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Life Sciences

Life Science Competitiveness Indicators 2020

Annual report on the UK life Science Sector

15 February 2021

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Ministerial foreword

Nadhim Zahawi MP
Parliamentary Under Secretary of State of the Department of Business, Energy and Industrial Strategy

We are delighted to introduce the sixth annual Life Science Competitiveness Indicators report, comparing the UK's performance in the Life Sciences sector internationally to the end of 2019. This publication was delayed due to the impacts of the Covid-19 pandemic, however, we are pleased to report that the UK remained one of best places globally for life sciences companies to do business in 2019. Additionally, we would like to acknowledge the vital role that UK Life Sciences have played during the pandemic, and which they will continue to play during the nation's recovery. The UK Life Sciences sector has proven itself to be a crucial pillar of the UK economy: the sector generated almost £81bn in annual turnover in 2019 and employed over a quarter of a million people across the country.

The UK has a highly ambitious strategy to further boost its global standing, written in collaboration with industry and underpinned by a Manifesto commitment to create a global hub for life sciences in the UK. It sets out a plan to harness the UK's competitive advantages in life sciences so that we remain a global leader and seize emerging opportunities.

The UK's life sciences sector is powered by one of the world's best research and science bases, supported by top class universities, globally renowned clinical research, and a uniquely cradle to grave healthcare system in the NHS. The Life Sciences Industrial Strategy, published in 2017, highlights that these very real advantages position the UK to take the lead on cutting edge, emerging industries such as genomics, early-stage diagnostics, advanced therapies, and digital health.

Since 2017, the Government has worked in very close partnership with industry, academia, and charities to make rapid progress on achieving this vision. This includes launching the genome sequencing of 500,000 UK Biobank participants to create a globally unique genomics research resource, the creation of first-of-its-kind 5 million volunteer cohort with genomic and phenotypic data for early diagnosis of serious diseases, and creating one of the world's largest digital pathology and radiology databases to allow the development of digital tools for diagnosis.

It has also involved establishing the Accelerated Access Collaborative (AAC) to deliver a step change in ambition and commitment to increase NHS uptake of innovative treatments, with almost three quarters of a million patients benefiting in 2019/20. Meanwhile, the Voluntary Scheme for Branded Medicines Pricing and Access (VPAS) is helping to ensure that the most cost-effective medicines get to patients as quickly as possible whilst ensuring predictability of spending on branded medicines for the NHS.

We are committed to increasing investment in life sciences in line with the Government's ambition to increase R&D spending to 2.4 per cent of GDP by 2027 and 3 per cent over the longer term. This commitment is evidenced by the UK seeing the highest level of government spend on health R&D among OECD countries in 2018, second only to the USA.

But we know we can go further. There will be more, and faster, NICE assessments, supported by NHS England offering improved commercial arrangements, preferentially applied for the best value propositions. And, working with the AAC, we will ensure that the best innovative treatments and technology get into the hands of patients and practitioners safely and faster than ever before.

The UK has left the EU and it is vital we now focus on maximising the opportunities this creates. By taking advantage of new regulatory freedoms and transforming the MHRA into a patient centred, world leading regulator, the UK can cement its place as a leading global hub for life sciences, leading the world in the regulation of cutting-edge domains such as AI, synthetic data and advanced therapies. Our internationally competitive and cooperative regulatory system will enable innovators and drive investment in UK life sciences.

Our ambition remains for the UK to be the best place in the world to develop and launch innovative medicines, technologies and diagnostics, for the benefit of patients and business alike.

Lord Bethell
Parliamentary Under Secretary of State of the Department of Health and Social Care

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Introduction

The Life Sciences Competitiveness Indicators report (LSCI) summarises the performance of the UK's Life Science sector. It brings together public and private sources of information to present a set of high-level indicators of the UK sector's competitiveness internationally.

About this publication

This is the 6th release of the LSCI, and it follows the publication by OLS of the Bioscience and Health Technology Sector Statistics 2019. To maintain consistency with previous publications of the LSCI, minimal changes have been made since the 2019 report. Indicators have been updated with the latest data where available. In some cases, information sources are no longer available, or no longer report data in a way that allow metrics to be calculated. Where this is the case, data from the 2019 publication has been used, or the metric has been removed from the report. For three indicators, the information source still exists, but new data was not available. Table 1 provides a summary of metrics and to which year data for each is available.

OLS welcomes feedback on the content of the LSCI. We continue to work to improve the report to ensure it meets user needs. If you have any feedback relating to the publication, please contact us by emailing analysis@officeforlifesciences.gov.uk, quoting 'Life Sciences Competitiveness Indicators' in the email subject.

Notes on the data

Links to public sources of information and caveats, where appropriate, are provided for each indicator. The data used in this publication is provided in an accompanying spreadsheet, available on gov.uk. Where data is procured commercially or directly from an organisation the supplier is clearly credited, but no links are given. Due to differing availability across data sources, the list of comparator countries is not consistent across indicators.

The data presented is the latest available from each source. Figures may differ from previous publications where information sources have produced revised figures. In addition, direct comparability between publications in different years cannot be guaranteed, as sources may have revised how they collect and present their data.

OLS would like to thank all those who have contributed to these indicators, or supplied data for this publication.

Related Publications

The LSCI forms part of a suite of metrics to measure the strength of the UK life sciences sector in relation to comparator countries. Other data sources in this field:

- OLS publishes the annual Bioscience and Health Technology Sector Statistics (BaHTSS) on the UK bioscience and health technology sector, providing a detailed analysis of the life science sector in the UK.

- NICE publish an annual Innovation Scorecard. This reports the use of medicines and medical technologies in the NHS in England that have been positively appraised by NICE.

- NHS England publishes the AAC Scorecard. This is an interactive dashboard that monitors the impact of AAC programmes across a wide set of measures, including the uptake of specific supported innovations. To gain access the AAC Scorecard please contact england.irlsanalytics@nhs.net.

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Overview: Performance of the UK Life Science Sector

Section	#	Indicator	Reported value (year)	Current rank amongst comparator countries
Reinforcing the UK Science Offer	1	Government spend on health research and development	\$3.0bn (2017)*	2nd of 11
	2	Non-industry spend on research and development	£3.2bn (2018)*	N/A
	3	Pharmaceutical industry spend on research and development in the UK	£4.5bn (2018)	N/A
	4	Share of patients recruited to global studies (all trial phases)	1.9% (2018)	7 of 10
	5	Time from core package received to first patient enrolled in country (all trial phases)	179 days (2018)	4 of 10
	6A	Share of life sciences academic citations	12% (2014)‡	2 of 19
	6B	Share of mist cited (top 1%) life science academic citations	18% (2014)‡	2 of 19
Growth & Infrastructure (part 1)	7A	Number of people employed in manufacture of basic pharmaceutical products and pharmaceutical preparations	50,126 (2018)*	4th of 12
	7B	Number of people employed in manufacture of medical technology products	41,791 (2017)*	4th of 12
	8	Gross Value Added for pharmaceutical manufacturing	€12.4bn (2016)*	4th of 12
	9A	Global exports of pharmaceutical products	\$31.0bn (2018)	8th of 18
	9B	Global exports of medical technology products	\$4.4bn (2018)*	12th of 18

Table note - * = data source available but not updated or partially updated, ‡ = data source no longer available.

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Overview: Performance of the UK Life Science Sector

Section	#	Indicator	Reported value (year)	Current rank amongst comparator countries
Growth & infrastructure (part 2)	10A	Global imports of pharmaceutical products	$31.1bn (2018)	4th of 18
	10B	Global imports of medical technology products	$5.5bn (2018)	8th of 18
	11A	Life sciences foreign direct investment projects	82 (2019)	2nd of 15
	11B	Life sciences foreign direct investment – capital expenditure	£510m (2019)	6th of 15
	12A	Share of global life science Initial Public Offerings (IPOs) in 2018	1% (2018)‡	14th of 21
	12B	Amount raised in global life sciences Initial Public Offerings (IPOs) in 2018 (where known)	£63m (2018)‡	8th of 20
NHS collaborations	13	Speed and volume of NICE Technology Appraisals – time from Marketing Authorisation to first NICE output	1.3 months (2019/20)	N/A
	13	Speed and volume of NICE Technology Appraisals – time from Marketing Authorisations to final NICE guidance	5.6 months (2019/20)	N/A
	14A	Per capita uptake of new medicines – NICE approved (relative uptake compared against average comparator uptake 5 years after launch)	66% (2014 to 2018)	N/A
	14B	Per capita uptake of new medicines – non-NICE reviewed (relative uptake compared against average comparator uptake 5 years after launch)	72% (2014 to 2018)	N/A
Skills	15	Percentage of graduates from tertiary education graduating from Natural Sciences, Mathematics, and Statistics programmes	14% (2016)*	2nd of 14

Table note - * = data source available but not updated or partially updated, ‡ = data source no longer available.

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Reinforcing the UK Science Offer

Chart 1:
Government spend on health research and development

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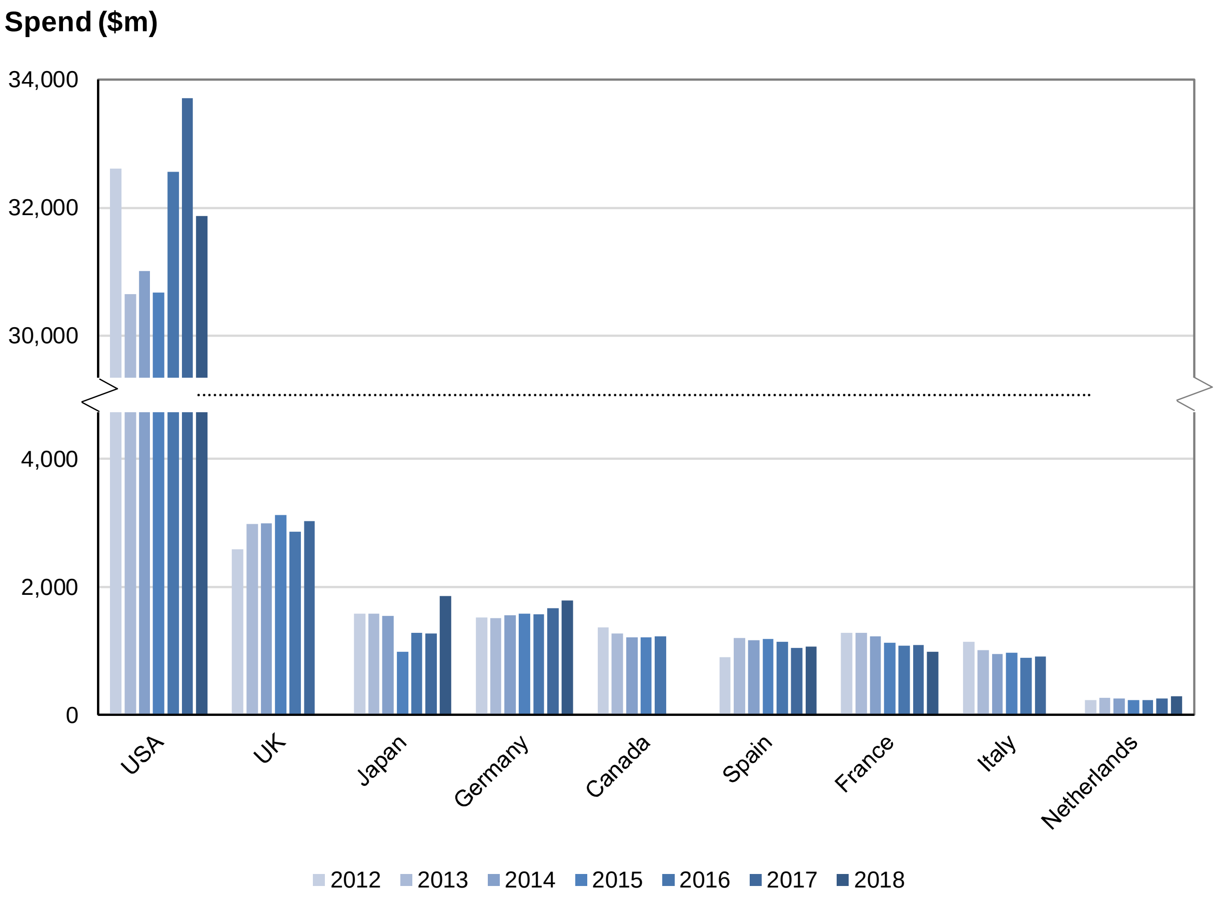


