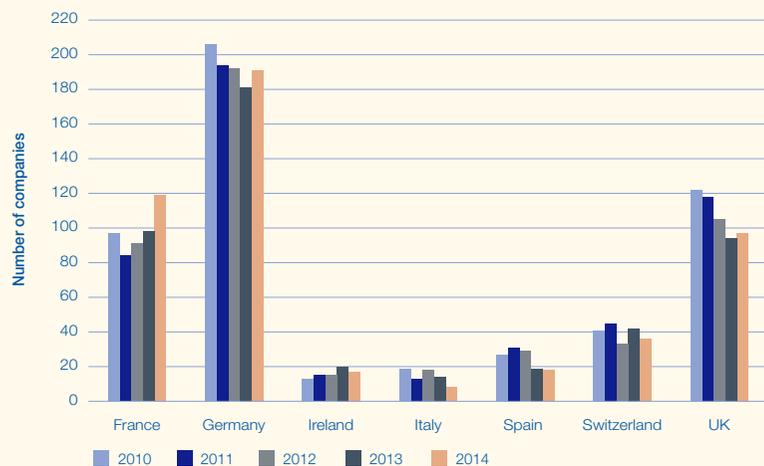
**Chart 6A:** Share of global life science Initial Public Offerings (IPOs) – 2015



Source: S&P Capital IQ <http://www.spcapitaliq.com/>

# Overview: Competitiveness of UK Life Science Environment

**Chart 7B:** Number of companies receiving private equity investment



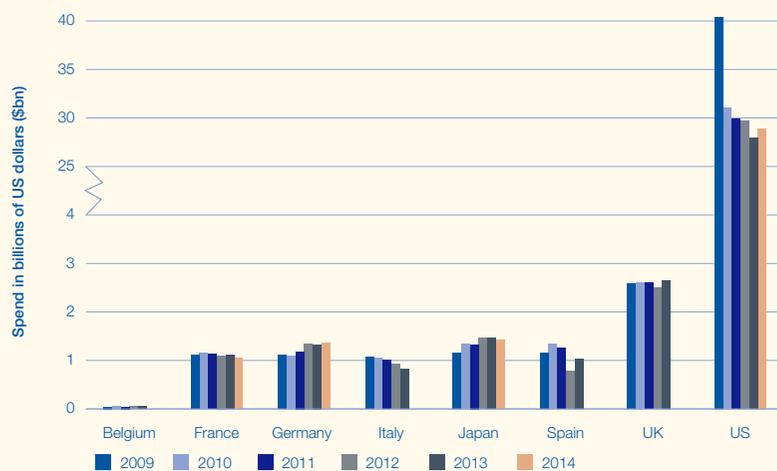
Source: European Private Equity & Venture Capital Association (EVCA)  
<http://www.evca.eu/research/activity-data/annual-activity-statistics/>

**Chart 8:** Number of science graduates



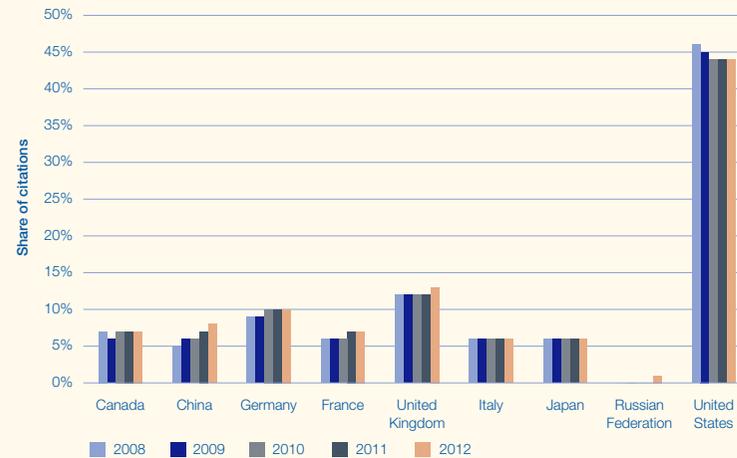
Source: United Nations Educational, Scientific and Cultural Organisation (UNESCO)  
[http://data.uis.unesco.org/index.aspx?DataSetCode=EDULIT\\_DS](http://data.uis.unesco.org/index.aspx?DataSetCode=EDULIT_DS)

**Chart 9:** Government spend on health research and development



Source: OECD Research & Development statistics <http://stats.oecd.org/index.aspx?t=227797>

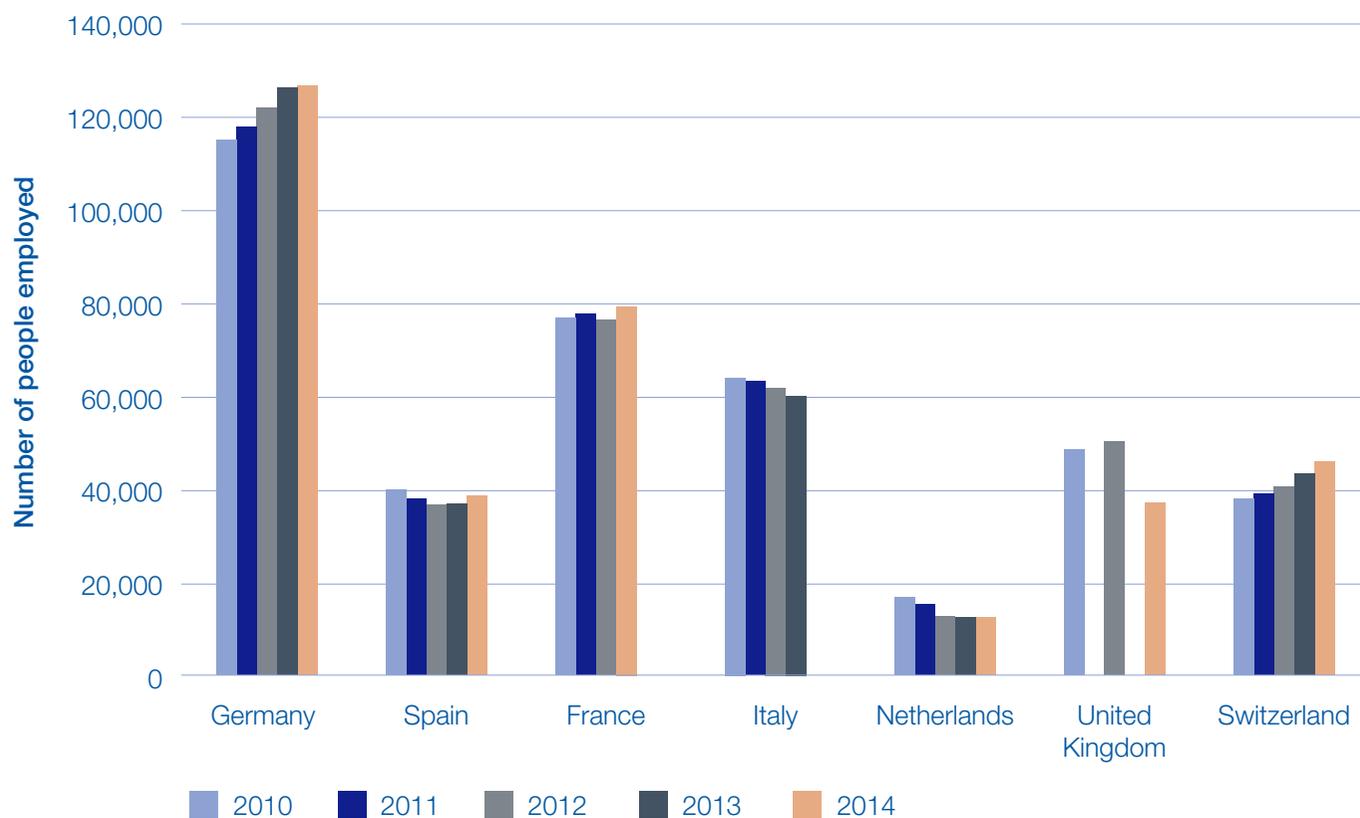
**Chart 12A:** Share of global life science Initial Public Offerings (IPOs) – 2015



Source: International Comparative Performance of the UK Research Base –  
<https://www.gov.uk/government/publications/performance-of-the-uk-research-base-international-comparison-2013>

# Indicators for UK industry

## Chart 1A: Number of people employed in manufacture of basic pharmaceutical products and pharmaceutical preparations

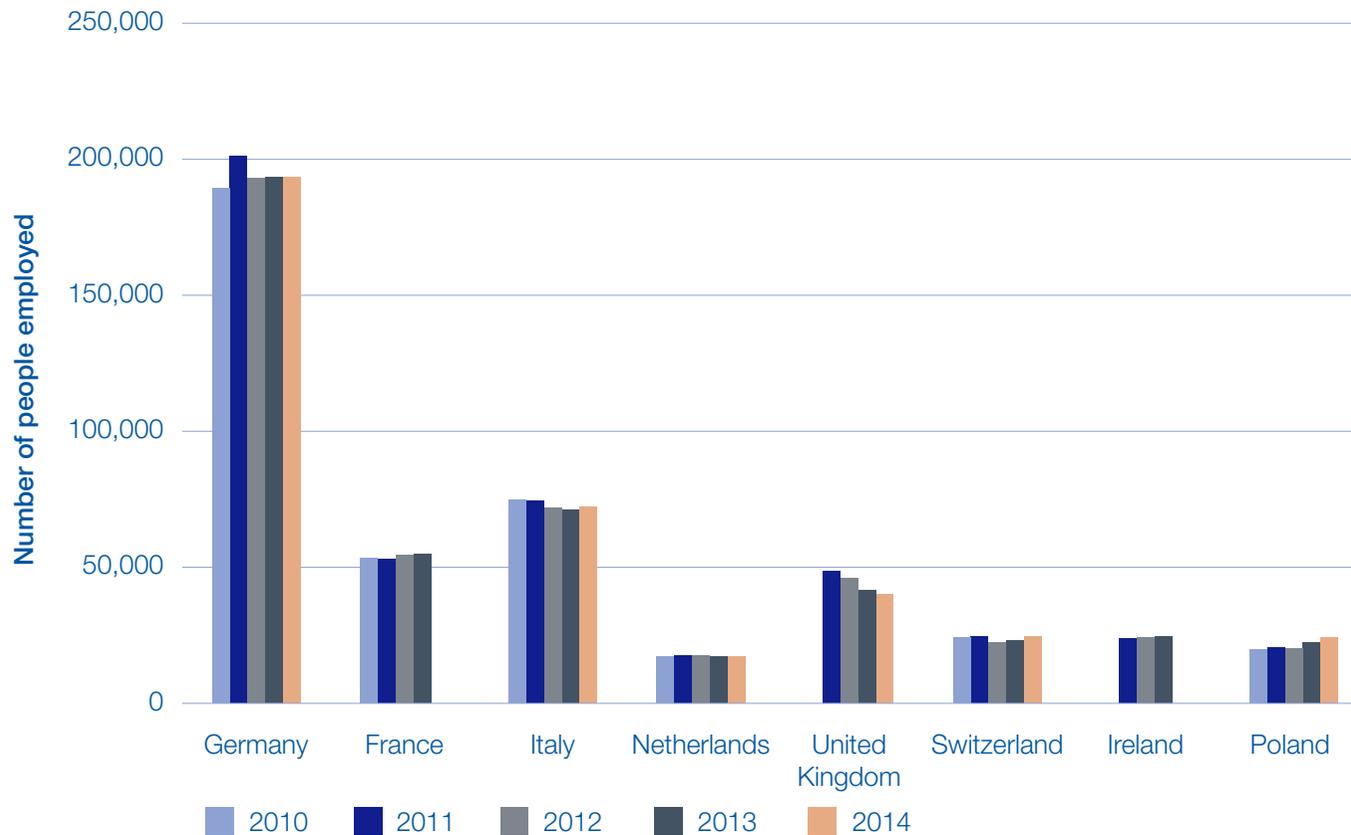


- UK pharmaceutical employment reduced from approximately 48,000 to approximately 37,000 between 2010 and 2014. To note, there is limited data for UK in specific years due to unavailability from Eurostat.
- Germany had the highest level of employment amongst the selected comparator countries throughout 2010 to 2014.
- The Strength & Opportunity (S&O) annual publication provides a more complete and up-to-date picture of UK trends in life science sector employment. The S&O report includes supply chain companies, which are an important part of the sector and are excluded here.

**Source:** Eurostat – Data Explorer, Annual detailed enterprise statistics for industry, [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs\\_na\\_ind\\_r2&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_na_ind_r2&lang=en)

**Notes:** Categories used are NACE\_ R2 “C21 Manufacture of basic pharmaceutical products and pharmaceutical preparations”.