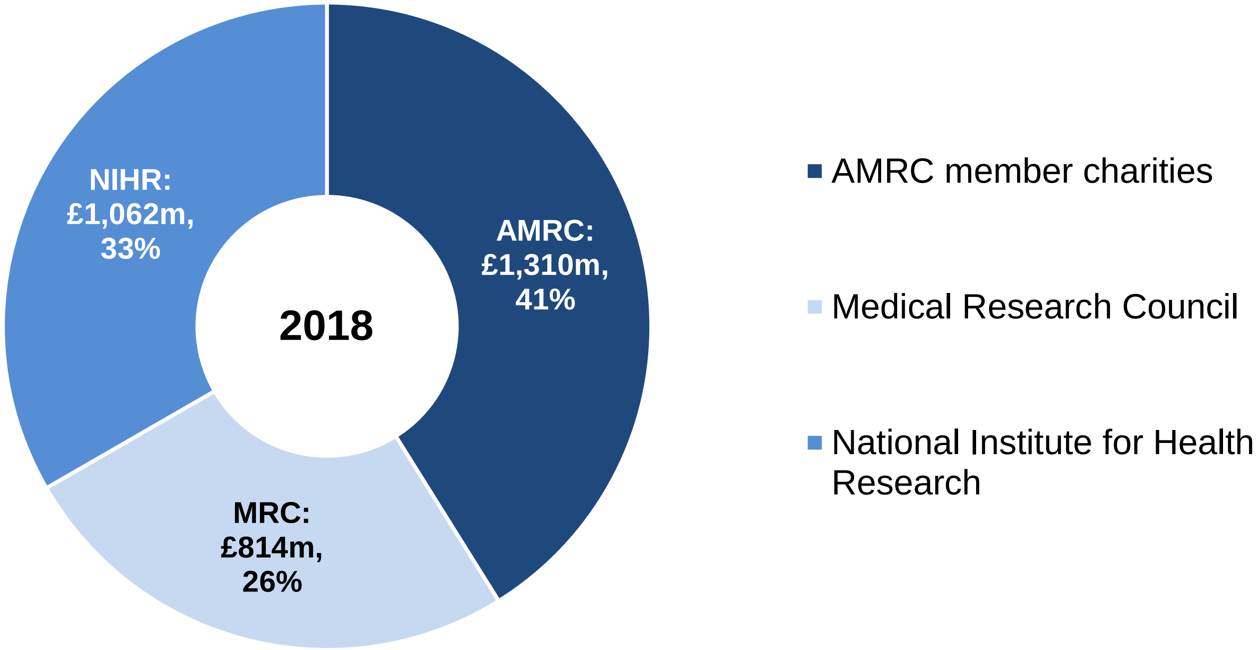
- The UK government spend on health research and development was **$3.0bn in 2017** (the latest year with UK data). No new data has become available for the UK since the previous publication.
- The UK maintains its position with the **second highest level of government spending on health R&D** amongst the comparators, behind only the United States of America.
- On average, the UK spends more than twice as much on health R&D than its near comparators.[1]
- Rankings have been based on the latest available datapoint for each country. This approach was chosen because using the latest year with complete data (2015) would misrepresent Japan's 46% increase in investment between 2017 and 2018 and their surpassing Germany as the third largest investor in health R&D.

1) Near competitors: Japan, Germany, Canada, Spain, France, and Italy

Source: OECD Research & Development statistics

Note: Figures are derived from government budget appropriations or outlays on R&D. Figures are shown in terms of 2010 Dollars - Constant prices and PPPs

Chart 2:
Non-industry spend on research and development in the UK

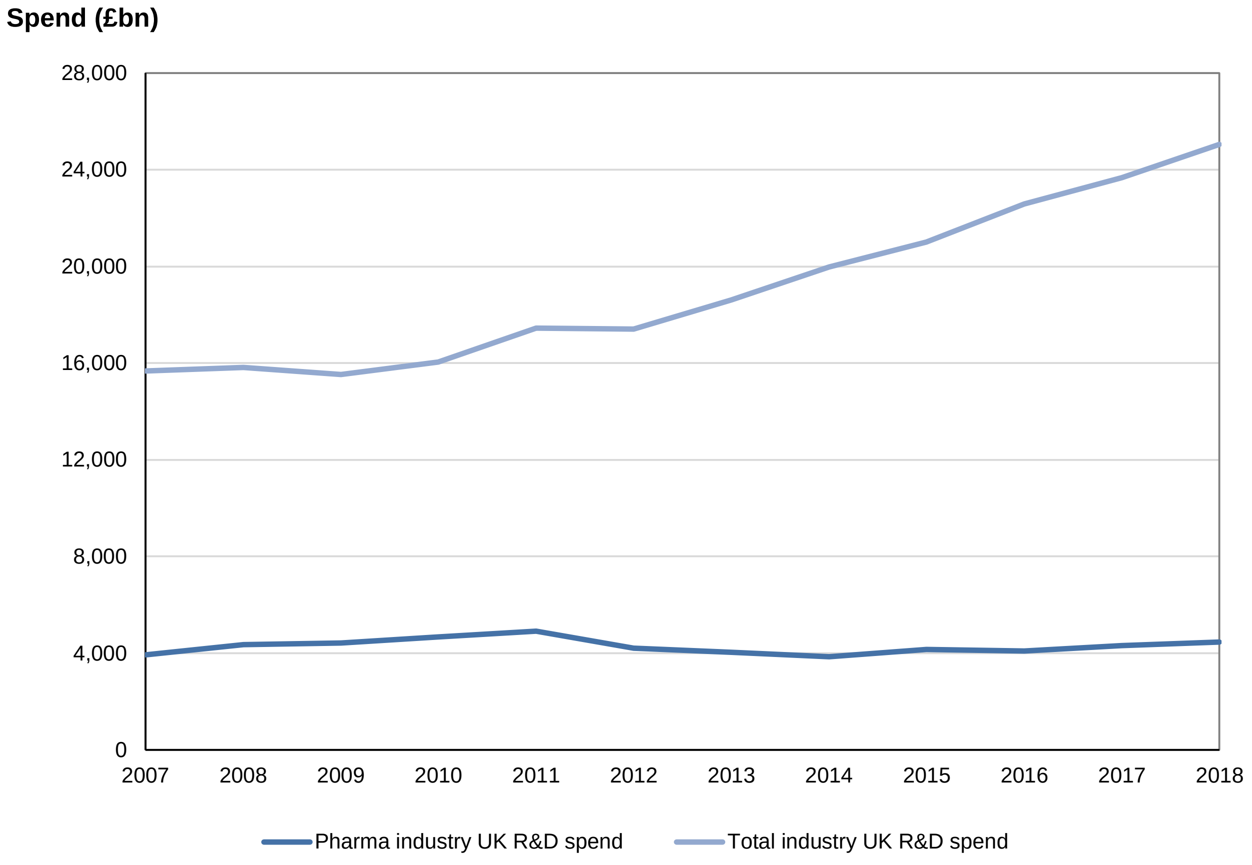


Sources: AMRC annual report 2018/19
MRC annual report 2017/18
NIHR annual report 2017/18

Note: Spend by health departments in Scotland, Wales and Northern Ireland not illustrated

- This indicator is a measure of the UK medical research charity sector spend on medical and health R&D. Due to changes in how some of the data points are recorded, **this metric has not been updated since the last publication**.
- In 2017/18, AMRC charities contributed 41% of non-industry spending on R&D, while the MRC and NIHR contributed 26% and 33% respectively.
- On April 1st, 2018 the Medical Research Council (MRC), along with eight other bodies, became part of UK Research and Innovation (UKRI). This has changed how MRC reports the data covered in this publication.
- During the same period the National Institute for Health Research (NIHR) also changed the format of its performance reports.
- These changes have interrupted the time series for this metric. We are now working to develop a solution for updating the indicator in future publications.
- In 2019 the Association of Medical Research Charities (AMRC) increased their spending on R&D from £1.3bn to £1.9bn.

Chart 3:
Pharmaceutical industry spend on research and development in the UK



Source: UK Business Expenditure on Research and Development (BERD) 2018 survey, Office for National Statistics (ONS)

- The pharmaceutical industry's spend on research and development in the UK was **£4.5bn in 2018**.
- The pharmaceutical industry accounts for **one fifth** of the total industrial spend on research and development in the UK.
- Between 2007 and 2011, the pharmaceutical industry's spend on R&D in the UK grew steadily. It peaked in 2011 at £4.9bn; one quarter of all UK industry R&D spending at the time.
- From 2011 to 2014 the value of the pharmaceutical industry's spend on UK R&D fell to £3.9bn. This reduced it to 18% of the total UK industrial spending on R&D.
- Since 2014 pharmaceutical industry spending on UK R&D has grown, but has not yet passed its 2011 peak. This growth has been in line with overall growth in R&D spending in the economy. As a result, the pharmaceutical industry's spending as a proportion of total industrial R&D spend is holding at around one fifth.

Chart 4:
Share of patients recruited to global studies (all trial phases)

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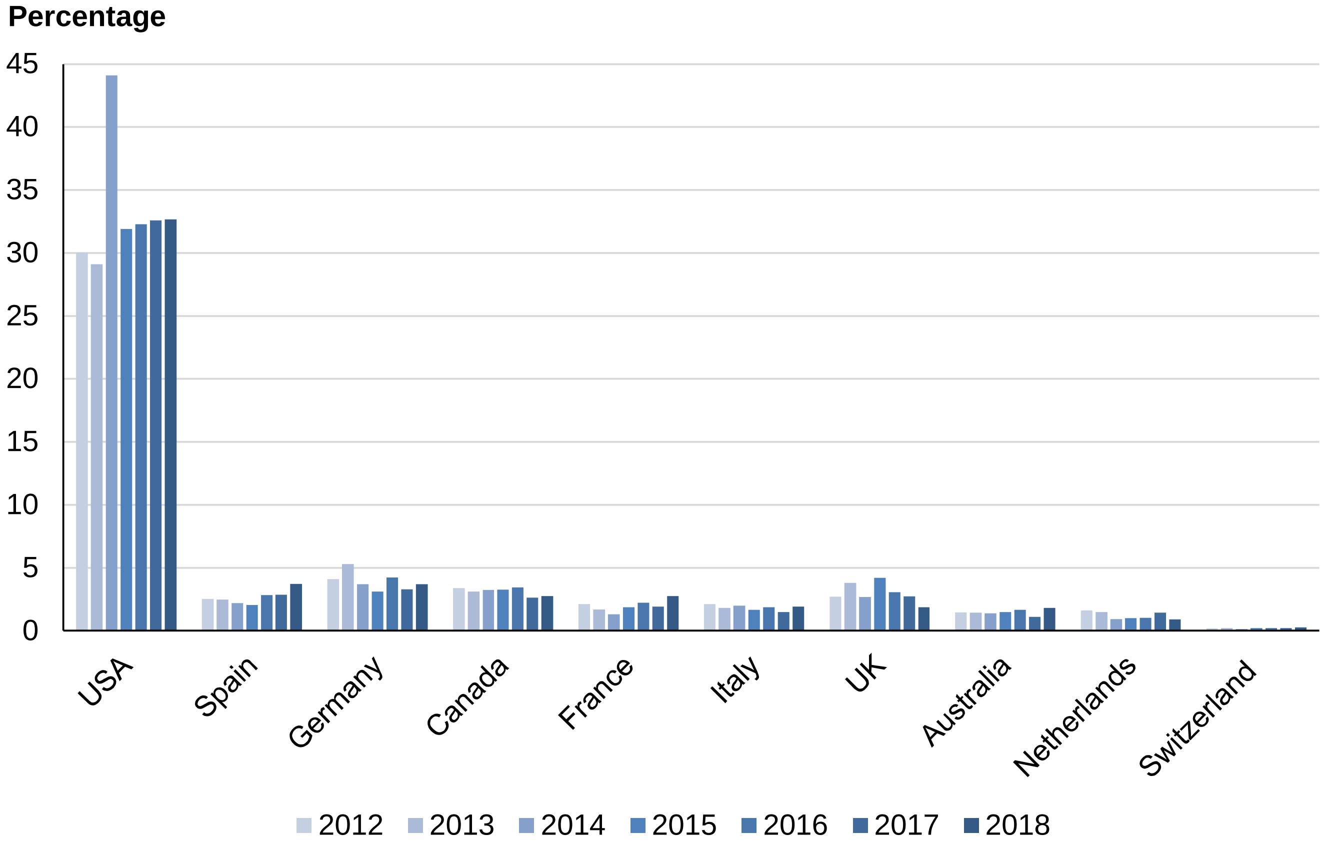

- The share of patients recruited to global studies in 2018 was just under 2%, falling from just under 3% in 2017.
- The UK ranked seventh among comparator countries, falling from 3rd in 2017. Canada, France and Italy have overtaken the UK in share of patients recruited.
- The USA consistently outstrips all other comparator countries with a share of 33% of participants in global trials in 2018.
- From the NIHR, the number of participants recruited to commercial contract studies has nearly doubled from 25,760 in 2013/14 to now 46,064 in 2018/19 through the support of the NIHR Clinical Research Network.

Source: Clarivate Analytics; Medicines Healthcare Products Regulatory Agency; National Institute for Health Research (NIHR)

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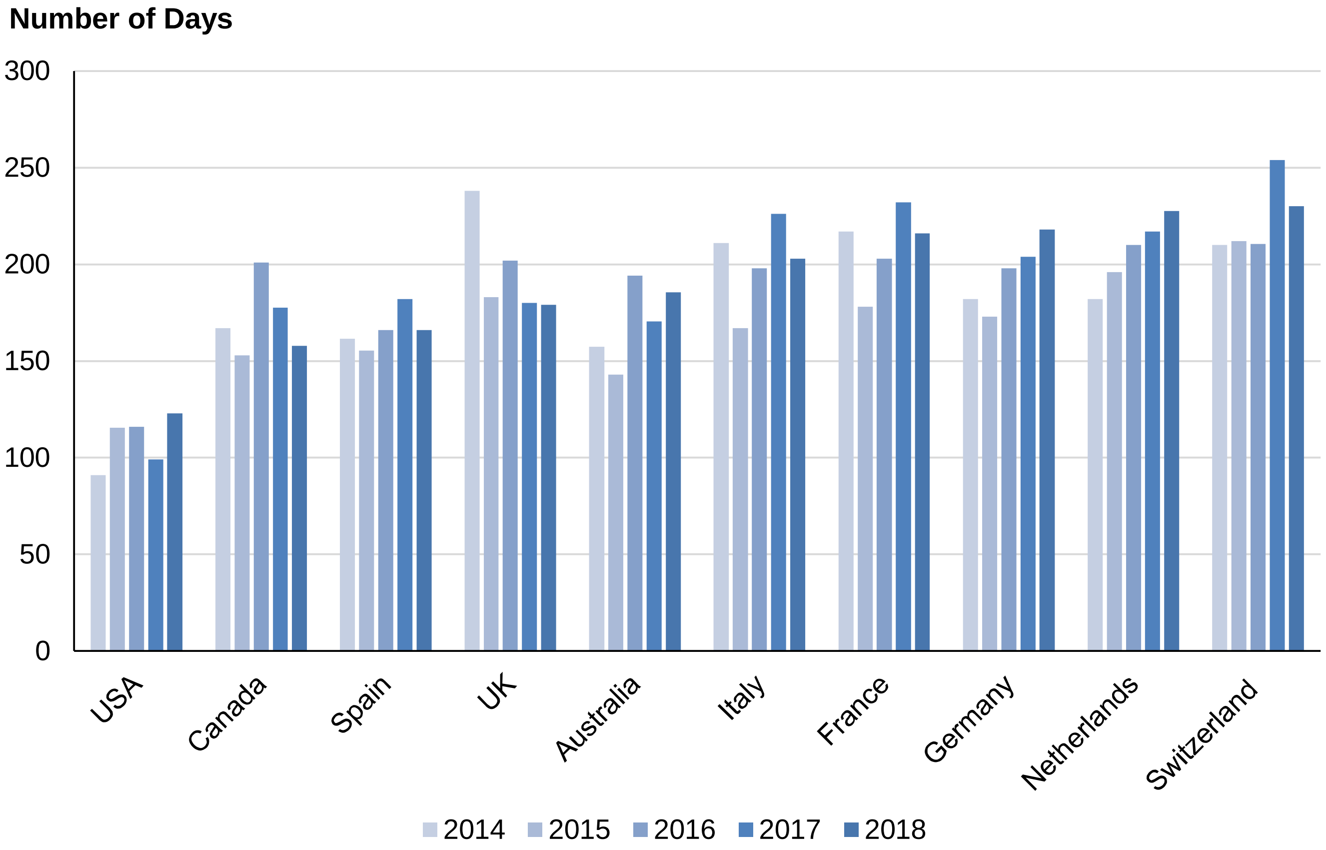
Chart 5: Time from core package received to first patient enrolled in country (all trial phases)



- In 2018, the average time from core package being received to the first patient being enrolled in a trial was 179 days in the UK. This is largely unchanged from the 2017 figure of 180 days.
- The UK was the 4th fastest at transitioning from core package reception to patient enrollment amongst the comparator countries.
- The USA continues to be the quickest to enroll patients with an average time taken of 123 days.

Source: Clarivate Analytics
Note: There were fewer studies in 2017 than in previous years, but this does not seem to have substantially affected timescales for each country on average.

Chart 6A:
Share of life sciences academic citations

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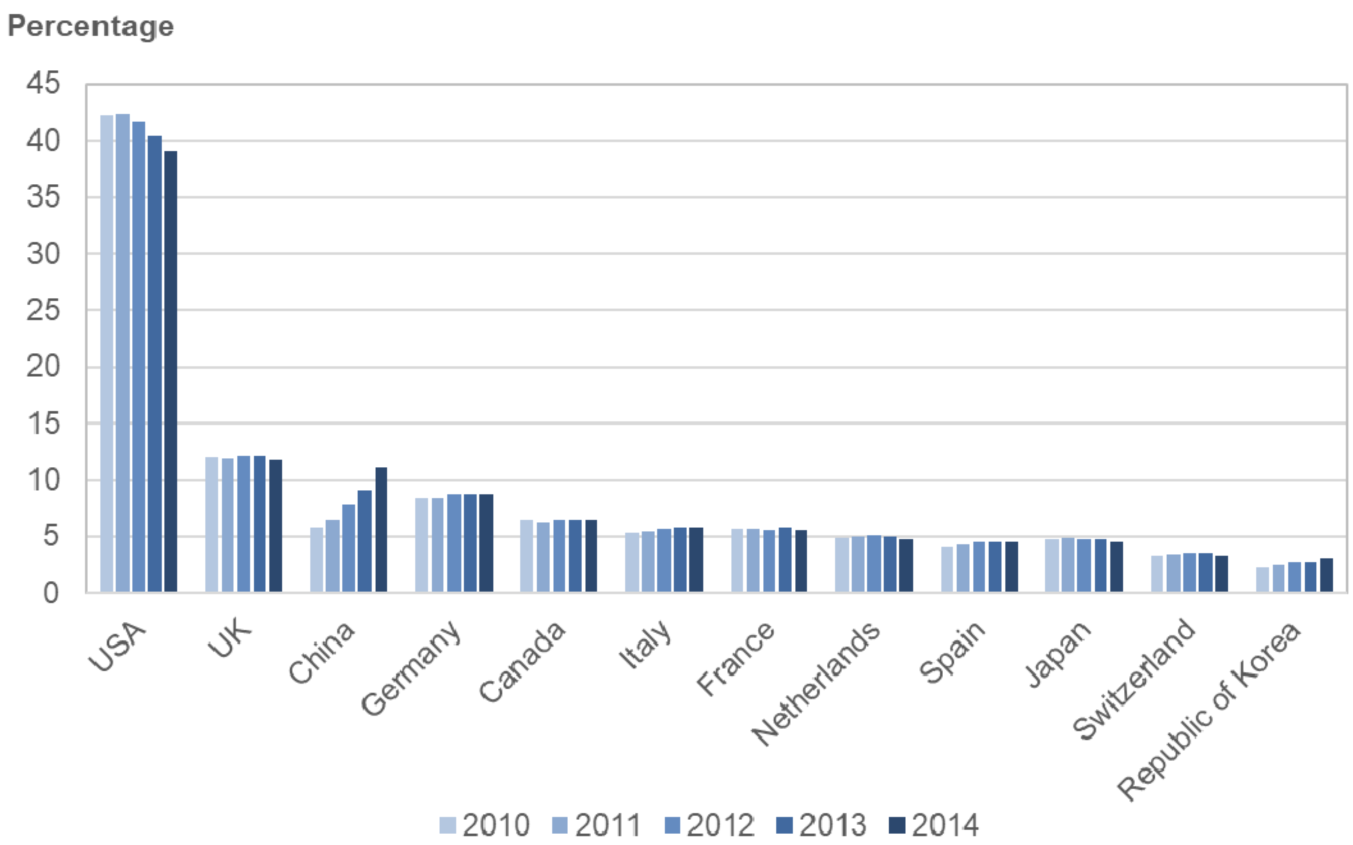

Source: International Comparative Performance of the UK Research Base

- This indicator is based on a biennial report published by the department for Business, Energy and Industrial Strategy that is no longer published. We are working to develop a replacement for this indicator for future publications.
- In 2014, the UK's share of life science academic citations was 12%, ranking second among comparator countries, behind the USA.
- The UK's share remained constant at 12% from 2005 to 2014.
- Most countries' share remained steady from 2005 to 2014 with the exception of:
  - USA, whose share declined from 48% to 39% but remained the highest ranked;
  - China, whose share rose from 3% to 11% and so rose to third.
- Countries with a share smaller than 3% include: Brazil, Sweden, India, Belgium, Singapore, Ireland and Russia.
- Where papers are co-authored by researchers from different companies or institutions, citations are recorded for both countries.