## Chart 1B: Number of people employed in manufacture of medical technology products

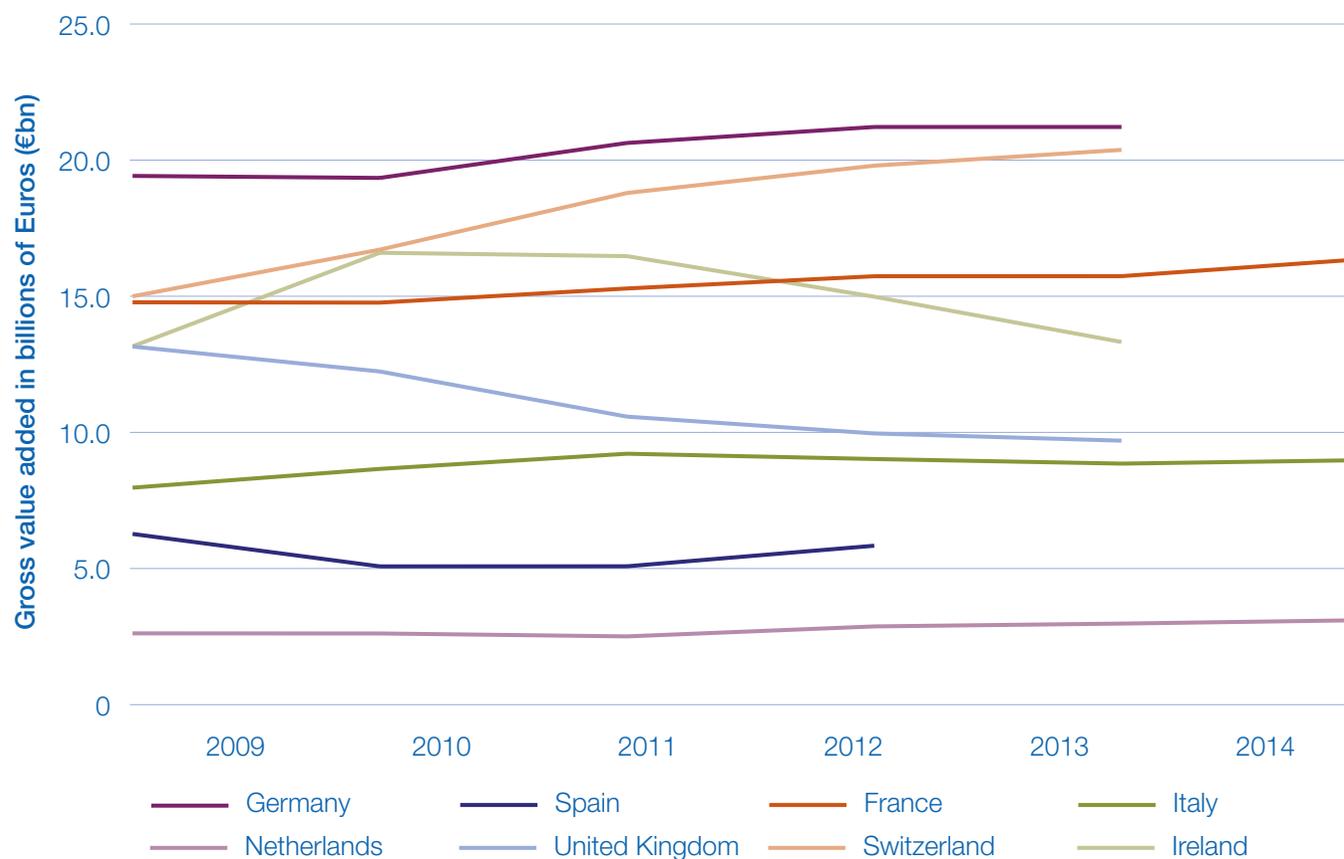


- Employment in manufacture of medical technology in the UK fell from approximately 48,600 to approximately 40,200 between 2011 and 2014.
- In 2014, the UK had the third highest employment of the selected comparator countries. To note, there is limited data for UK, Ireland and France in specific years due to unavailability from Eurostat.
- Germany consistently had the highest employment among selected comparator countries throughout 2010 to 2014.
- The data used here is limited to the definitions available through international comparisons and probably shows a partial picture of the sector.
- The Strength & Opportunity (S&O) annual publication provides a more complete and up-to-date picture of UK trends in life science sector employment. The S&O report includes supply chain companies, which are an important part of the sector and are excluded here.

**Source:** Eurostat – Data Explorer, Annual detailed enterprise statistics for industry, <http://ec.europa.eu/eurostat/data/database>

**Notes:** Categories used are NACE\_R2 “C266 Manufacture of irradiation, electromedical and electrotherapeutic equipment” plus “C325 Manufacture of medical and dental instruments and supplies”.

## Chart 2: Gross Value Added for pharmaceutical manufacturing

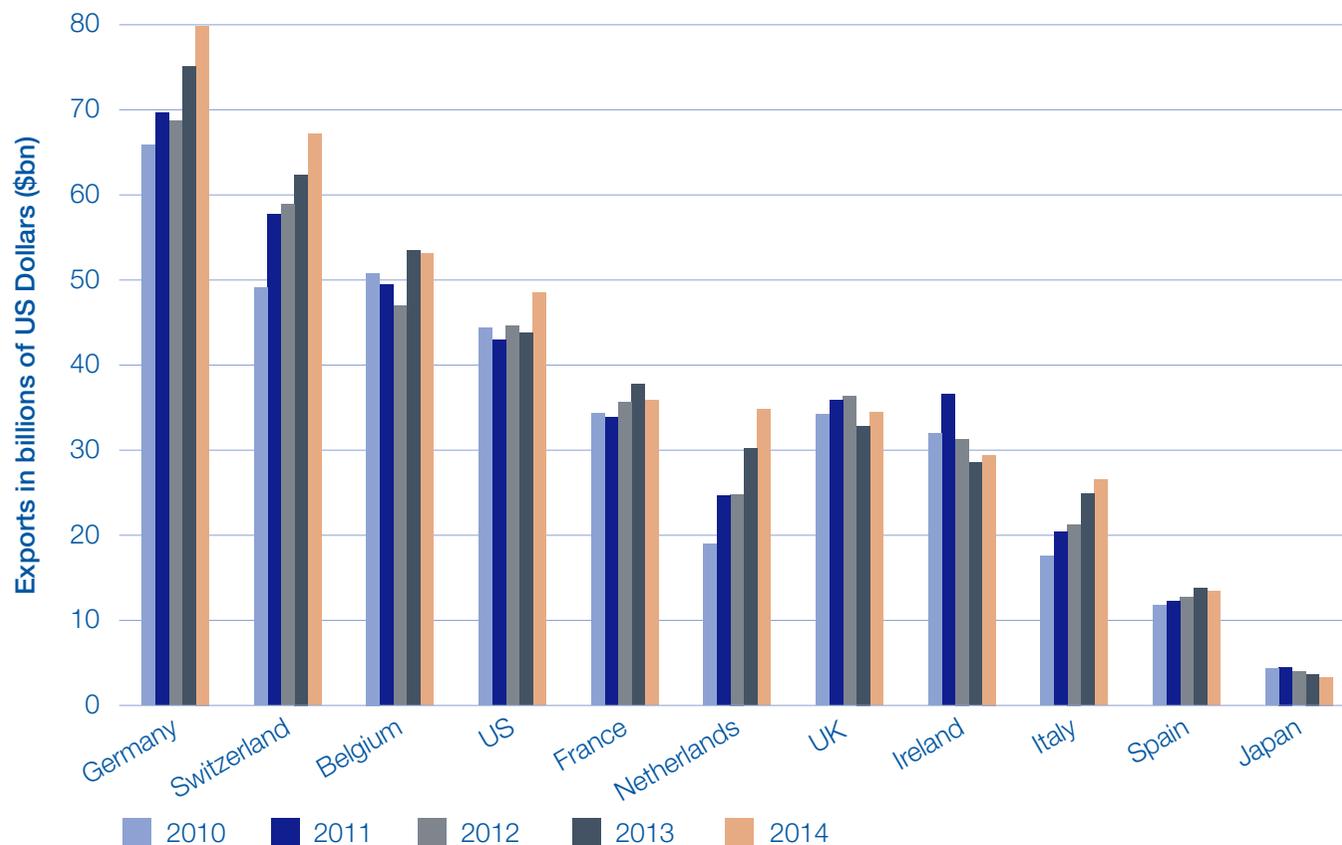


- In the UK, the gross value added for pharmaceutical manufacturing has reduced by 26% between 2009 and 2013.
- In 2013, the UK had the fifth highest gross value added for pharmaceutical manufacturing compared to selected comparator countries.
- Switzerland saw a notable increase between 2009 and 2013, and Ireland saw a notable reduction from 2010 to 2013.
- Most recent data for the UK only shows an increase in pharmaceutical GVA of 1.5% on the previous year ([ONS](#)).

Source: Comparator countries' data from Eurostat National Accounts data  
<http://ec.europa.eu/eurostat/web/national-accounts/data/database>

Notes: Categories used are "541 Medicinal and pharmaceutical products" and "542 Medicaments including veterinary medicaments". Data is in current prices

## Chart 3A: Exports of medical technology products



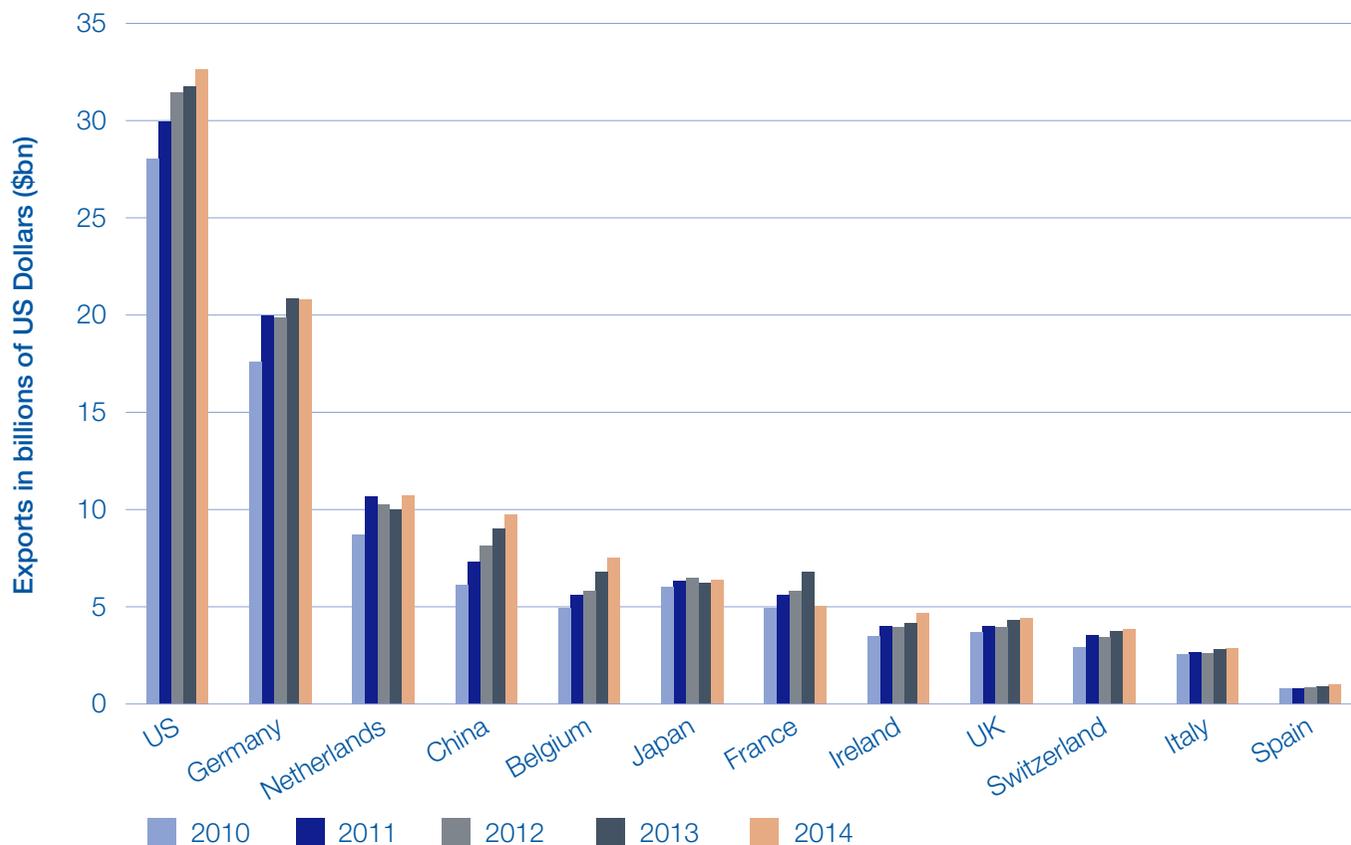
- Between 2010 and 2014, exports of pharmaceutical products in the UK grew from \$34.2 billion to \$34.5 billion, a compound annual growth rate of approximately 0.2%.
- In 2014, the UK ranked seventh out of the 12 comparative countries in value of pharmaceutical product exports.
- Exports from Germany, Switzerland, Belgium, the US, France, the Netherlands, Italy and Spain all grew between 2010 and 2014.
- Up-to-date UK data, available from ONS, shows a 17% rise in pharmaceutical exports between 2014 and 2015 ([ONS](#)).

**Source:** UNCTAD STAT Data Center

[http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS\\_ChosenLang=en](http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en)

**Notes:** Categories used are “541 Medicinal and pharmaceutical products” and “542 Medicaments including veterinary medicaments”. Data is in current prices.