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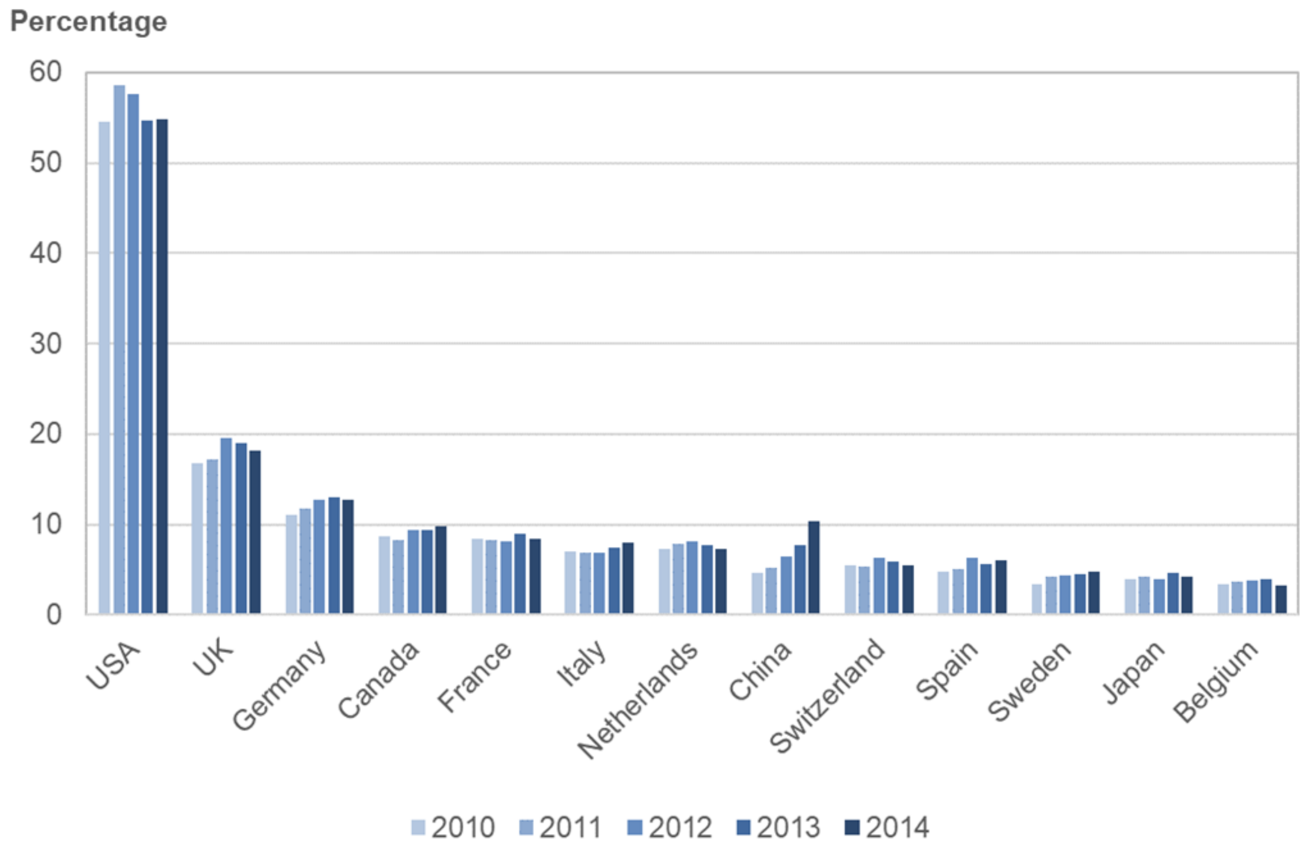
Chart 6B: Share of top 1% (most cited) life sciences academic citations



Source: [International Comparative Performance of the UK Research Base]

- This indicator is based on a biennial report published by the department for Business, Energy and Industrial Strategy that is no longer published. We are working to develop a replacement for this indicator for future publications.
- The share of the top 1% of academic citations an academic publication receives is an indicator of the quality of the research reported.
- In 2014, the UK's share of the top 1% of life sciences academic citations was 18%, with it ranking second among comparator countries, behind the USA.
- The UK's share increased from 15% to 20% between 2005 and 2012, followed by a decline to 18% in 2014.
- Most countries' shares have remained steady from 2005 to 2014 with the exception of:
  - USA, whose share declined from 62% to 55% but remained the highest ranked;
  - China, whose share rose from 2% to 10%, ranking fourth behind USA, UK and Germany.
- Countries with a share smaller than 4% are: Belgium, the Republic of Korea, Brazil, India, Singapore, Ireland and Russia.
- Where papers are co-authored by researchers from different companies or institutions, citations are recorded for both countries.

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Growth and infrastructure

Chart 7A:
Number of people employed in manufacture of basic pharmaceuticals and pharmaceutical products

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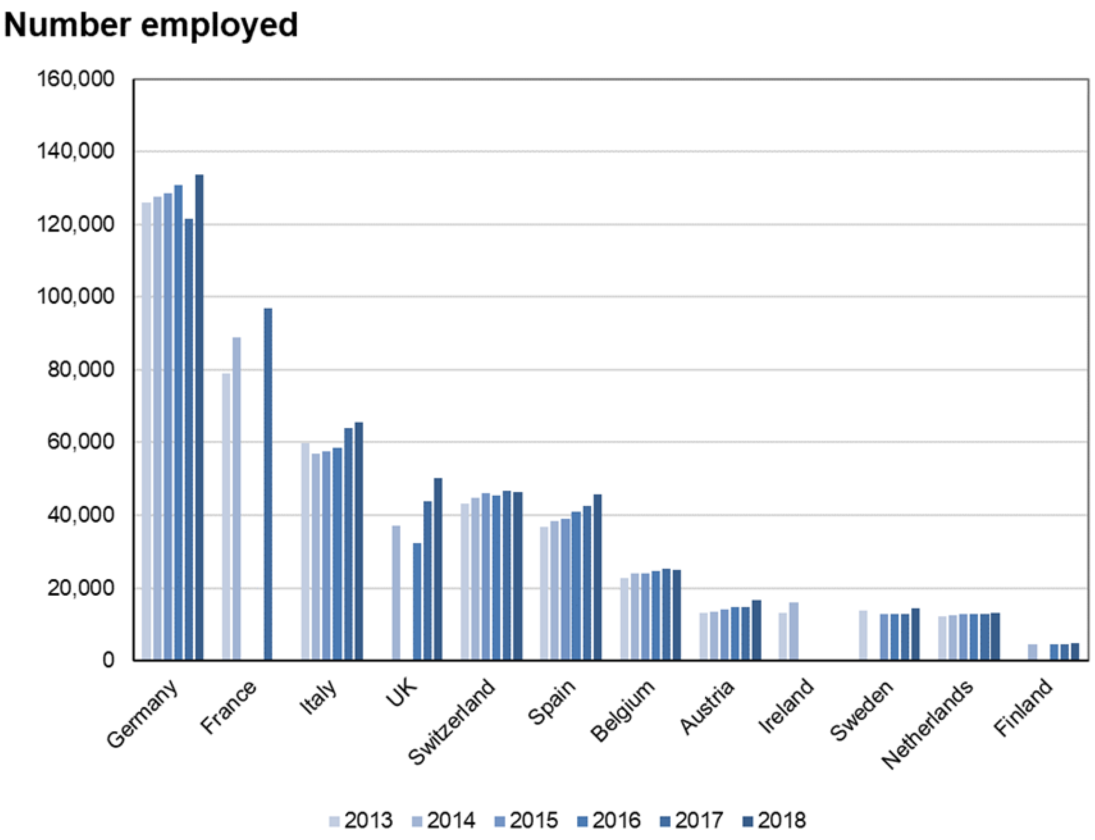

Source: [Eurostat - Data Explorer Annual Detailed Enterprise Statistics for Industry]

- Eurostat employment **data is not available for all years** for some of the countries in the comparator group. Comparisons have been made between **2018 figures, or the most recent year** where a country's data is available.[1]
- In 2018 pharmaceutical manufacturing **employed 50,100 people in the UK**, an increase of 6,000 (15%) from 2016. This is the largest percentage growth in that time period of any nation in the comparator group where data is available.
- The **UK overtook Spain and Switzerland to rank third** in the comparator group for the number employed in the manufacture of pharmaceuticals. When France is included using its 2017 data, the UK ranks fourth.
- Rankings may change as more data becomes available.
- Germany has been consistently the largest employer for pharmaceutical manufacturing amongst the comparator group since 2013.
- The OLS [Bioscience and health Technology Sector Statistics] publication provides a more complete and up-to-date picture of employment in the UK life science sector.

1) Latest available data: France 2017, Ireland 2014

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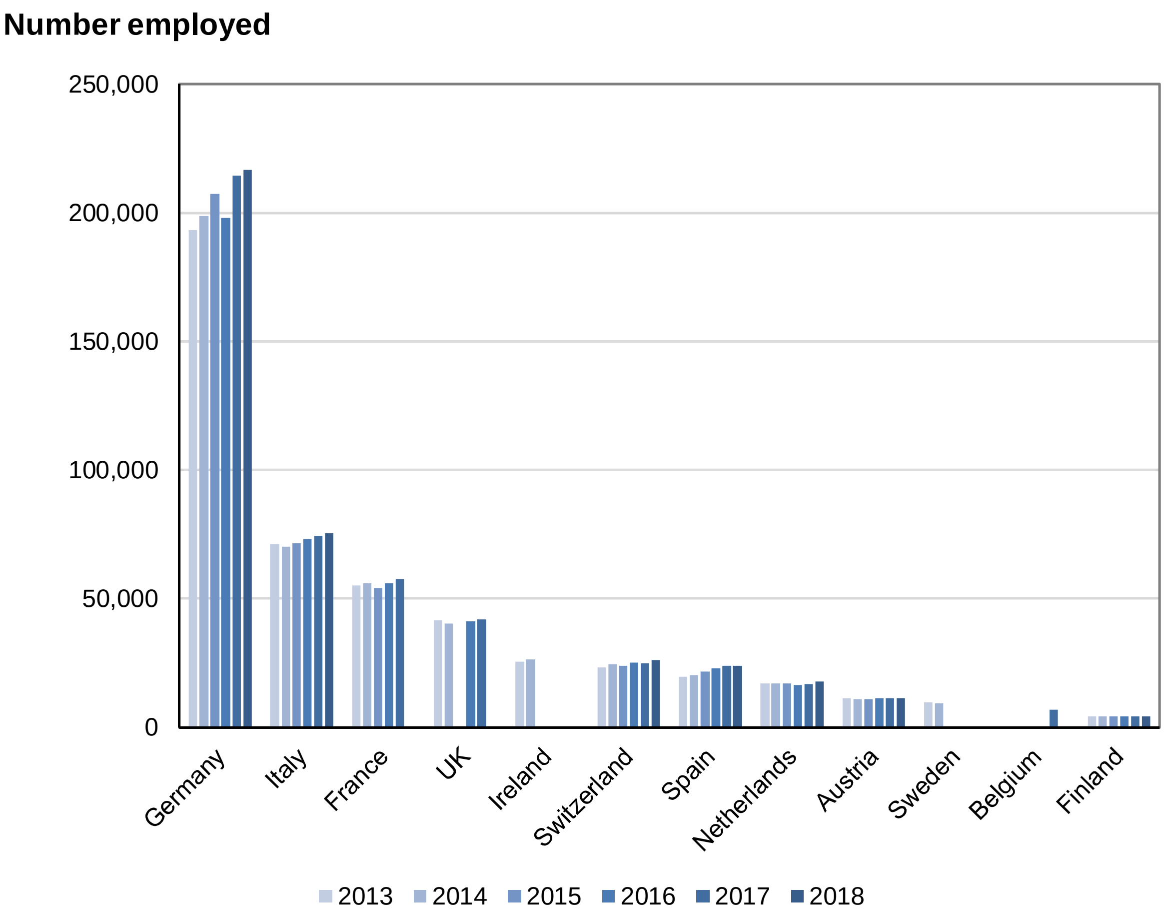
Chart 7B:
Number of people employed in manufacture of medical technology products



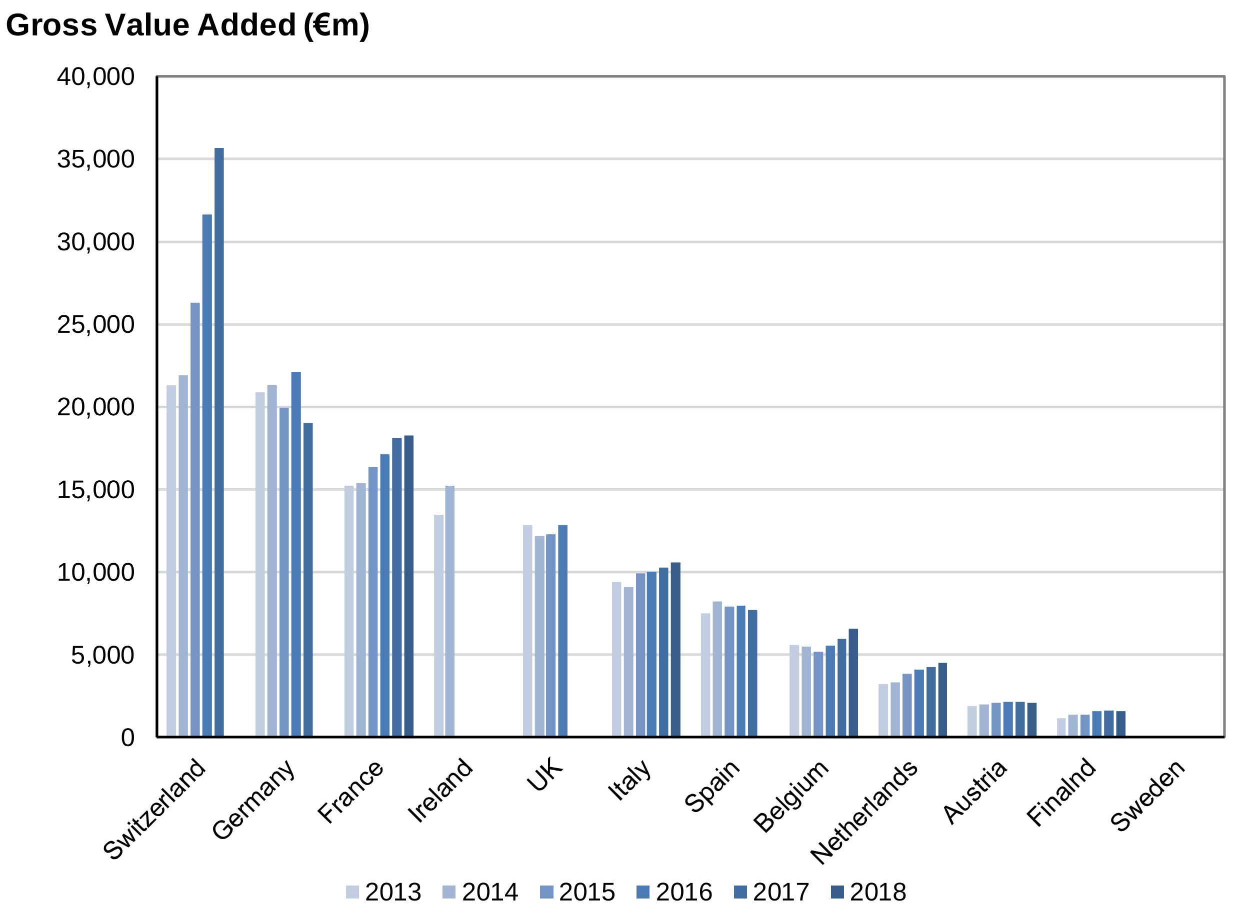
Source: Eurostat - Data Explorer Annual Detailed Enterprise Statistics for Industry

Notes: Med Tech is compiled from figures for "Manufacture of irradiation, electromedical and electrotherapeutic equipment" and "Manufacture of medical and dental instruments and supplies"

- Eurostat employment **data is not available for all years** for some of the countries in the comparator group. Due to larger presence of gaps in the data for 2018, **comparisons have been made between 2017 figures, or the most recent year** where a country's data is available.[1]
- In **2017 the UK employed 41,800** in the manufacture of medical technologies. UK employment has changed little since 2013, with a net growth of 200 jobs.
- By 2017 figures, the UK ranked fourth in the comparator group for the number employed in the manufacture of medical devices. Rankings may change as data becomes available.
- Germany has had the highest employment in this area amongst the comparator group since 2013, and has experienced the largest growth in jobs over that period.
- This data allows for like-for-like comparisons internationally, but is known to underestimate employment and does not capture the full breadth of jobs manufacturing medical technologies.
- The OLS Bioscience and health Technology Sector Statistics publication provides a more complete and up-to-date picture of trends in UK life science employment.

1) Latest available year: Ireland 2014, Sweden 2014.

Chart 8:
Gross Value Added for pharmaceutical manufacturing



Source: Eurostat - Data Explorer Annual Detailed Enterprise Statistics for Industry

Notes: Category used is "Manufacture of basic pharmaceuticals and pharmaceutical products". Data are chain linked volumes.

- Eurostat data is not available for all years for the UK or some comparator countries. Comparisons have been made using 2016 data; the latest date where UK data is available.[1]
- In 2019, 18 member states, which at the time included the UK, conducted a major revision of their national accounts. Multiple years of data were updated in-line with the Harmonised European Revision Policy (HERP) for Macroeconomic Statistics. This has resulted in a large change in some values between this publication and the previous edition.
- Gross Value Added (GVA) measures the contribution to the economy that an industry makes. GVA is calculated as either the value of outputs from production minus the value of the inputs used, or; revenue from pharmaceuticals minus the costs of production
- In the UK, the GVA for pharmaceutical manufacturing was **€12.9bn in 2016**, up from €12.3 in 2015.
- In 2016, the **UK ranked fourth** amongst comparator countries where data was available. This ranking may change as data is updated.
- The available data suggests Switzerland and Germany have consistently been the most productive economies for pharmaceuticals manufacturing in Europe. Switzerland also saw substantial growth in their GVA between 2014 and 2017; adding £14bn or 63% to their 2014 performance.

1) The latest available data for the Republic of Ireland is from 2014. The ROI has been included in the chart using that data, but excluded from the ranking.

Chart 9A:
Global exports of pharmaceutical products

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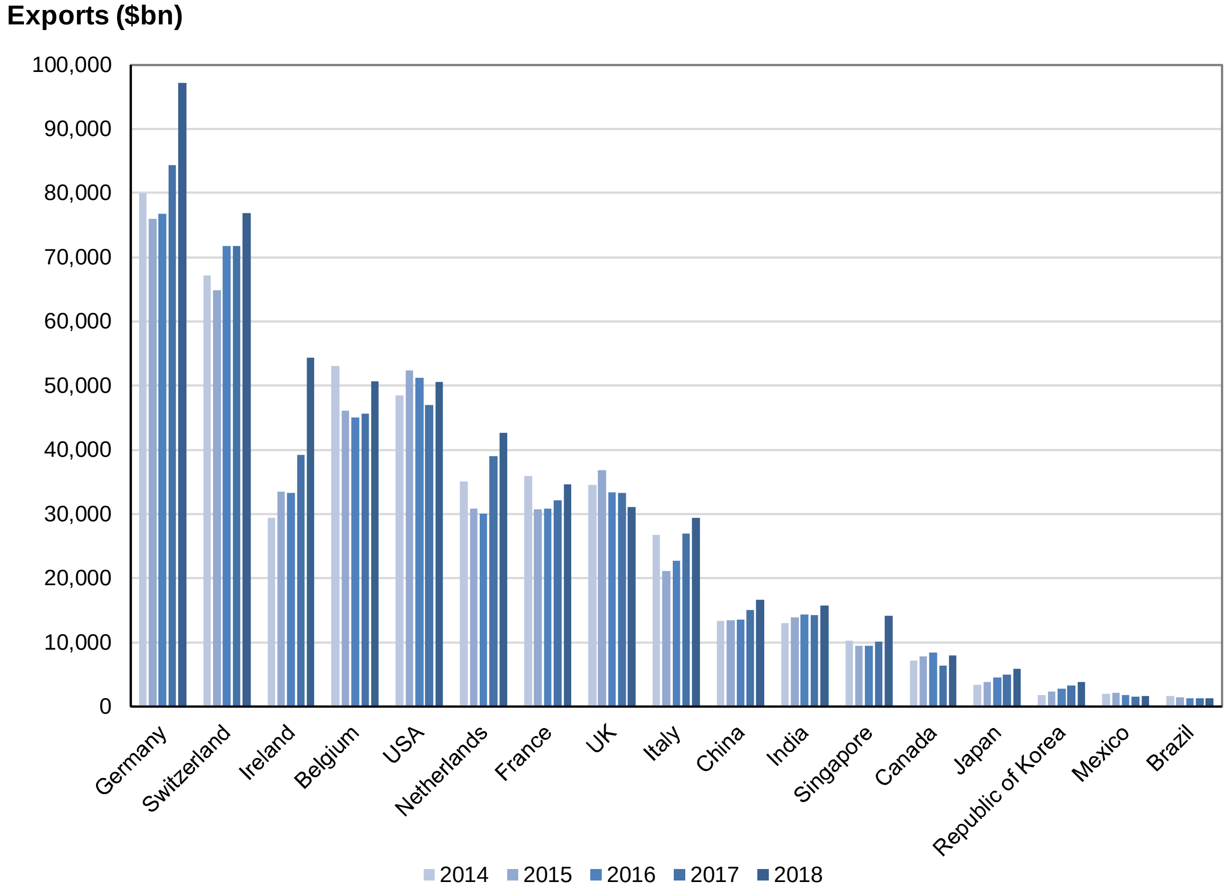

Source: [UNCTAD STAT Data Center: International trade in goods and services: trade structure by partner, product or service: merchandise trade matrix - detailed products]

Notes: Categories used are UNCTAD "541 Medicinal and pharmaceutical products" and "542 Medicaments including veterinary medicament".

- UK Exports of pharmaceutical products were valued at **$31bn in 2018**, down from $33bn in 2017.
- This represents a **15% drop from 2012** when the UK's pharmaceutical exports value peaked at $36bn.
- In 2018 the UK was the 8th largest exporter of pharmaceutical goods amongst the comparator group. Germany and Switzerland have consistently been the largest exporters of pharmaceutical goods.
- Ireland and Belgium have both shown substantial growth in exports in the last year, surpassing the USA to become the 3rd and 4th biggest exporters of pharmaceutical products in the comparator group respectively.

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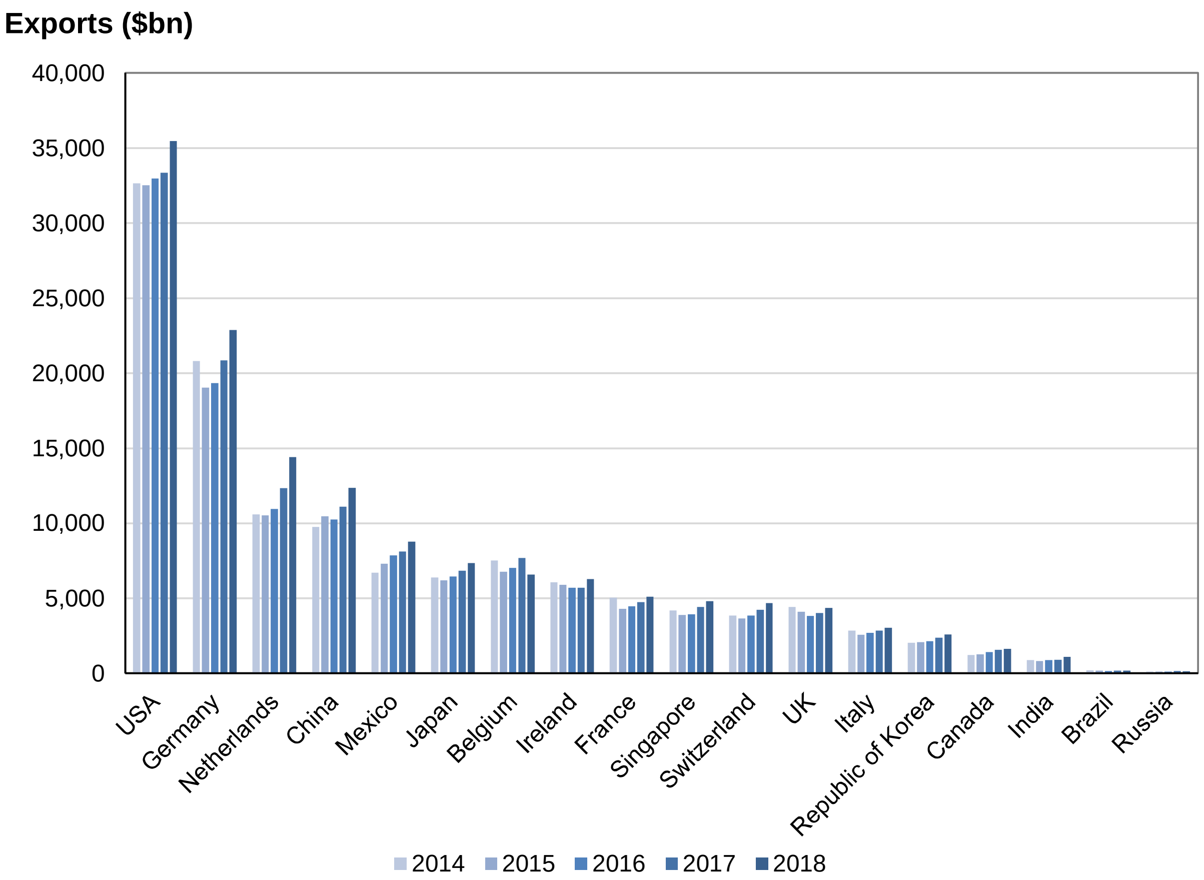
Chart 9B: Global exports of medical technology products



Source: UNCTAD STAT Data Center: International trade in goods and services: trade structure by partner, product or service: merchandise trade matrix - detailed products
Notes: Categories used from UNCTAD STAT are "Electro-diagnostic apparatus for medical science etc." and "Instruments and appliances, n.e.s, for medical, etc."