## Chart 3B: Exports of medical technology products



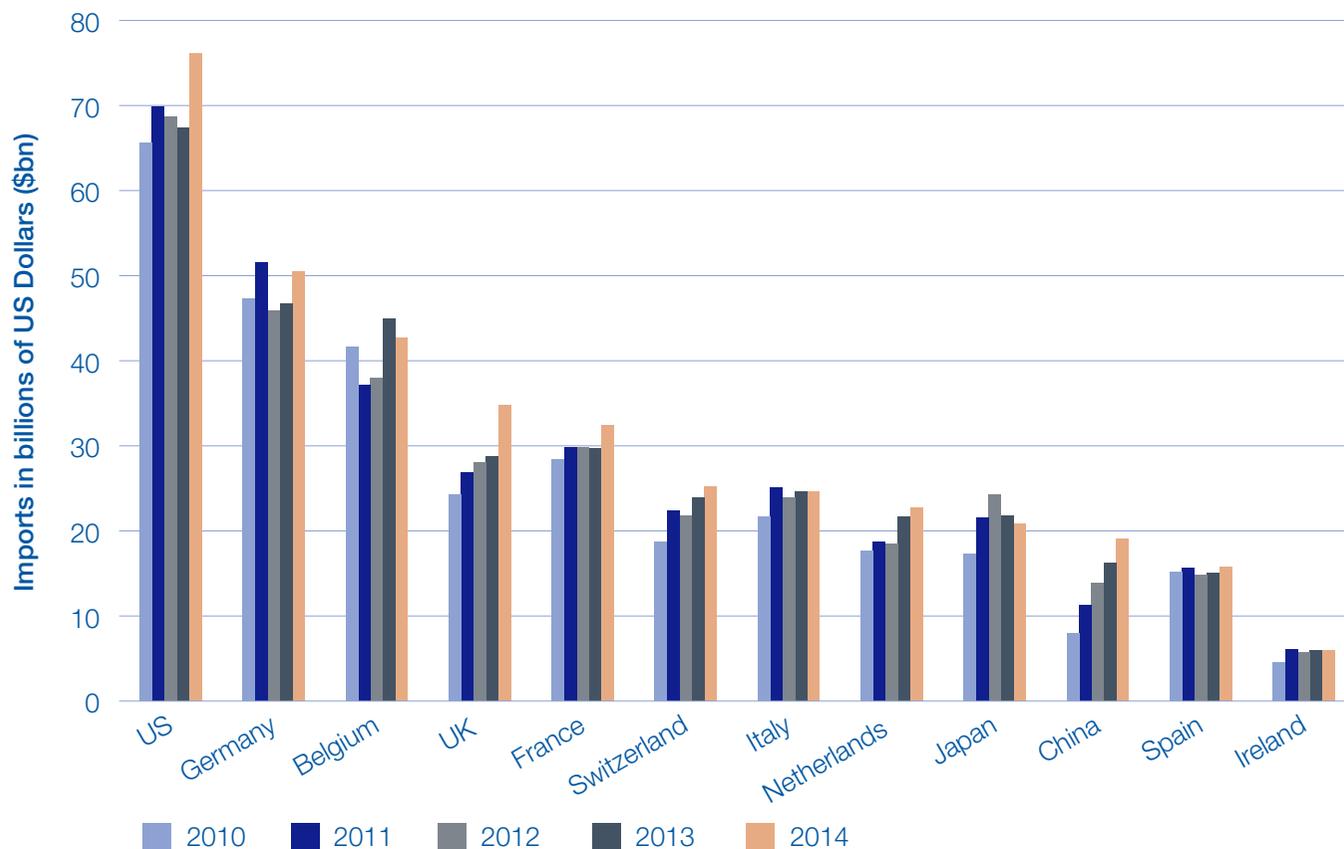
- Between 2010 and 2014, exports of medical technology products in the UK grew from \$3.7 billion to \$4.4 billion, a compound annual growth rate of approximately 3.8%.
- In 2014, the UK ranked ninth out of the 12 comparator countries in value of medical technology product exports. The UK had a similar level of exports to France, Ireland and Switzerland.
- The US had the highest value of exports in 2014 with an annual growth rate of approximately 3.1% between 2010 to 2014.
- Up-to-date UK data, available from ONS, shows a 3% rise in medical technology exports between 2014 and 2015 ([ONS](#)).

**Source:** UNCTAD STAT Data Center

[http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS\\_ChosenLang=en](http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en)

**Notes:** Categories used are UNCTAD STAT “774 Electro-diagnostic apparatus for medical science etc.” and “872 Instruments and appliances, n.e.s, for medical, etc.” Data is in current prices.

## Chart 4A: Imports of pharmaceutical products



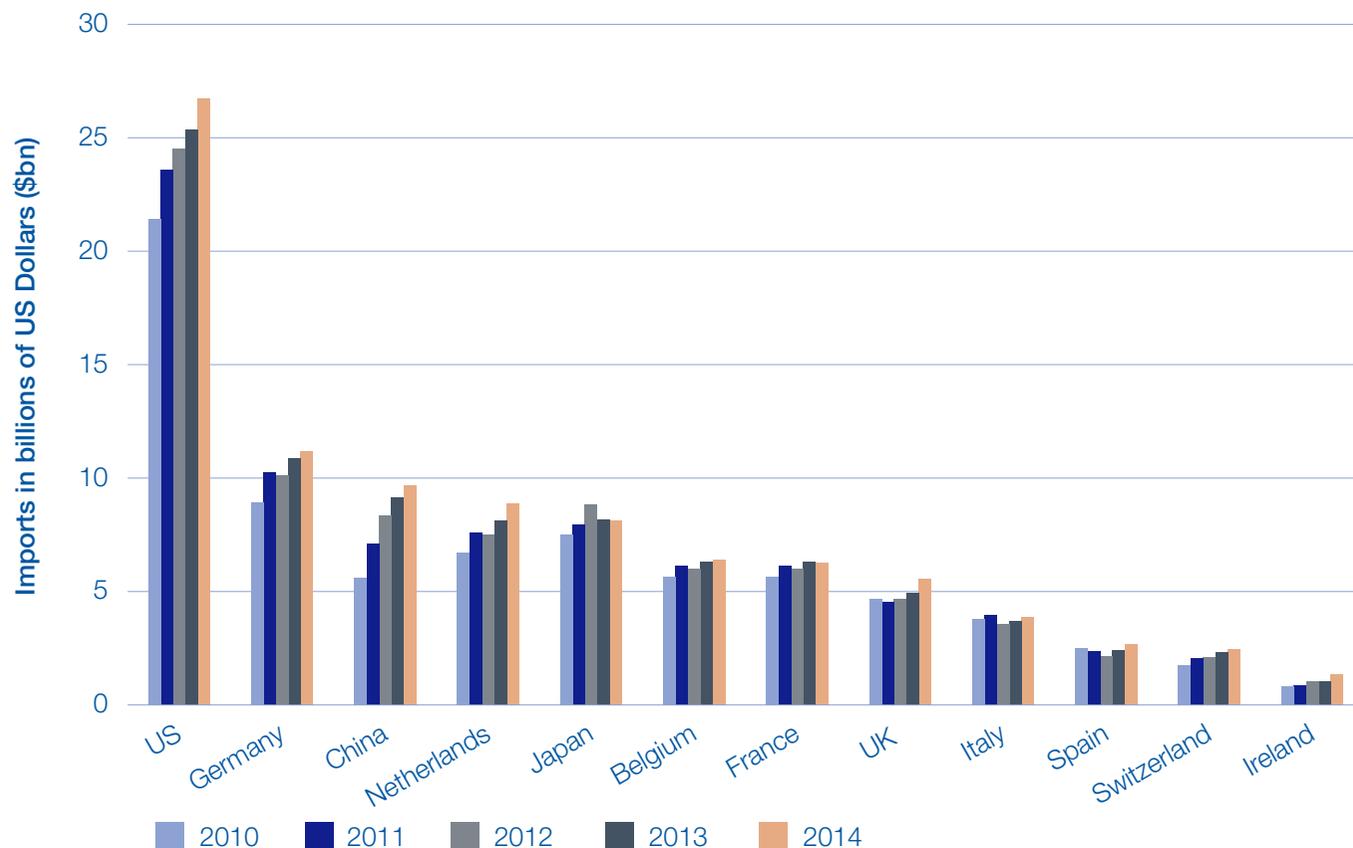
- Imports of pharmaceutical products rose steadily in the UK from \$24.3 billion in 2010 to \$34.7 billion in 2014, a compound annual growth of approximately 7.4%.
- In 2014, the UK had the fourth highest value of imports of pharmaceutical products after the US, Germany and Belgium.
- The US had the highest value of imports among selected comparator countries in every year between 2010 and 2014.

**Source:** UNCTAD STAT Data Center

[http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS\\_ChosenLang=en](http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en)

**Notes:** Categories used are from UNCTAD “541 Medicinal and pharmaceutical products” “542 Medicaments including veterinary medicament”. Data is in current prices.

## Chart 4B: Imports of medical technology products



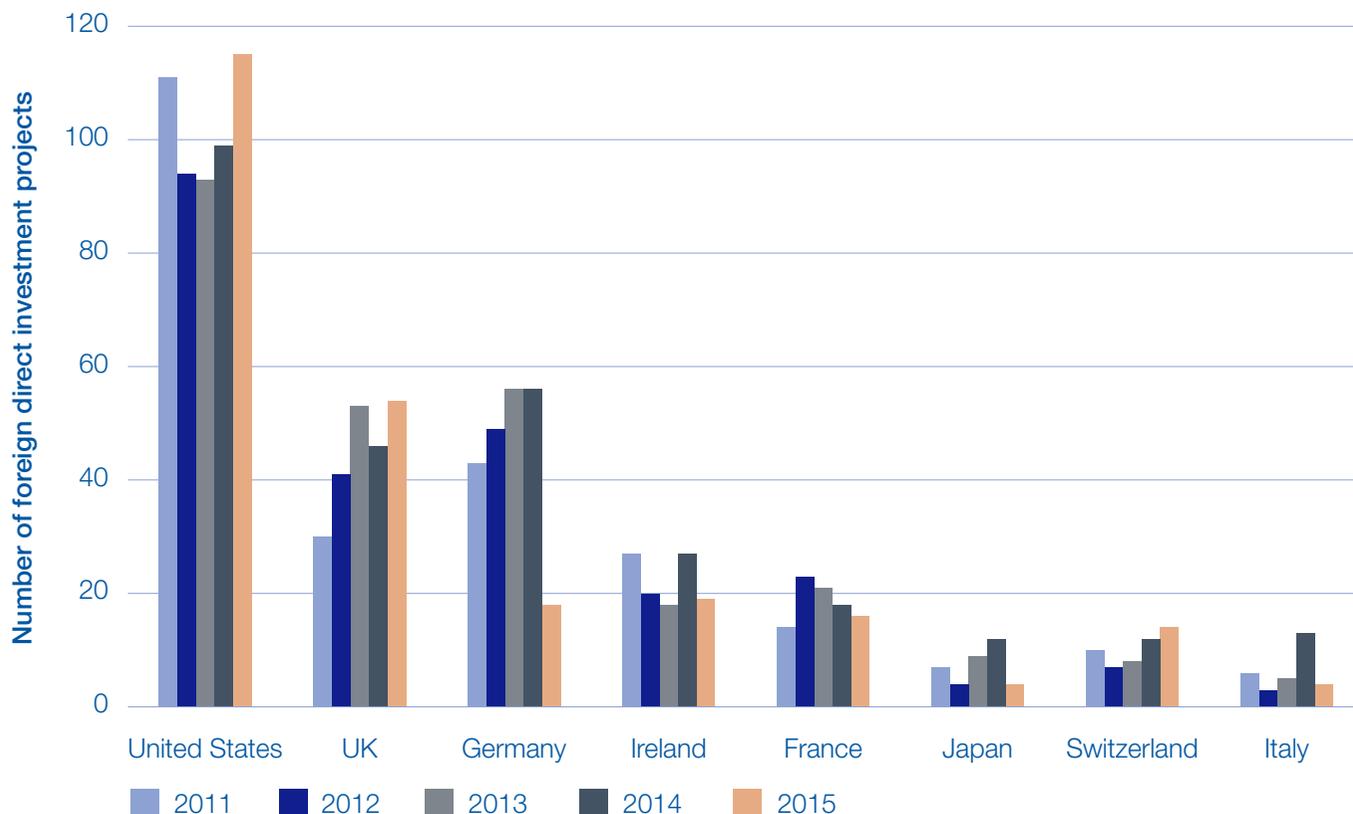
- Imports of medical technology products in the UK rose since 2011. The compound annual growth rate between 2010 and 2014 was approximately 3.4%.
- In 2014, the UK had the eighth highest value of imports among selected comparator countries. The UK had a similar level of imports to France and Belgium.
- Imports of medical technology products have also grown steadily in the US between 2010 and 2014. The US consistently had the highest level among the selected comparator countries.

Source: UNCTAD STAT Data Center

[http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS\\_ChosenLang=en](http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en)

Notes: Categories are from UNCTAD STAT “774 Electro-diagnostic apparatus for medical science etc.” and “872 Instruments and appliances, n.e.s, for medical”. Data is in current prices.

## Chart 5A: Life sciences foreign direct investment projects

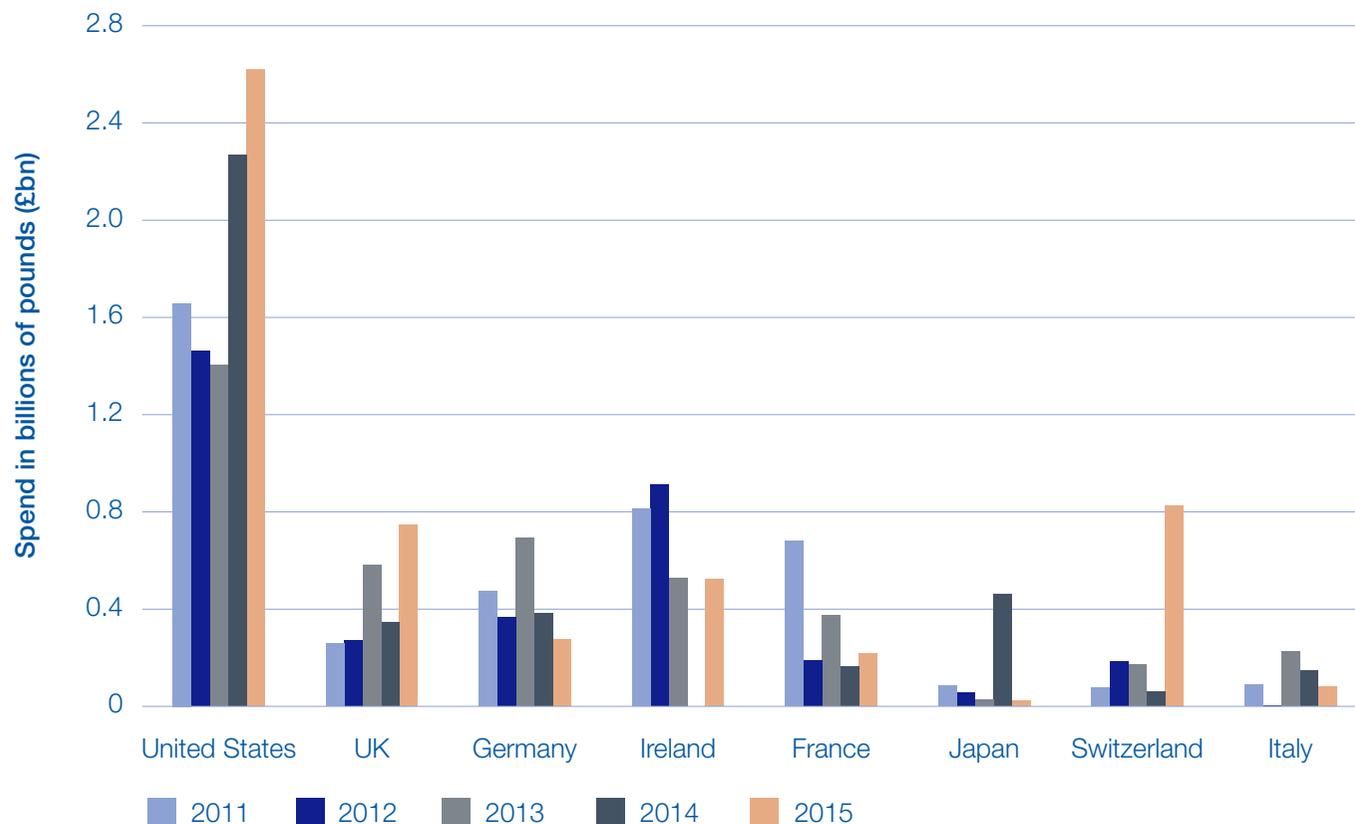


- The number of life science FDI projects in the UK rose from 30 in 2011 to 54 in 2015.
- In 2015, the UK ranked second in number of FDI projects among selected comparator countries.
- The US have consistently ranked first among selected comparator countries between 2011 and 2015, with 154 projects in 2015.