- The value of the UK's exports of medical technology products was $4.4bn in 2018. This is an increase of 9% in the year since 2017.
- In 2018 the UK ranked 12th for value of medical technology exports out of the 18 nations in the comparator group.
- Up-to-date data from the ONS shows a 7.8% rise in medical technology exports between 2018 and 2019.
- It should be noted that 2018 saw significant growth in exports of medical technology products across the comparator group. The largest growth was seen in India, which grew its exports by 23%.

Chart 10A:
Global imports of pharmaceutical products by importing country

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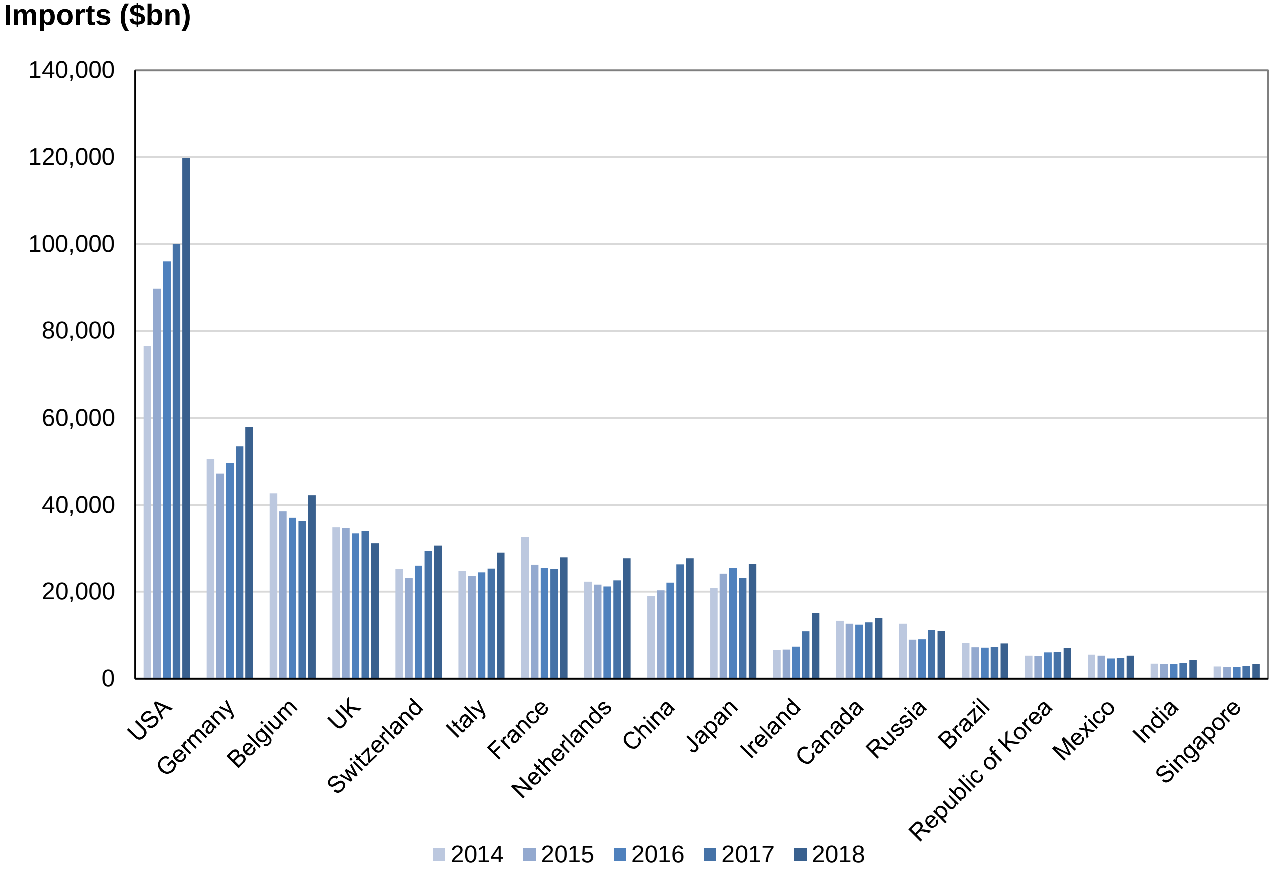

- UK imports of pharmaceutical products had a value of $32bn in 2018. This is a decrease of $2bn (8%) on the value of imports in 2017.
- This decrease has brought the UK's trade deficit on pharmaceuticals down to under $1bn in 2018.
- In 2018, the UK had the fourth largest value of pharmaceutical imports, behind the USA, Germany and Belgium. This is unchanged from 2017.
- The largest increase in the value of pharmaceutical imports was in the USA, which increased imports by $20bn between 2017 and 2018.
- The largest percentage growths in pharmaceutical imports were seen in Ireland, which increased imports by 39% ($4bn), and the Netherlands which increased imports by 22% ($5bn).

Source: UNCTAD STAT Data Center: International trade in goods and services: trade structure by partner, product or service: merchandise trade matrix - detailed products

Notes: Categories used are UNCTAD "541 Medicinal and pharmaceutical products" and "542 Medicaments including veterinary medicament".

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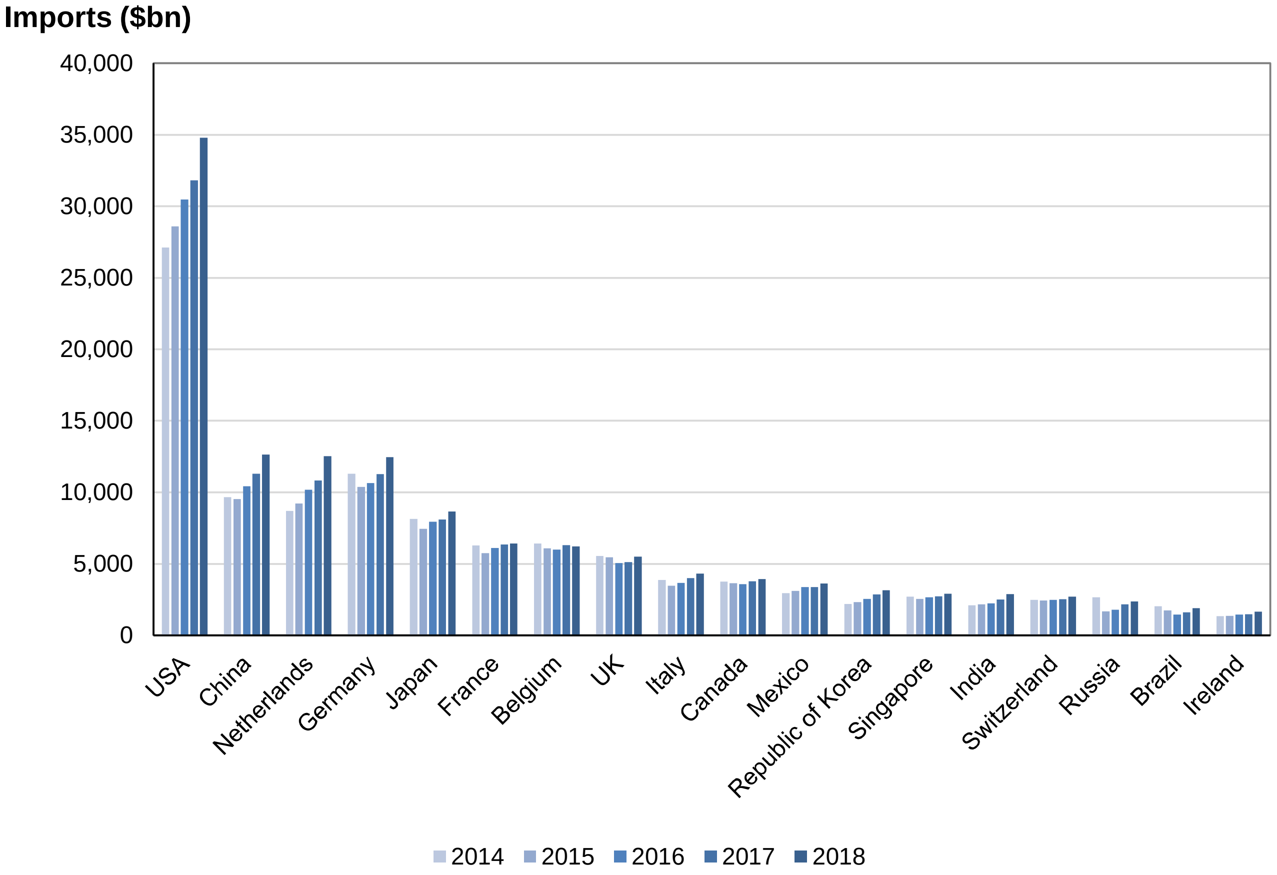
Chart 10B: Global imports of medical technology products by importing country



- The value of UK imports of medical technology products was $5.5bn in 2018. This is an increase of $400m (8%) since 2017.
- In 2018 the UK had the eighth largest value of medical technology imports amongst the 18 comparator countries.
- The USA has had the largest value of medical technology imports, which was almost three times the value of the next largest value (China).
- The value of medical imports in the United States has grown at an average of 5% a year since 2012, but between 2017 and 2018 that increased to 9% ($3bn).

Source: UNCTAD STAT Data Center: International trade in goods and services: trade structure by partner, product or service: merchandise trade matrix - detailed products
Notes: Categories used from UNCTAD STAT are “Electro-diagnostic apparatus for medical science etc.” and “Instruments and appliances, n.e.s, for medical, etc.”

Chart 11A:
Life sciences foreign direct investment projects

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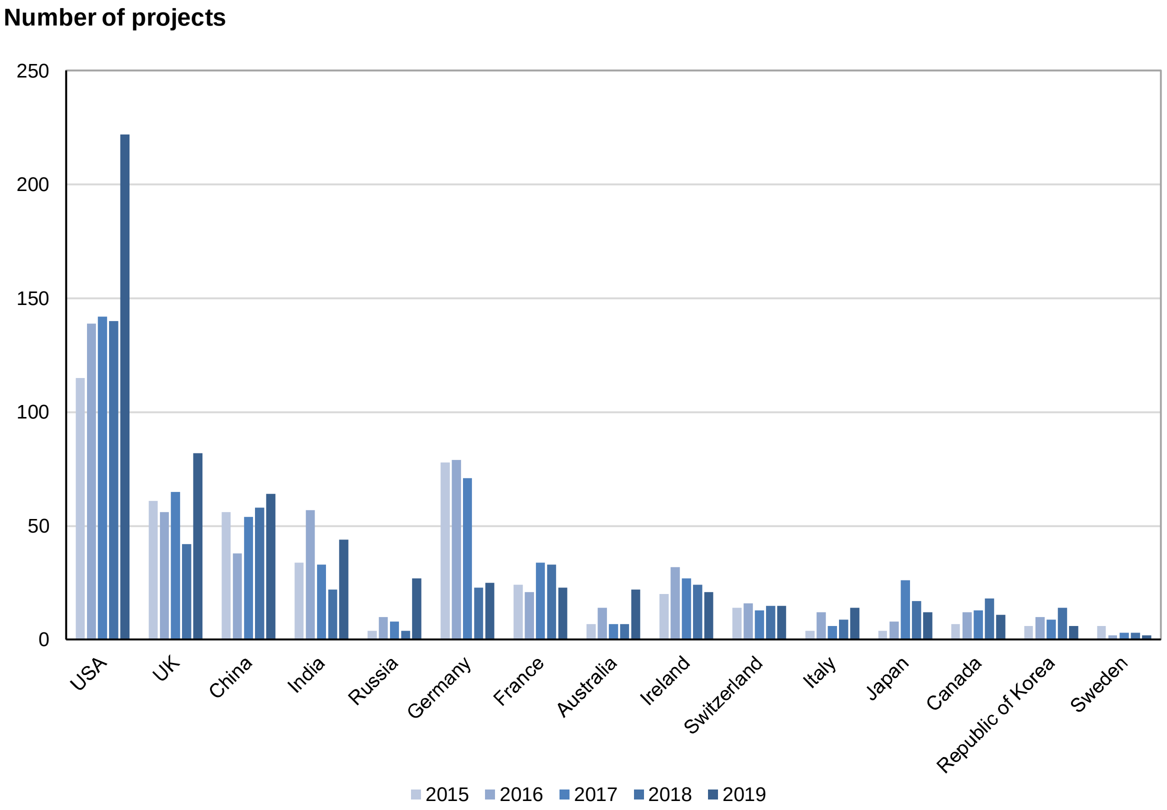

Source: fDi Markets, from The Financial Times Ltd.

- There were 82 life science foreign direct investment (FDI) projects in the UK in 2019, up from 42 in 2018. It should be noted that the number of projects is highly volatile year-to-year.
- In 2019 the UK rose to second for the number of life science projects with FDI amongst the comparator countries, surpassing China to rank behind only the United States of America.
- The USA has consistently ranked first for the number of projects since 2015.

Chart 11B:
Life science foreign direct investment – capital expenditure

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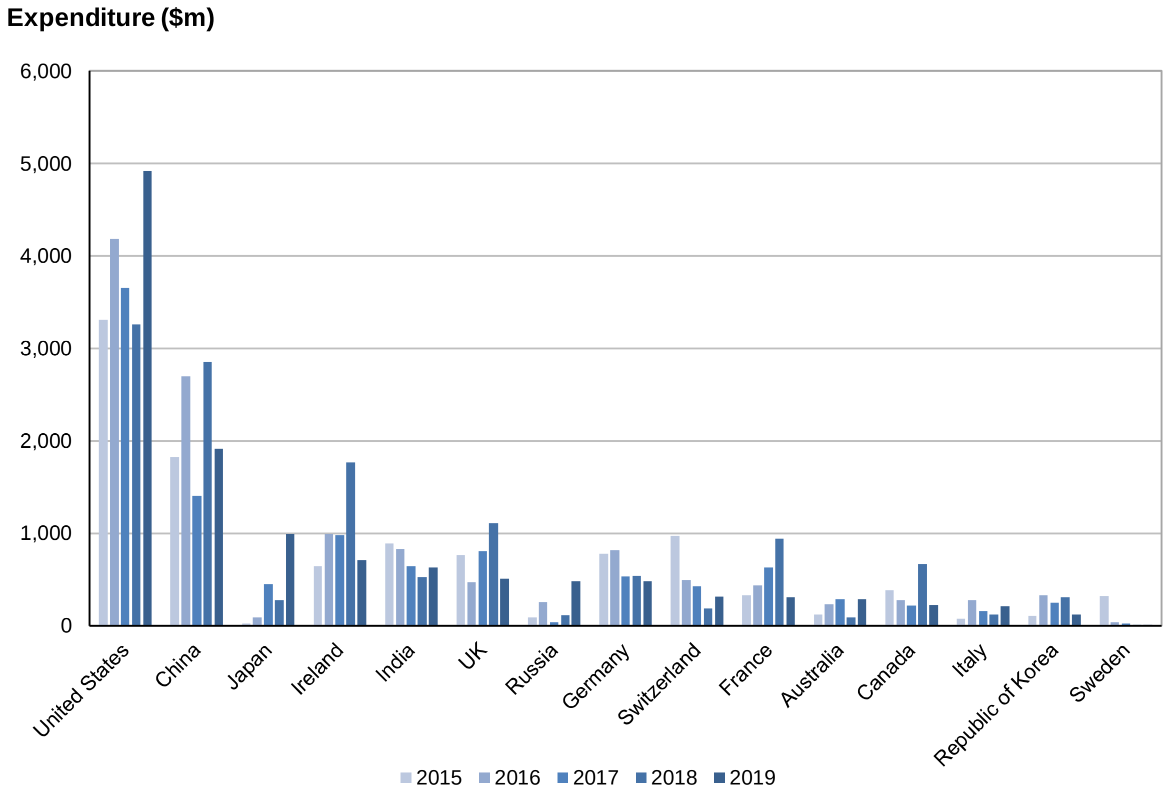

Source: fDi Markets, from The Financial Times Ltd.

- The value of life science foreign direct investment (FDI) into the UK was **£510m in 2019**. This is a decrease of £600m (54%) from 2018 and the lowest direct investment since 2016.
- The UK ranked sixth for FDI in 2019, down from fourth in 2018. Japan and India (ranked 10th and 8th in 2018 respectively) have surpassed the UK in this ranking.

Chart 12A:
Share of global life sciences Initial Public Offerings (IPOs) in 2018

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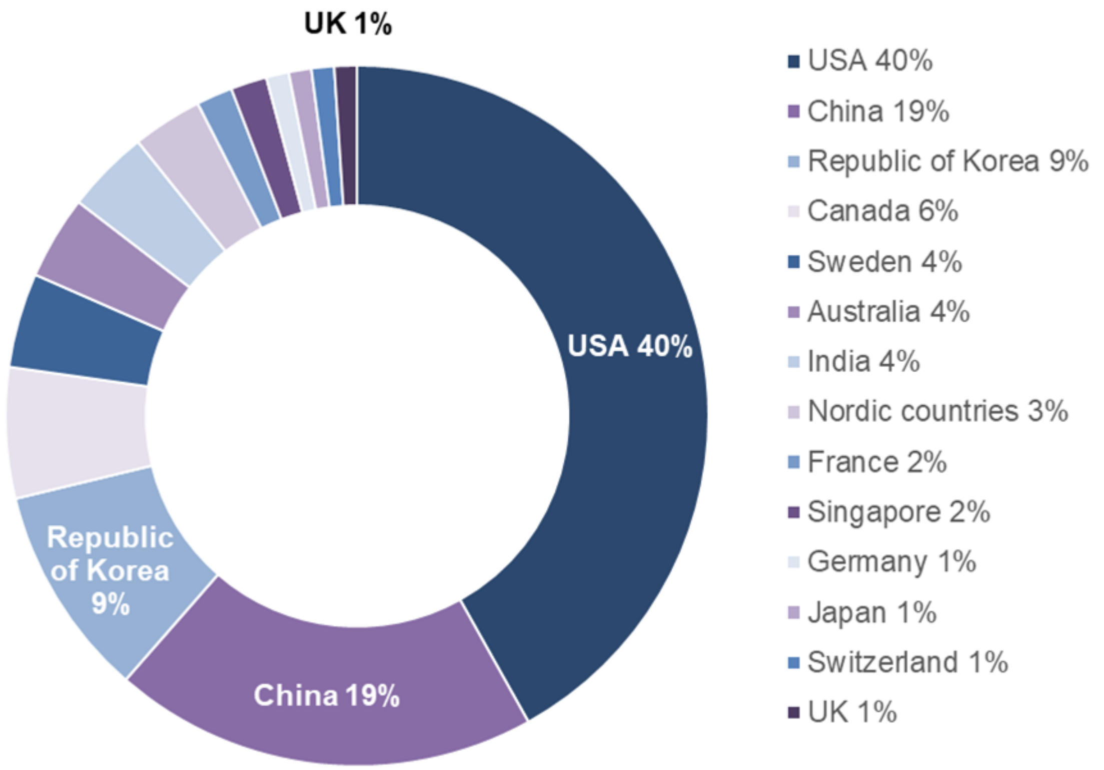

- In 2018, the UK had two life sciences Initial Public Offerings (IPOs) which equates to a 1% share, the same as the share in 2017.
- The UK's share of global life science IPOs in 2018 was similar to Germany, Japan and Switzerland.
- The USA had the largest global share of life science IPOs in 2018, with 40%. USA figures include Over The Counter (OTC) and Pink Sheets stocks, which are not traded on the stock exchanges.

Source: S&P Capital IQ
Notes: The reported country is the jurisdiction in which the IPO was launched, not the domicile of the IPO company.
USA includes Over The Counter (OTC) and Pink Sheets stocks which are not traded on the stock exchanges.

Chart 12B: Amount raised in global life sciences Initial Public Offerings (IPOs) in 2018 (where known)

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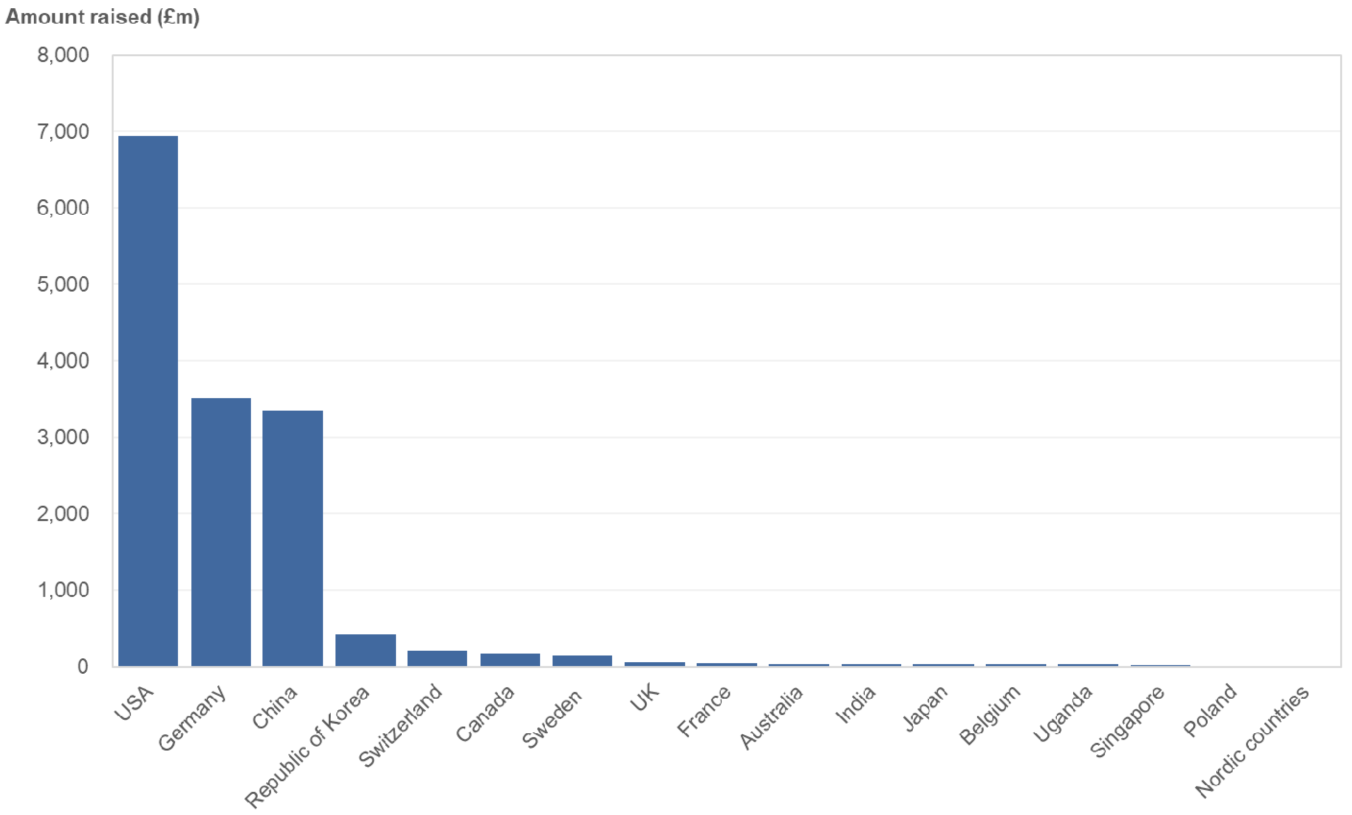

- UK Initial Public Offerings (IPOs) in life sciences raised £63m in 2018. This compares to approx. £22bn raised in 2017, although it should be noted there is extreme volatility in these figures year-to-year.
- In 2018, the UK ranked eighth among 21 selected comparator countries. Counties with less than £20m raised are not included in the chart shown.
- The USA raised the largest amount through IPOs in life sciences in 2018, with approximately £6.9bn. USA figures include Over The Counter (OTC) and Pink Sheets stocks which are not traded on the stock exchanges.