**Source:** fDi Markets, from The Financial Times Ltd.  
<http://www.fdimarkets.com/explore/?p=sector>

**Notes:** Numbers are for the year that projects were announced. Data is provided to the Office for Life Sciences, by UK Trade & Investment for the purposes of the Competitiveness Indicators publication.

## Chart 5B: Life sciences foreign direct investment – capital expenditure

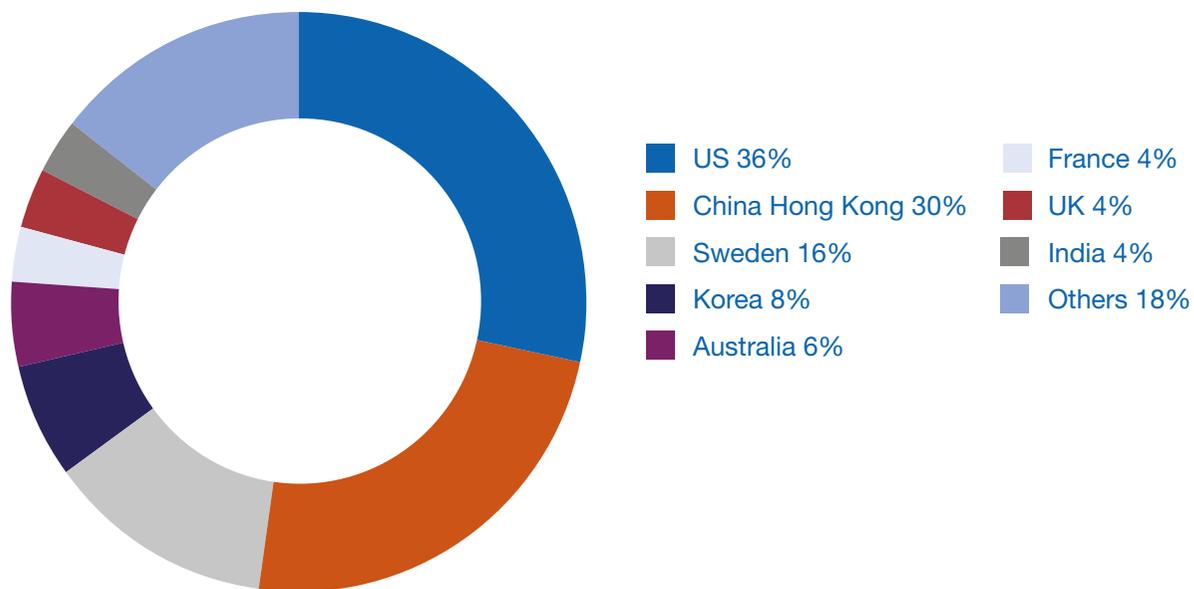


- There has been an upward growth in life science foreign direct investment capital expenditure in the UK between 2011 and 2015. The compound annual growth rate was approximately 6%.
- In 2015, the UK had the third highest level of capital expenditure among selected comparator countries behind Switzerland and the US.
- US life sciences foreign direct investment capital grew from £2 billion in 2011 to £2.6 billion in 2015, with significant growth experienced between 2013 and 2015.

**Source:** fDi Markets, from The Financial Times Ltd.  
<http://www.fdimarkets.com/explore/?p=sector>

**Notes:** Values are for the year that projects were announced. Data is in current prices. Data is provided to the Office for Life Sciences, by UK Trade & Investment for the purposes of the Competitiveness Indicators publication.

## Chart 6A: Share of global life science Initial Public Offerings (IPOs) – 2015

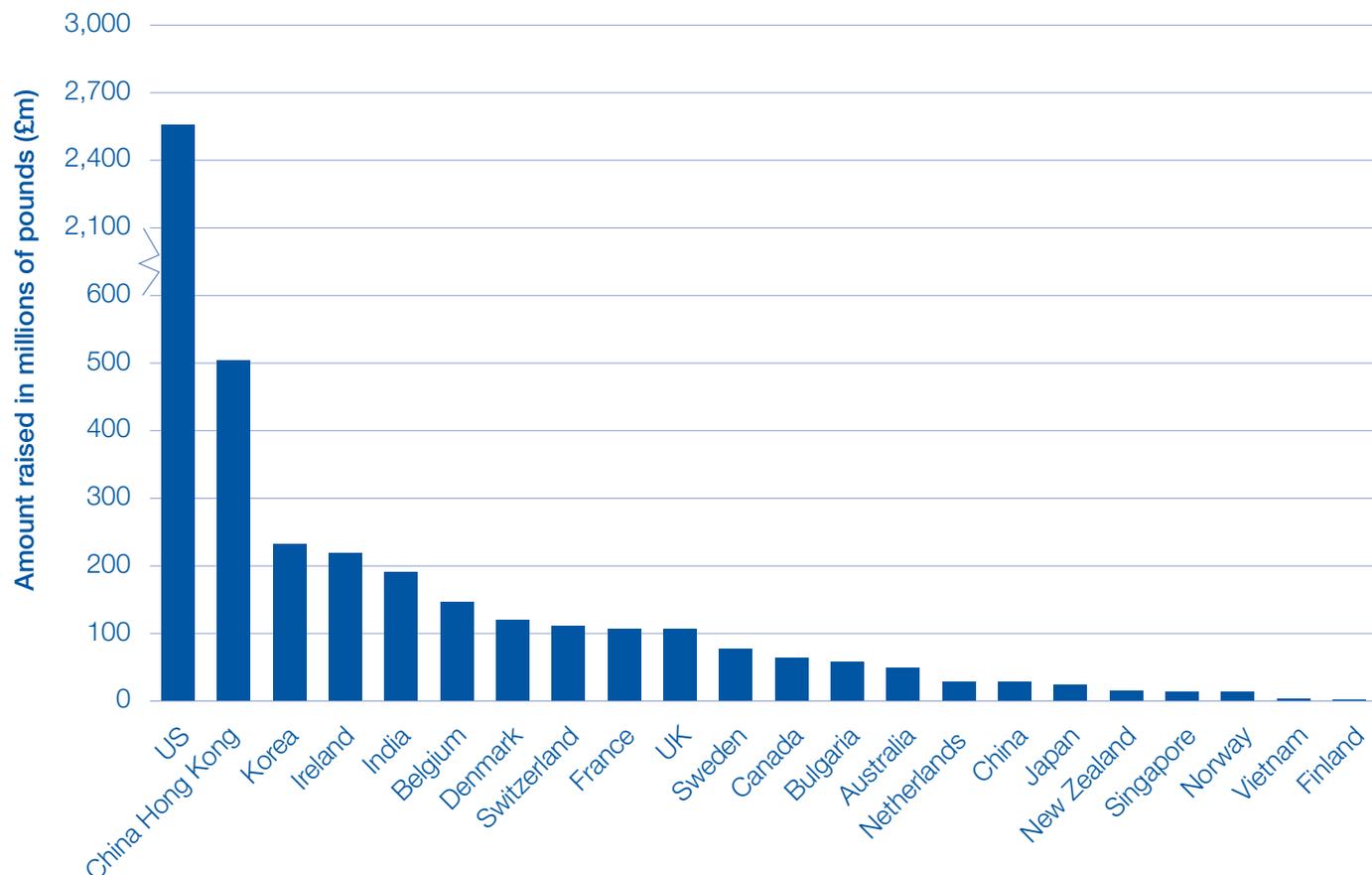


- In 2015, the UK had a 3% share of global life science Initial Public Offerings (IPOs).
- The UK's share of global life science IPOs in 2015 was equal to France and India.
- The US had the largest global share of life science IPOs in 2015, with 36%.
- The UK's share of global life science IPOs fell in 2015 from 4.1% in 2014 [[2015 LSCI Report: page 17](#)].

**Source:** S&P Capital IQ <http://www.spcapitaliq.com/>

**Notes:** Numbers refer to the country in which the IPO was launched, not the domicile of the IPO Company. 'Others' are Belgium, Japan, Vietnam, Bulgaria, Netherlands, Ireland, New Zealand, Denmark, Finland, Norway, Singapore, Switzerland, and Canada.

## Chart 6B: Initial Public Offerings (IPOs) in life sciences – amount raised in 2015 (where known)

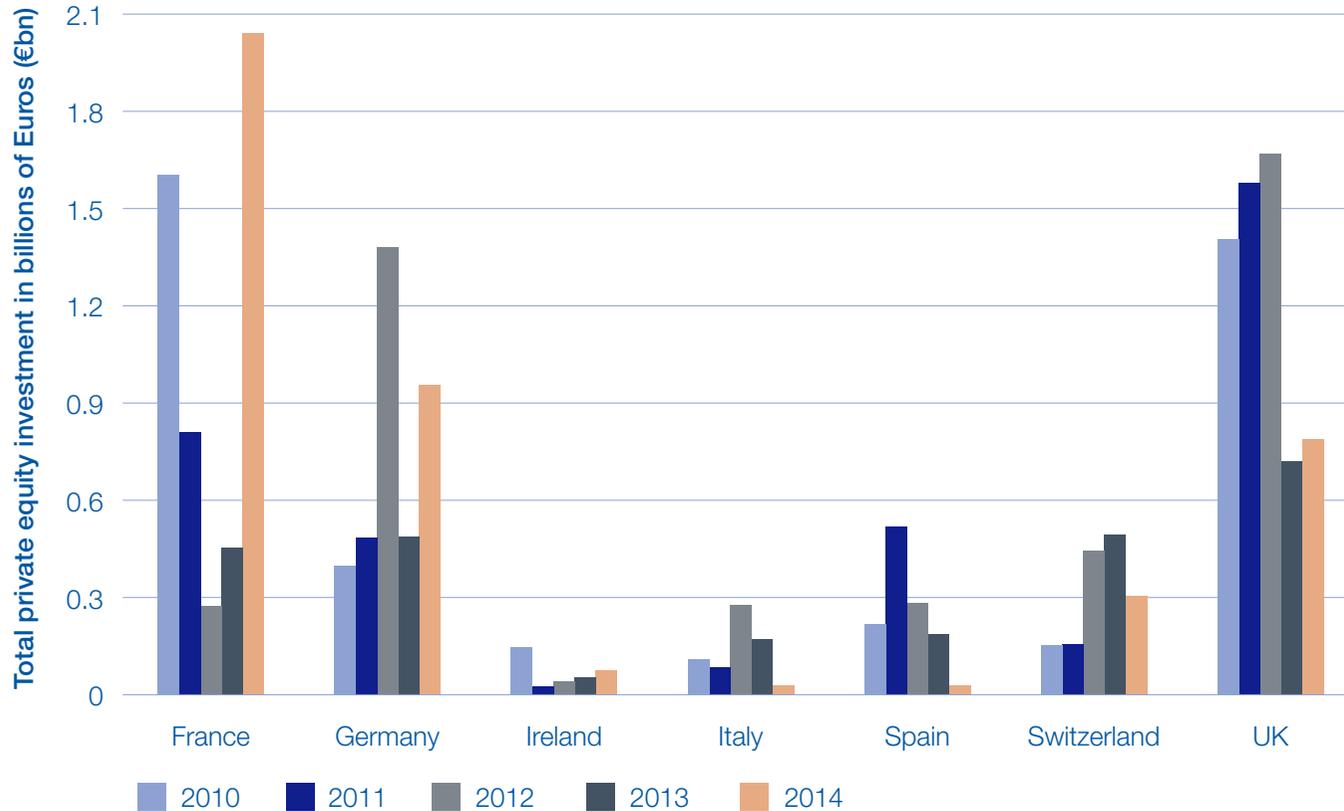


- Approximately £107.1 million was raised in UK Initial Public Offerings (IPOs) in life sciences in 2015, compared to approximately £257 million raised in 2014.
- In 2015, the UK ranked tenth among selected comparator countries.
- The US raised the largest amount of IPOs in life sciences in 2015, with approximately £2.6 billion raised.

Source: S&P Capital IQ

Notes: Values refer to the country in which the IPO was launched, not the domicile of the IPO Company.

## Chart 7A: Private equity investment – total investment

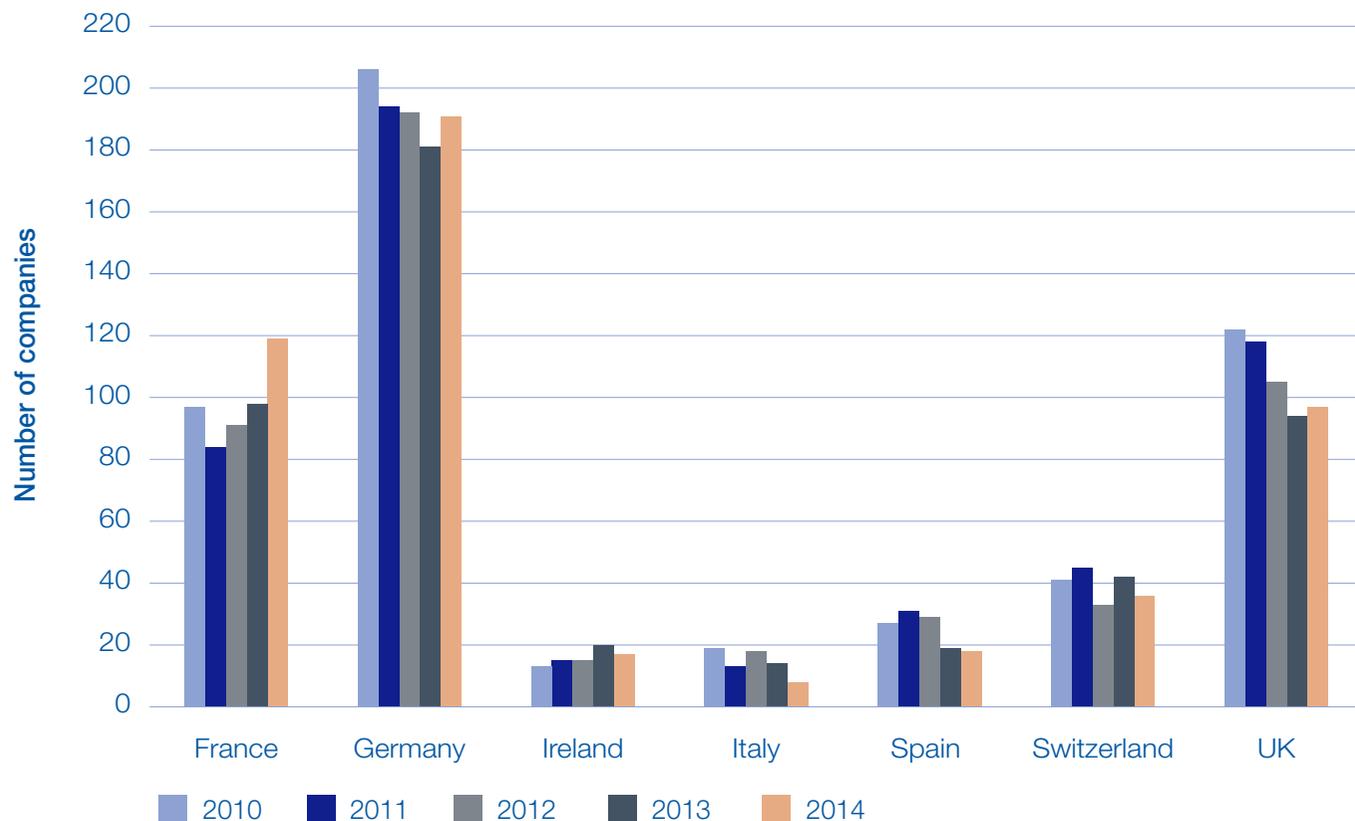


- The amount of private equity investment in the UK fell from approximately €1.4 billion to approximately €0.8 billion between 2010 and 2014. However, this grew slightly between 2013 and 2014.
- In 2014, the UK had the third highest level of private equity investment among selected comparator countries.
- France experienced significant growth between 2013 and 2014.

**Source:** European Private Equity & Venture Capital Association (EVCA)  
<http://www.evca.eu/research/activity-data/annual-activity-statistics/>

**Notes:** Data is based on country of portfolio Company. Data is in current prices.

## Chart 7B: Number of companies receiving private equity investment

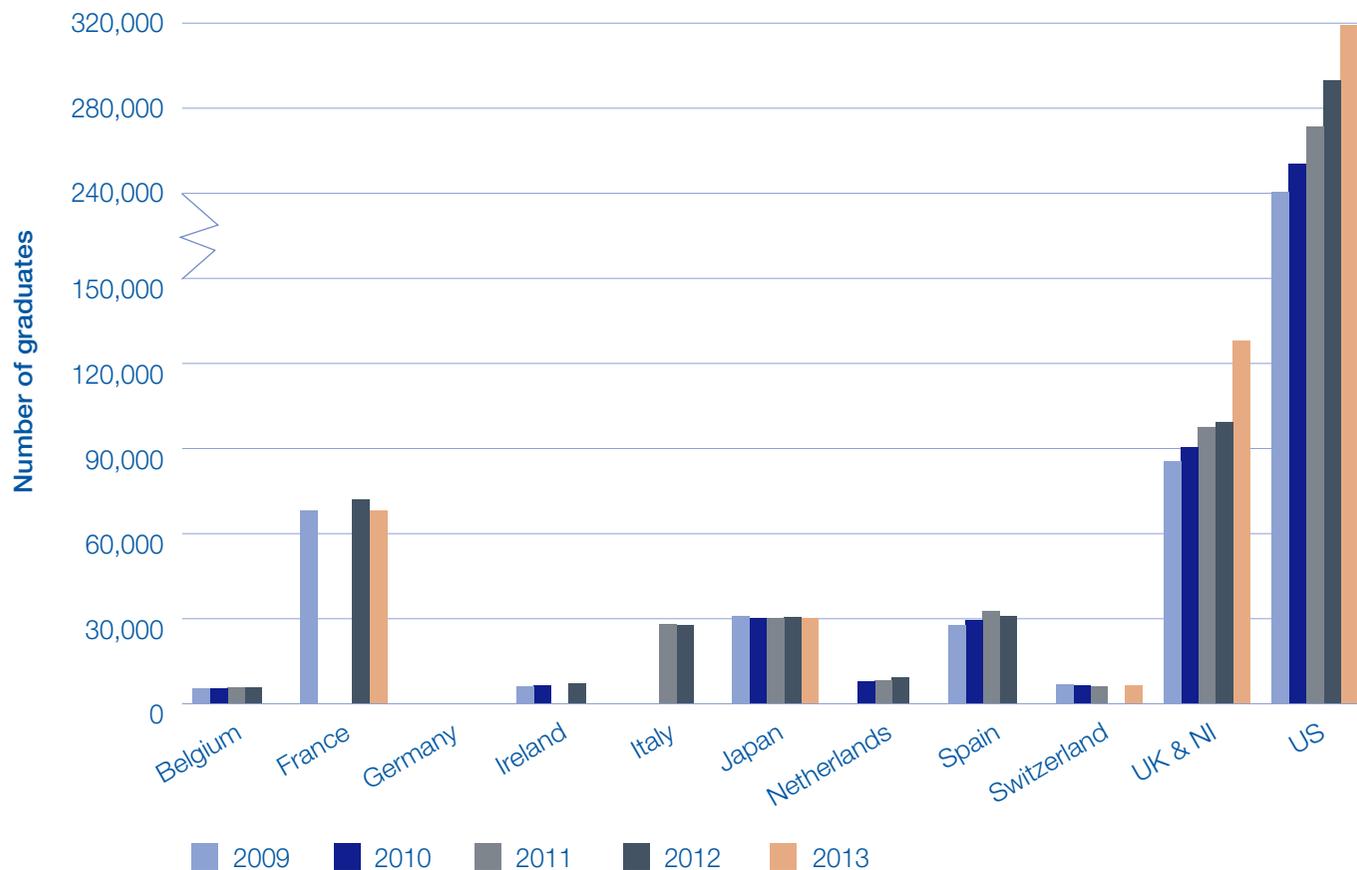


- The number of companies receiving private equity investment in the UK fell from 122 in 2010 to 97 in 2014. However there was an increase in the most recent year, from 94 in 2013 to 97 in 2014.
- In 2014, the UK had the third highest number of companies receiving private equity investment among selected comparator countries.
- In 2014, Germany had the highest number of companies, despite seeing a decline from 206 in 2010 to 191 in 2014. France had notable annual compound growth rate of approximately 4.2% between 2010 and 2014.

**Source:** European Private Equity & Venture Capital Association (EVCA)  
<http://www.evca.eu/research/activity-data/annual-activity-statistics/>

**Notes:** Data is based on country of portfolio company.

## Chart 8: Number of science graduates



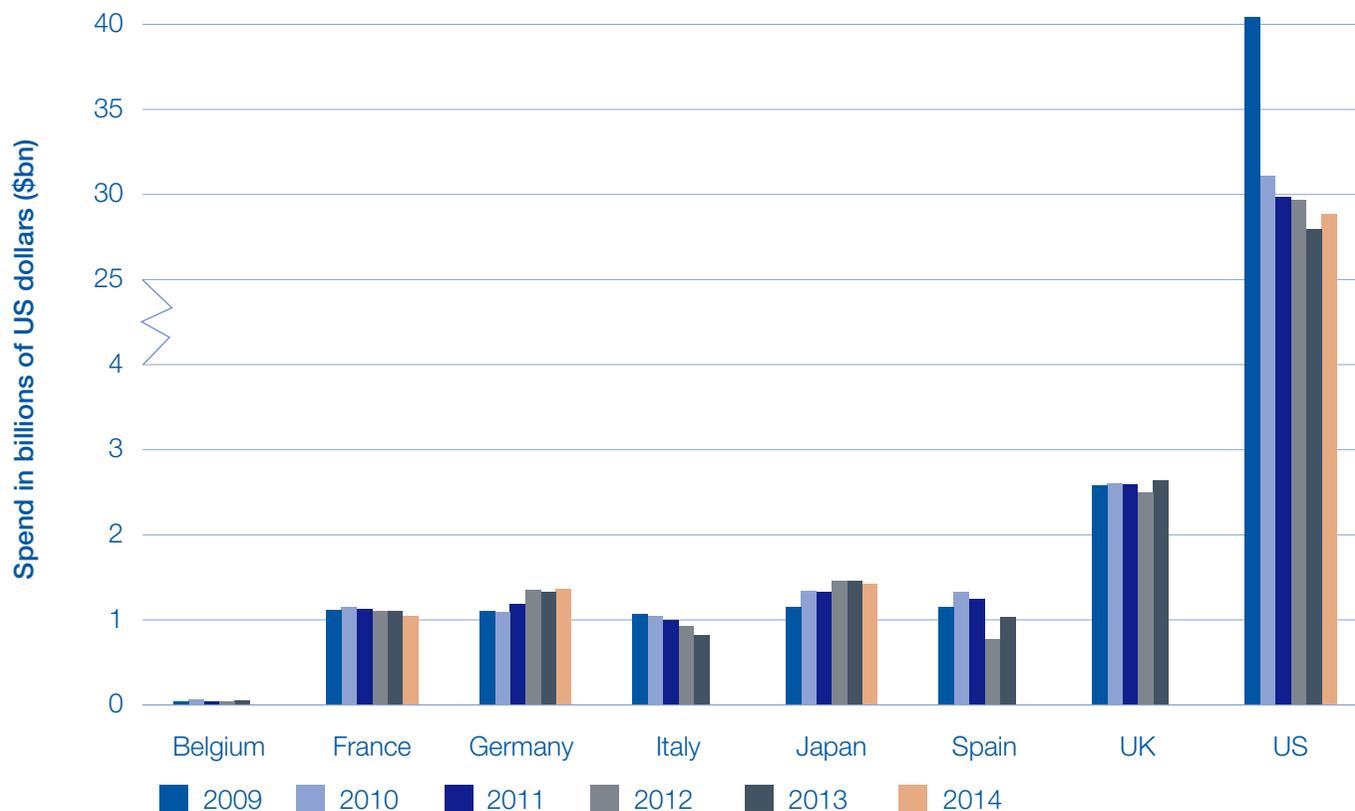
- The number of science graduates in the UK steadily grew from approximately 86,000 in 2009 to approximately 128,000 in 2013.
- In 2013, the UK ranked second in number of science graduates among selected comparator countries.
- The US consistently ranked first among selected comparator countries between 2009 and 2013.

**Source:** United Nations Educational, Scientific and Cultural Organisation (UNESCO)  
[http://data.uis.unesco.org/index.aspx?DataSetCode=EDULIT\\_DS](http://data.uis.unesco.org/index.aspx?DataSetCode=EDULIT_DS)

**Notes:** Germany has not been included due to data being unavailable. Due to the implementation of the new International Standard Classification of Education, some countries are in the process of addressing reclassification issues and have temporarily withheld historic data.

# Research and Development Indicators

## Chart 9: Government spend on health research and development

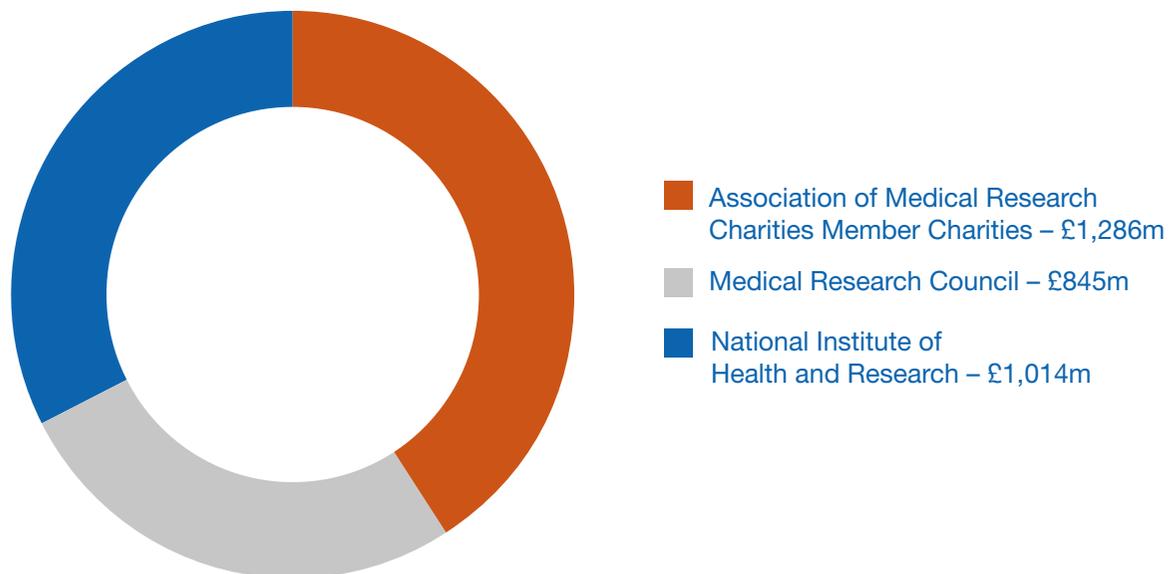


- UK government spend on health research and development grew between 2010 and 2014 from just under to just over \$2.6 billion.
- In 2013, the UK ranked second in terms of government spending on health research and development among selected comparator countries, behind only the US.
- The US spend fell from approximately \$40 billion in 2009 to approximately \$29 billion in 2014. This is still significantly more than the other comparator countries.

**Source:** OECD Research & Development statistics  
<http://stats.oecd.org/index.aspx?r=227797>

**Notes:** Government budget appropriations or outlays on R&D Health.

## Chart 10: 2014 non-industry spend on research and development

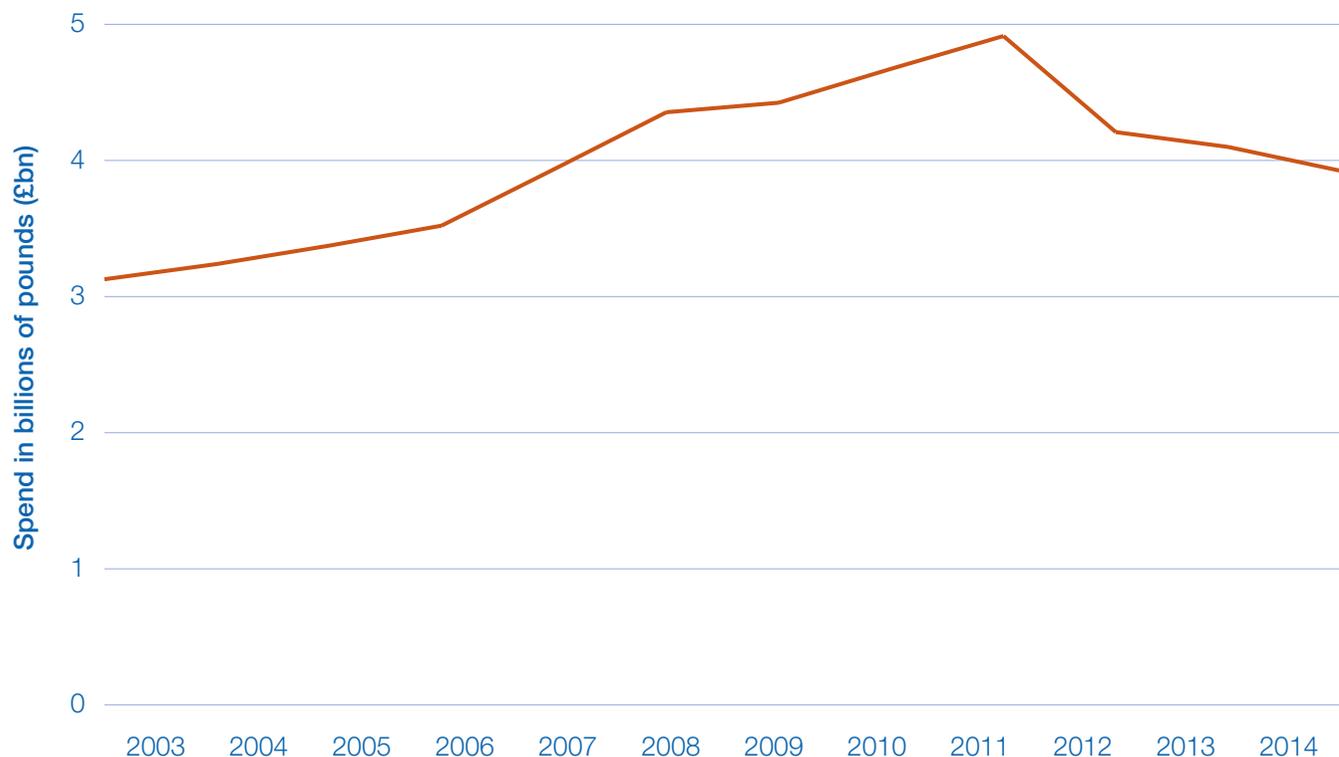


- In 2014:
  - 41% of UK non-industry spend on R&D was by AMRC member charities.
  - 27% of UK non-industry spend on R&D was by the Medical Research Council and
  - 32% of UK non-industry spend on R&D was by the National Institute for Health Research.
- In 2013:
  - 43% of UK non-industry spend on R&D was by AMRC member charities.
  - 25% of UK non-industry spend on R&D was by the Medical Research Council and
  - 32% of UK non-industry spend on R&D was by the National Institute for Health Research.

**Source:** Association of Medical Research <http://www.amrc.org.uk/publications>

**Notes:** Spend by health departments in Scotland, Wales and Northern Ireland not illustrated.

## Chart 11: Pharmaceutical industry spend on research and development in the UK

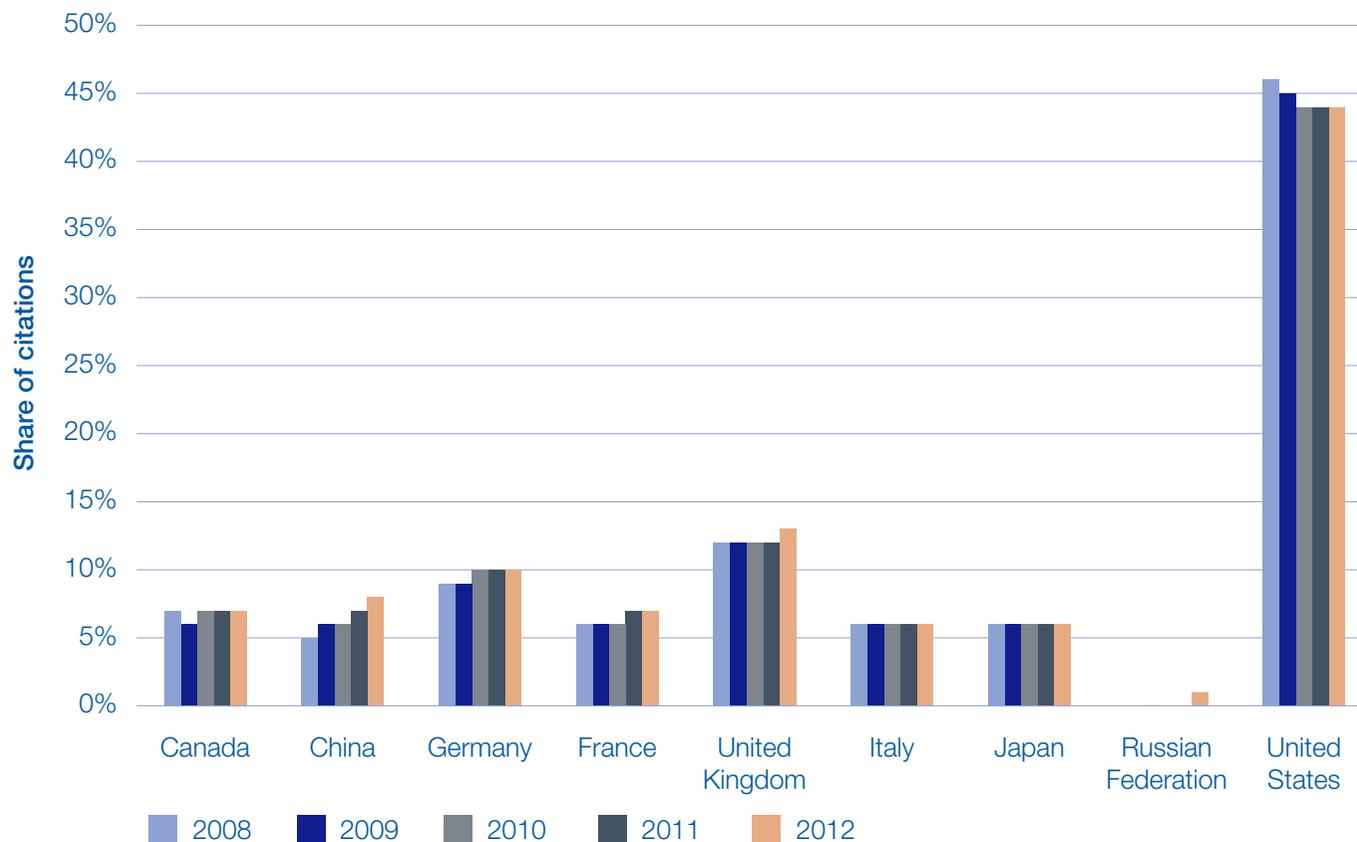


- Between 2003 and 2011, there was steady growth in pharmaceutical industry spend on R&D in the UK. However, since 2011, there has been a decline from a peak of around £5 billion to just under £4 billion in 2014.
- The compound annual growth rate between 2003 and 2014 was approximately 1.9%.
- Internationally comparable data on pharmaceutical industry spend on R&D is not available, so only UK data is presented here.

**Source:** ONS BERD survey 2014 <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-386019>

**Notes:** Data is not available for medical technology industry spend.

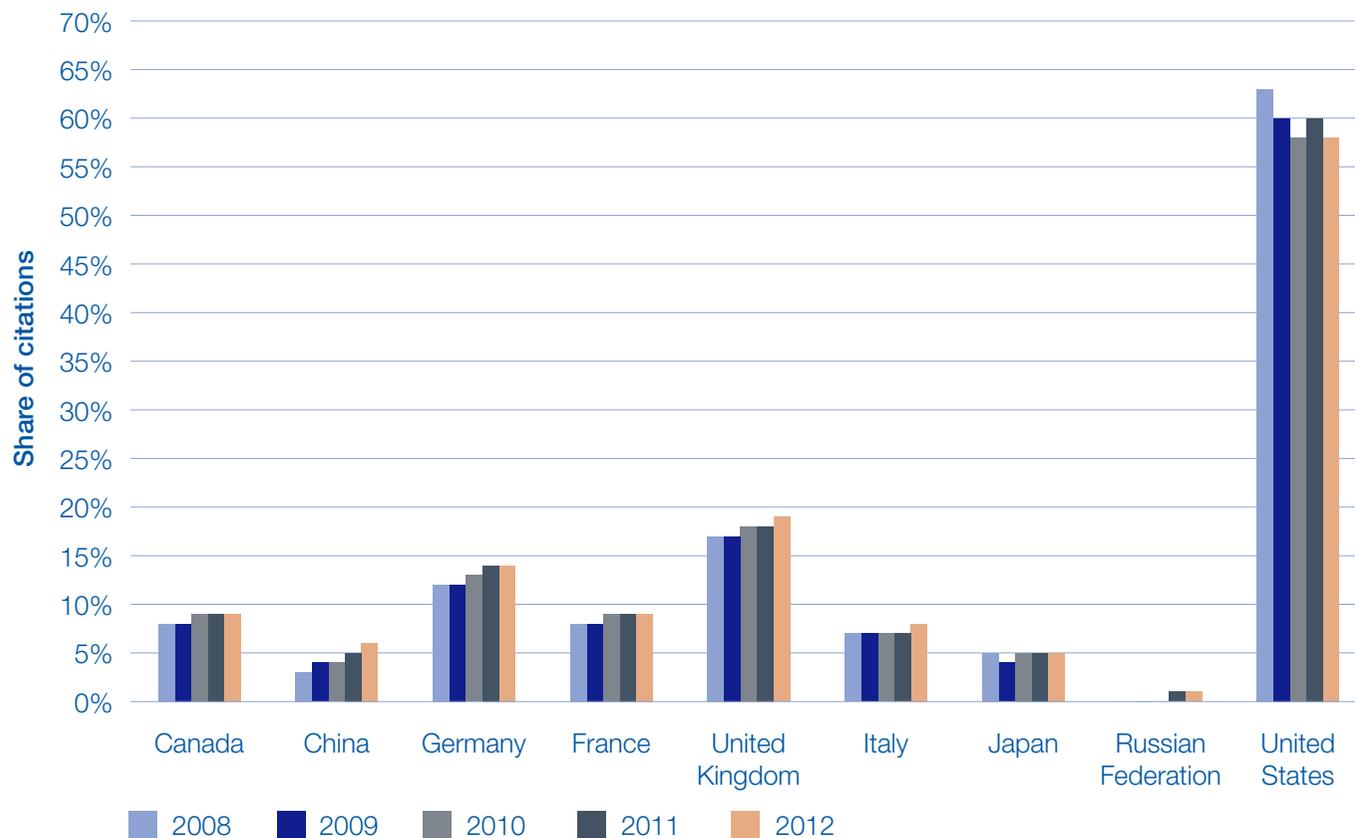
## Chart 12A: Share of life science academic citations



- The UK's share of life science academic citations remained stable at 12% between 2008 and 2011. In 2012, this grew to 13%.
- In 2012, the UK ranked second among selected comparator countries.
- The US ranked first among selected comparator countries throughout 2008 to 2012, with 44% of citations in the most recent year.
- This chart is reprinted from the [2015 Competitiveness Indicators report](#), as updated data has not yet been published.

**Source:** International Comparative Performance of the UK Research Base – <https://www.gov.uk/government/publications/performance-of-the-uk-research-base-international-comparison-2013>

## Chart 12B: Share of top 1% (most cited) life science citations

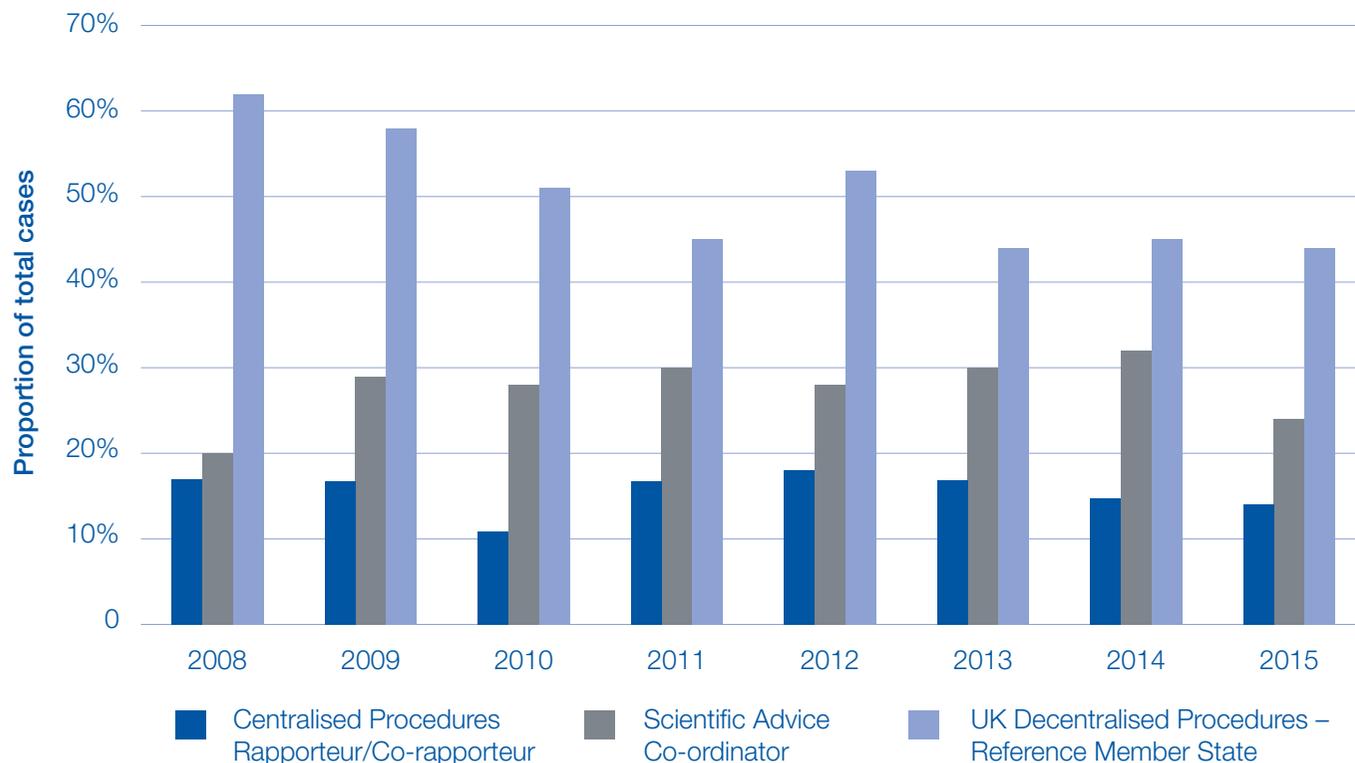


- The UK's share of the top 1% (most cited) life science citations grew from 17% in 2008 to 19% in 2012.
- In 2012, the UK had the second highest share among selected competitor countries.
- The US consistently ranked first among selected comparator countries throughout 2008 to 2012.
- This chart is reprinted from the [2015 Competitiveness Indicators report](#), as updated data has not yet been published.

**Source:** International Comparative Performance of the UK Research Base – <https://www.gov.uk/government/publications/performance-of-the-uk-research-base-international-comparison-2013>

# Regulatory Indicator

## Chart 13: Instances where MHRA is in lead role in EU regulatory procedure



- The MHRA is a leading regulator of choice for scientific advice and centralised procedures.
- In 2015, the MHRA was:
  - Rapporteur/Co-rapporteur in 14% of Centralised Procedures;
  - Scientific Advice Co-ordinator in 24% of cases; and
  - Reference Member State in 44% of Decentralised Procedures involving the UK.

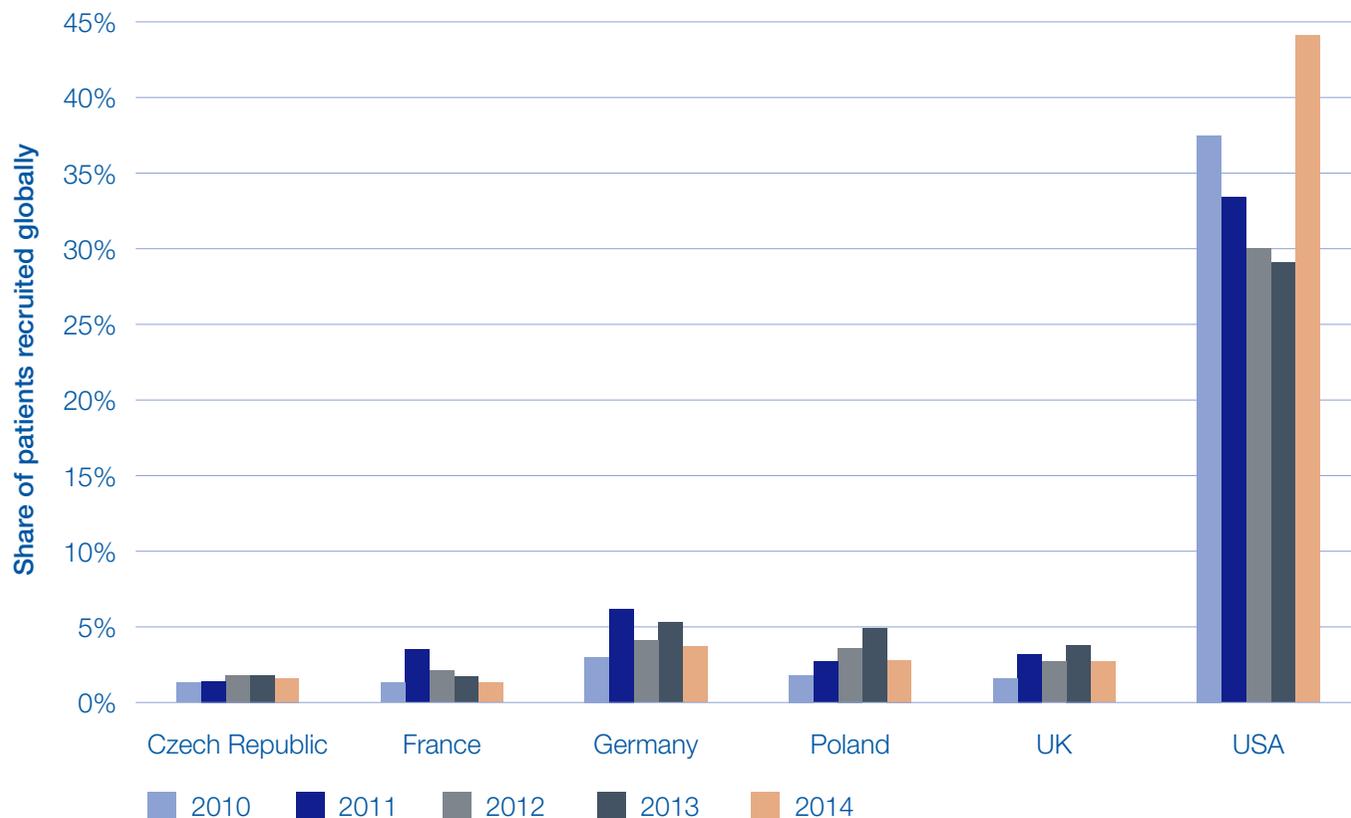
**Source:** Medicines and Healthcare Products Regulatory Agency

**Notes:** The chart illustrates the proportion of work the UK has undertaken in three key areas of European regulatory activity. As the work of the Medicines and Healthcare Products Regulatory Agency (MHRA) within the areas covered by these indicators is collaborative, no direct comparison with the other 27 Member States is made and the UK's position in the leading role is shown as a percentage of all work undertaken.

Each new medicine product seeking approval in Europe through the Centralised Procedure has a Rapporteur and a co-Rapporteur appointed by the European Medicines Agency (EMA) to lead the assessment process. The Decentralised Procedure requires the applicant company to select a Reference Member State (RMS) to lead the assessment of the medicine during the procedure.

# Clinical Research Indicators

## Chart 14: Share of patients recruited to global studies (all trial phases)

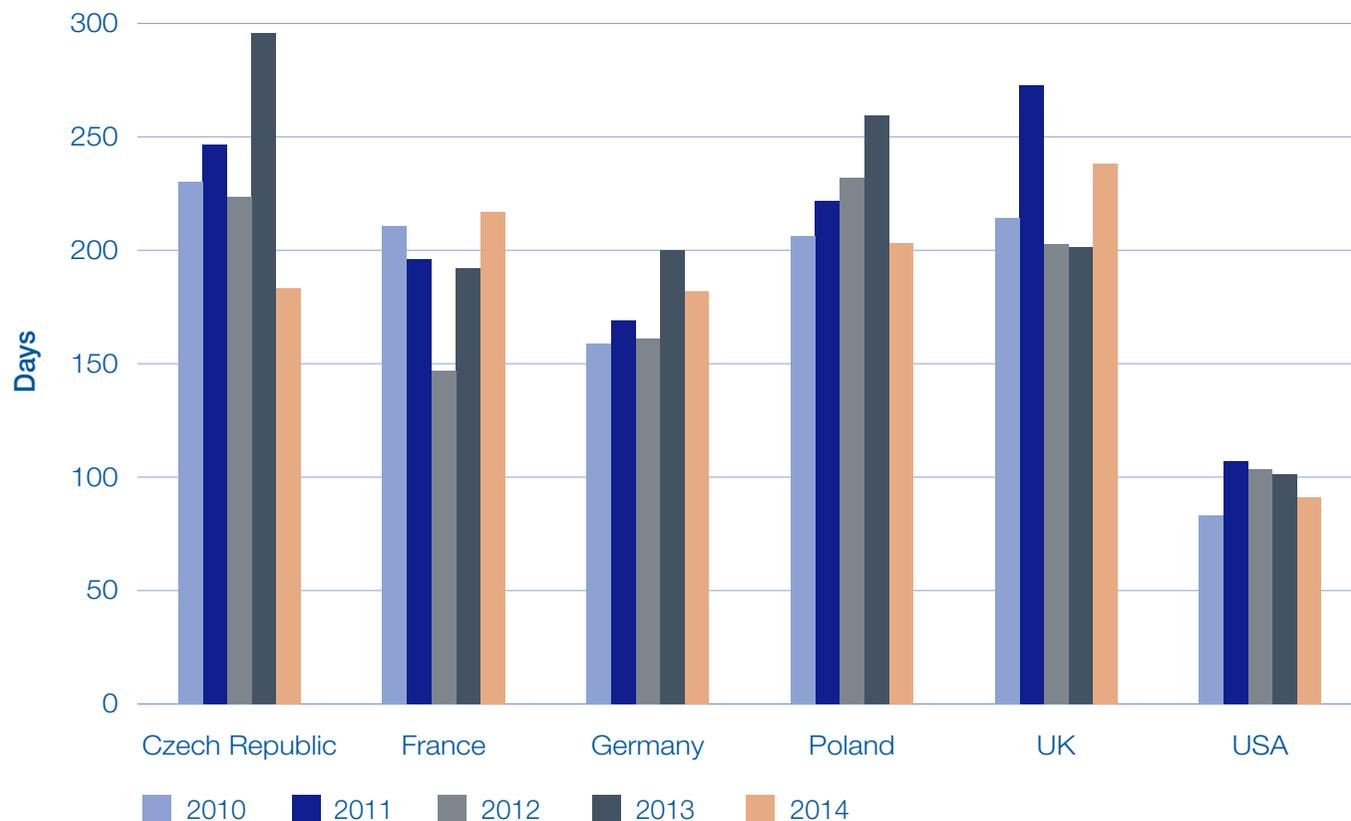


- The share of patients recruited to global studies in the UK rose from 1.6% in 2010 to 2.7% in 2014.
- Over the last few years, the UK has been working to increase opportunities for patient participation in life sciences industry studies.
- This is now making significant impact, with recent data from the National Institute for Health Research (NIHR) showing that the number of patients recruited to commercial contract studies increased from 13,987 in 2010/11 to 34,885 in 2014/15, with the support of the NIHR Clinical Research Network ([NIHR](#)).
- In addition, the UK has increased its share of European trials, with the UK being represented in 30% of total EU trials in 2015, based on data from the EudraCT database. This is the highest proportion since 2006 ([MHRA](#) and [EudraCT](#)).

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## Chart 15: Time from core package received to first patient enrolled in country (all trial phases)



- In 2014, time from core package received to first patient enrolled in the UK was around 35 days below the peak in 2011.
- The UK has put into place several initiatives to reduce start up times for studies with the life sciences industry:
  - NHS organisations are nationally benchmarked for study set up times and first participant recruitment.
  - Use of standardised model Clinical Trial Agreements and Costing Templates are supporting rapid negotiations around site setup.
  - Specific resources have been embedded in the NHS to improve set up times and ensure consistent study delivery.
- This is now making significant impact. Data from the National Institute for Health Research (NIHR) shows that the proportion of NHS sites set up within 40 days increased from 24% in 2011/12 to 83% in 2014/15 with the support of the NIHR Clinical Research Network ([NIHR](#)).
- Since 2013, 52 studies have achieved recruitment of the first global patient in the UK, demonstrating that the UK is globally competitive in the set up and rapid recruitment of participants ([NIHR](#)).

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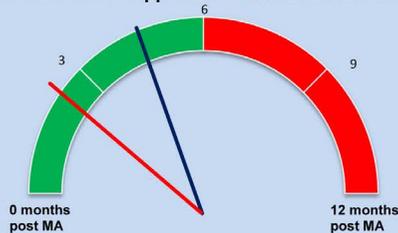
# Demand-side Indicators

## Chart 16: Dashboard of NICE Technology Appraisal publication

### DASHBOARD - NICE Technology Appraisal publication timeframes

#### NICE forecasted (2015 – 2017) and actual data (2013 – 2015)

##### Time from MA to Appraisal Consultation Document



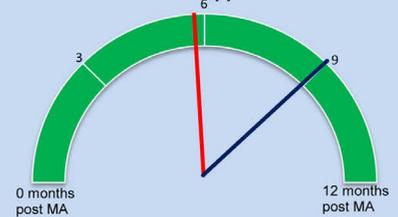
— NICE forecasted timings for draft and final guidance production  
— Actual timings for draft and final guidance production

**Current NICE Key Performance Indicator (KPI) indicates that 90% of STAs should issue an ACD or FAD within 6 months of the product being first licensed in the UK: [NICE 2015-18 Business plan](#)**

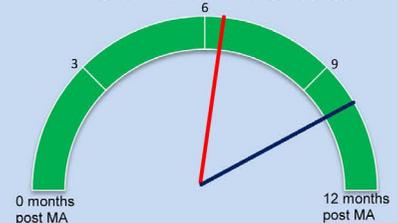
\* Forecasted data based on 38 scheduled and on-going technology appraisals of new technologies. Topics subject to a late referral have not been included (n = 6)

\* Actual data based on new technologies launched 2013 - 15 that have been appraised by NICE and final guidance published (n = 42). This data does not take appraisals that are currently in development into account.

##### Time from MA to Final Appraisal Determination



##### Time from MA to Final Guidance

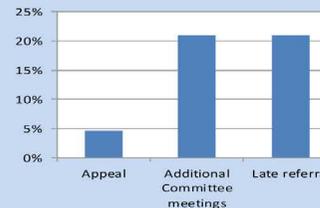


#### Additional information

Between March 2000 and December 2015 NICE has published 205 single technology appraisals (STA) and 169 multiple technology appraisals (MTA); a total of 374 appraisals containing 591 individual recommendations.

Recommendation	1 March 2000 to 31 December 2015
Yes	365 (62%)
Optimised	111 (19%)
Only in research	26 (4%)
No	89 (15%)
TOTAL	591 (100%)

Speed of production of guidance is affected by external elements such as Appeals, late referrals and additional committee meetings (due to late submission of a Patient Access Scheme or additional evidence). The proportion of new technologies launched 2013 – 2015 that have been appraised by NICE but affected by these different elements is indicated below (n = 42)



Late referral occurs when the technology is already licensed by date of formal referral or license is anticipated to be received in less than or equal to 6 months following date of formal referral

#### Notes:

MA: Marketing Authorisation

ACD: Appraisal Consultation Document

FAD: Final Appraisal Determination

Dials address forecast and actual timeframes for different stages of the NICE Technology Appraisal process.

Full details of the process, including descriptions of the separate stages can be found on the NICE website

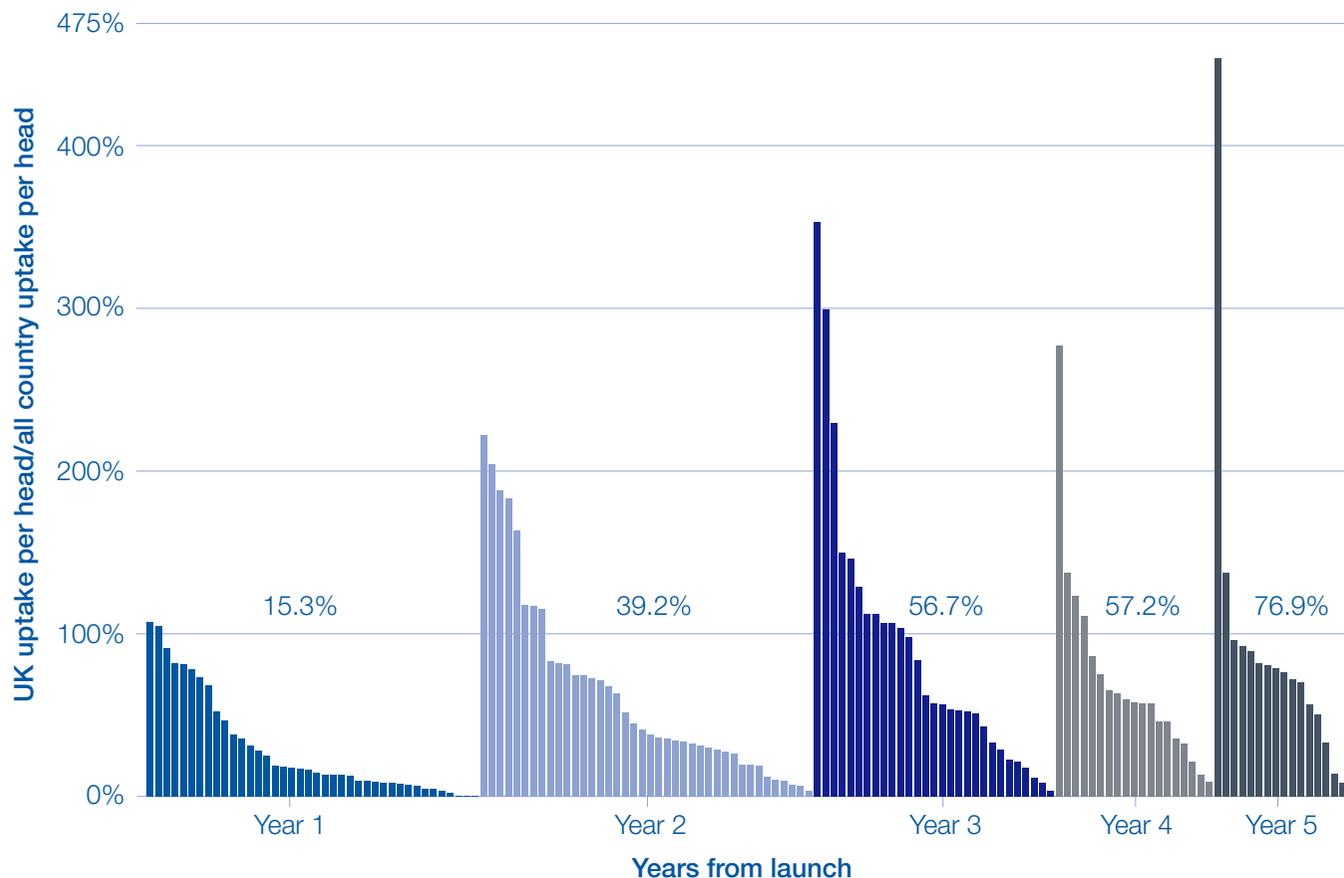
<http://www.nice.org.uk/About/What-we-do/Our-Programmes/NICE-guidance/NICE-technology-appraisal-guidance>

Red and Green zones on dials relate to whether milestones have been attained within existing targets for NICE performance.

# Uptake of new medicines

- The next two charts show the UK uptake per capita of new medicines compared to a group of comparator countries.
- Chart 17A shows the UK per capita uptake of 40 new medicines launched between 2009 to 2014 and *approved (recommended or optimised)* by NICE. Medicines rejected by NICE are not included in the analysis.
- Chart 17B shows the per capita uptake of 31 medicines launched in the UK between 2009 and 2014, and *not assessed by NICE*.
- The UK is compared to the average uptake in a group of comparator countries (Australia, Austria, Belgium, Canada, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Spain, Sweden, Switzerland, USA).
- While adjusting for population size, this analysis does not adjust for other important factors which might drive the levels of use, such as the number of patients with relevant clinical conditions for different treatments.
- The analysis does not take into account different levels of expenditure on medicines in different countries, which is likely to affect uptake.

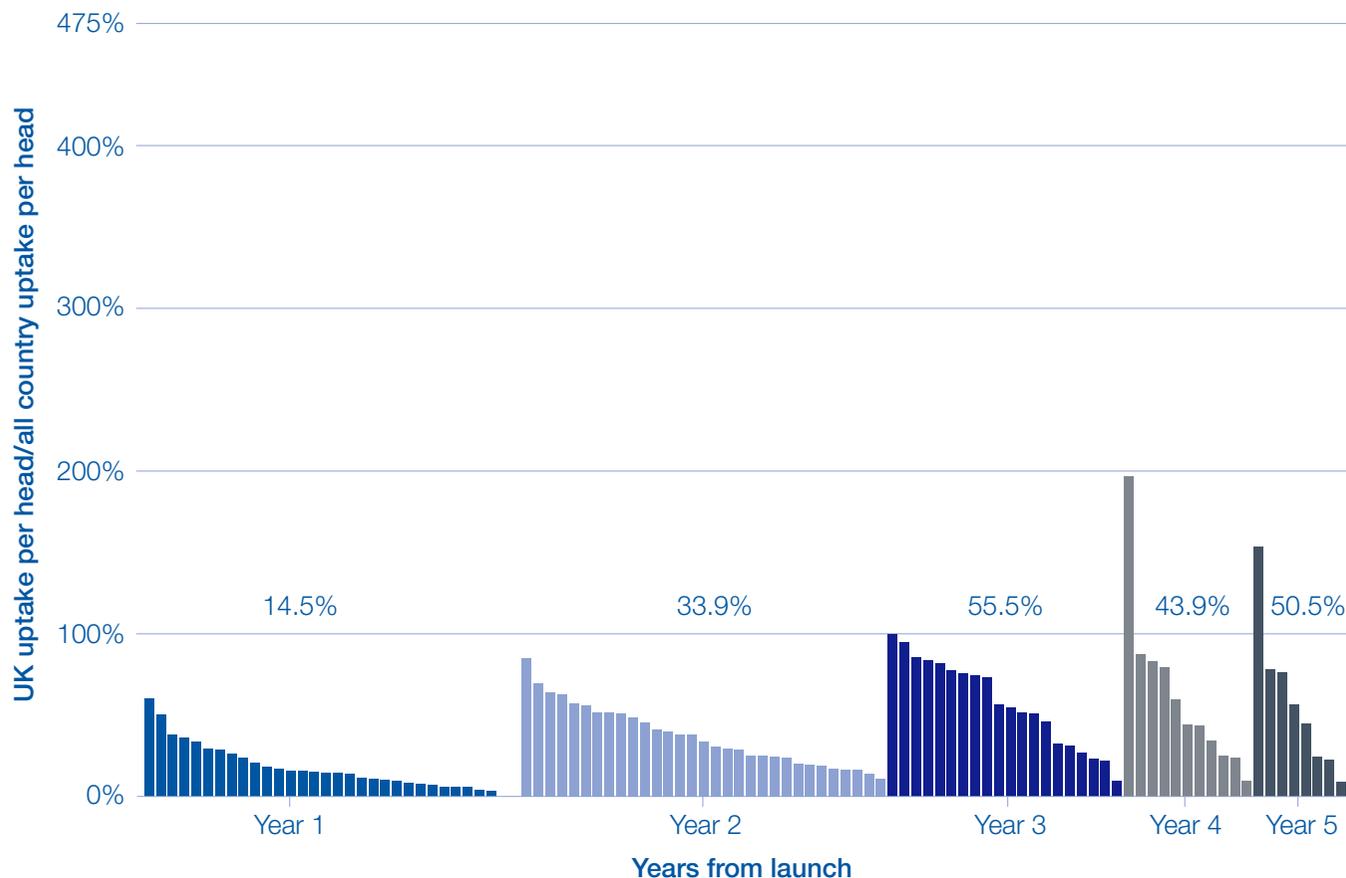
## Chart 17A: Uptake of new medicines – NICE approved



- Chart 17A shows international comparison of UK per capita uptake of a selection of medicines launched between 2009 and 2014 and approved by NICE.
- Vertical lines show uptake of the individual medicines in their 1st, 2nd, etc. years after launch for the UK compared to other countries.
- Percentages reported in each year are the average (median) rate of uptake in the UK relative to comparison countries (see previous slide for list).
- A value below 100% means the UK per capita consumption is below the average for the comparison countries. For example in the 3rd year after launch the medicines were used in the UK at 56.7% of average usage in the comparator countries.
- This year (2016) uptake in years 1 to 4 is higher when compared to the previous year's data (2015 data).
- **Caution is required when interpreting this data** as adjustments for a number of important factors – such as level of expenditure on medicines – are not taken into account.
- **Caution is required when interpreting this data.** Medicines launched in 2014 will appear in 'Year 1' group, those launched in 2013 will appear in Year 1 and Year 2 from launch, etc. By 5th year after launch, a number of medicines will have dropped out of the data set and therefore the analysis is highly sensitive to choice of medicines included.

Source: IMS Health, courtesy of the Office of Health Economic

## Chart 17B: Uptake of new medicines – non-NICE reviewed



- Chart 17B shows international comparison of UK per capita uptake of a selection of medicines launched between 2009 and 2014 not reviewed by NICE.
- Vertical lines show uptake of the individual medicines in their 1st, 2nd etc. years after launch for the UK compared to other countries.
- Percentages reported in each year are the average (median) rate of uptake in the UK relative to comparison countries (see previous slide for list).
- A value below 100% means the UK per capita consumption is below the average for the comparison countries. For example in the 3rd year after launch the medicines were used in the UK at 55.5% of average usage in the comparator countries.
- **Caution is required when interpreting this data** as adjustments for a number of important factors – such as level of expenditure on medicines – are not taken into account.
- **Caution is required when interpreting this data.** Medicines launched in 2014 will appear in 'Year 1' group, those launched in 2013 will appear in Year 1 and Year 2 from launch, etc. By 5th year after launch, a number of medicines will have dropped out of the data set and therefore the analysis is highly sensitive to choice of medicines included.