Source: S&P Capital IQ http://www.spcapitaliq.com/
Notes: The reported country is the country in which the IPO was launched, not the domicile of the IPO company. Data on amount raised are not available for 5 of 36 IPOs launched in China and 1 of 3 in Singapore so total amount will be an underestimate. Chinese figures include Hong Kong.

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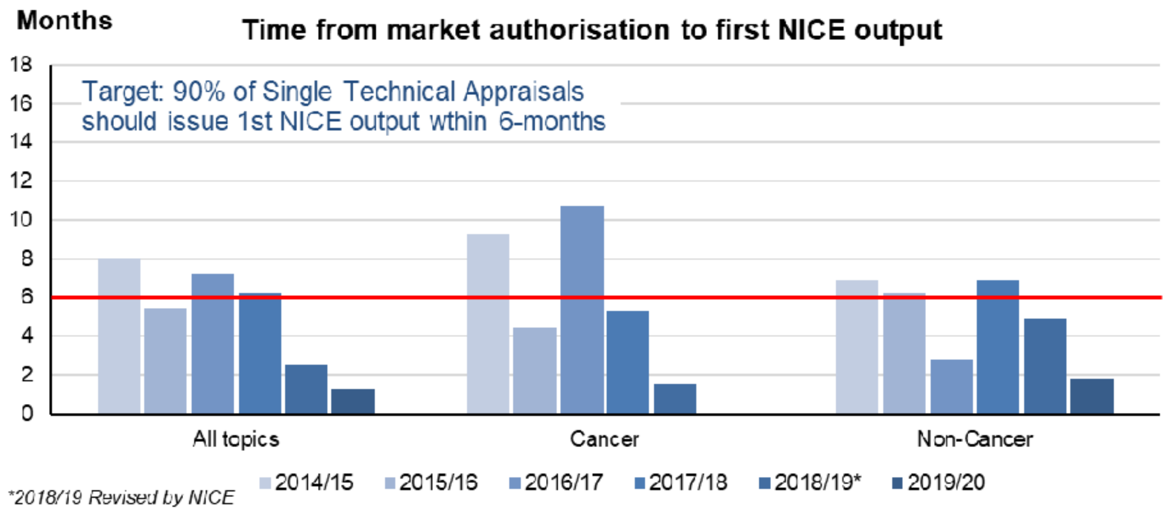
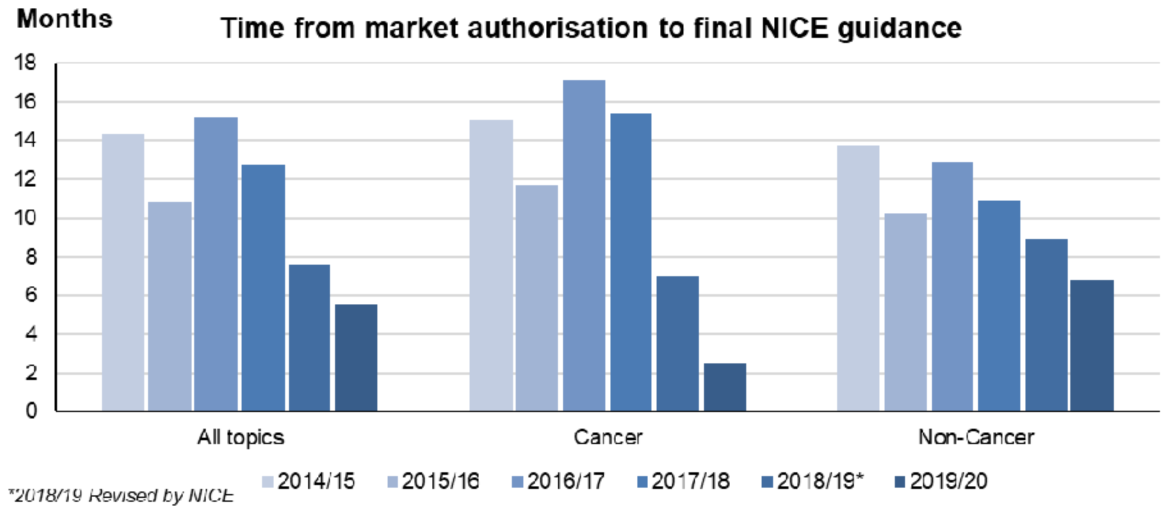
Chart 13: Speed and volume of NICE Technology Appraisals





- In 2019/20, the average time from Marketing Authorisation to 1st NICE output was 1.3 months, and to final NICE output was 5.6 months.
- Speed of appraisal output is affected by appeals, late referrals, additional committee meetings and companies negotiating timing of appraisals. These caveats are taken into account when measuring performance of the speed of production of NICE guidance. More information is available in the 2019/20 NICE business plan.
- NICE had a positive recommendation rate of over 90% between April 2019 and March 2020 (recommended, optimised and CDF). Overall, between April 2013 and March 2020, the positive recommendation rate is over 80%.

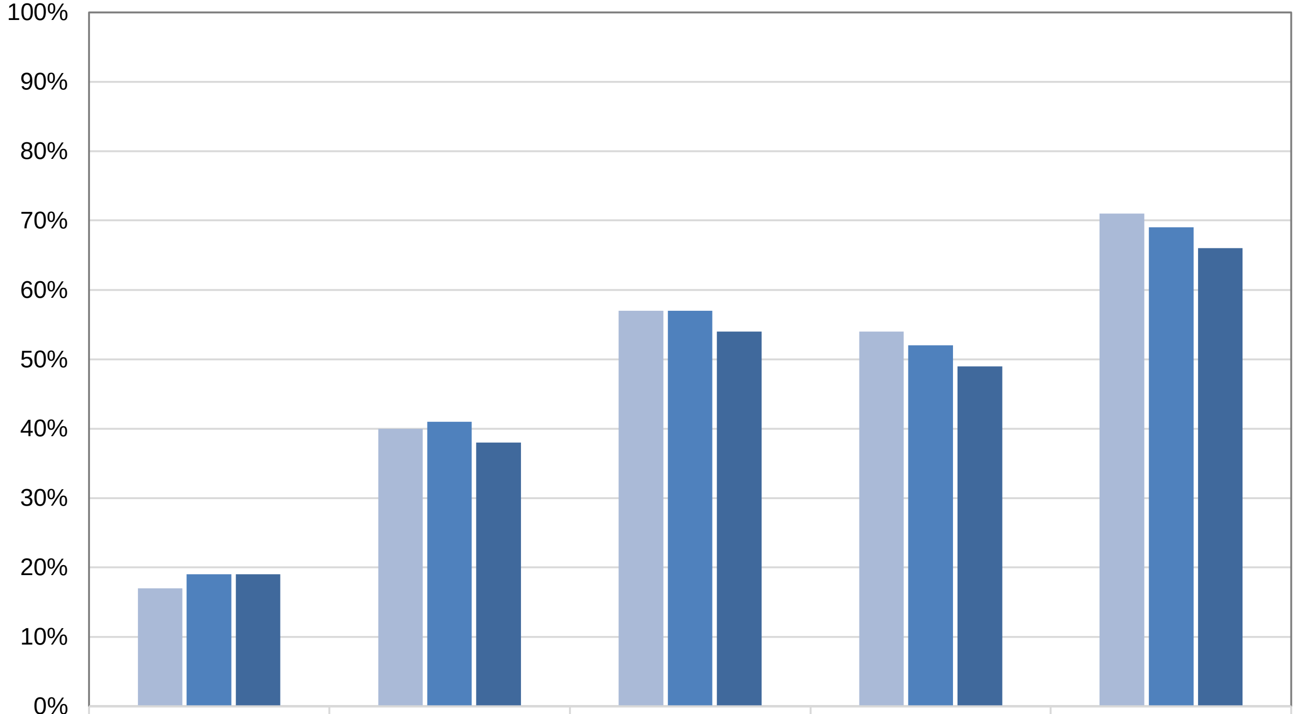
Recommendation categories	Total (1 April 2013 to 31 March 2020)
Recommended	175 (44%)
Optimised	125 (31%)
CDF[2]	36 (9%)
Only in Research	3 (1%)
Not Recommended	58 (15%)
Total	**397**

Notes: The Cancer drugs fund (CDF) was introduced in 2016; re-appraisals of existing products have been excluded.

Source: National Institute for Health and Care Excellence
Notes: Average time to first output for cancer products in 2019/20 was less than one month; value is shown as zero on the chart.

Chart 14A:
Per capita uptake of new medicines – NICE approved

Per capita uptake vs comparator median



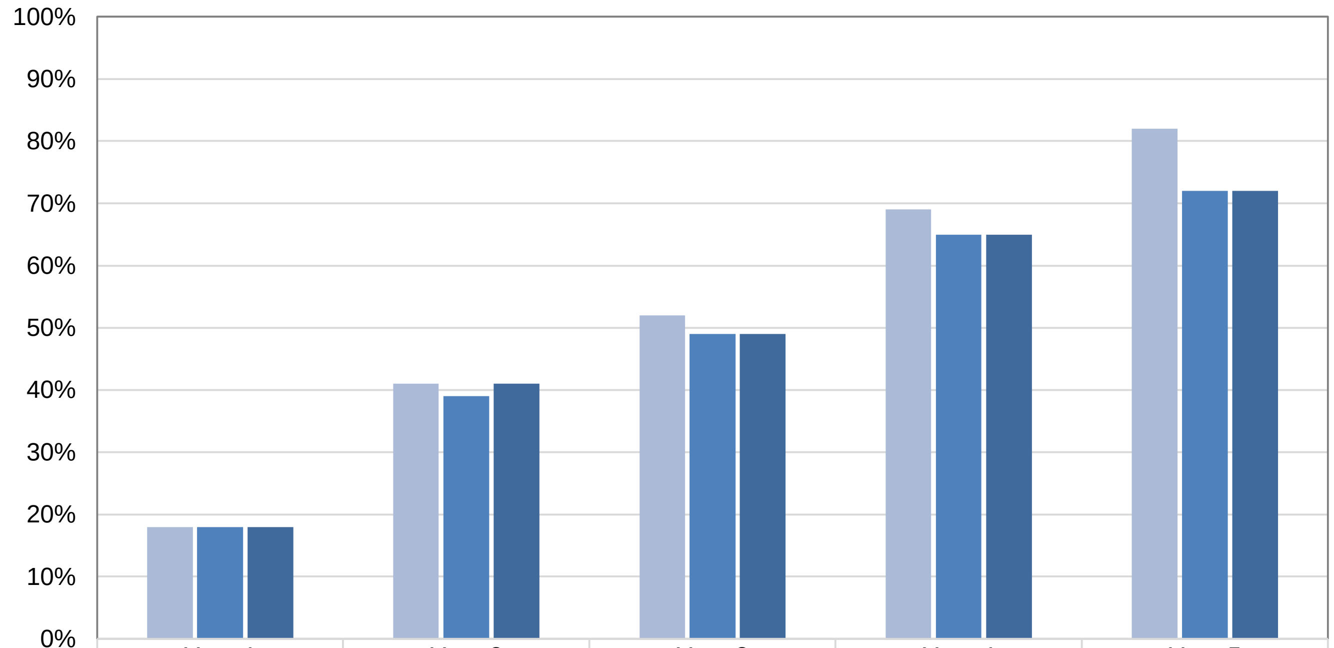
	Year 1	Year 2	Year 3	Year 4	Year 5
2012-16	17%	40%	57%	54%	71%
2013-17	19%	41%	57%	52%	69%
2014-18	19%	38%	54%	49%	66%

- This indicator is a measure of relative uptake per capita for new medicines which were recommended by NICE and first launched between 2014 and 2018. These values are compared to the median uptake of medicines launched during 2012-2016 and 2013-2017. A value of 100% means the UK per capita consumption is identical to the average uptake per capita in the comparator countries.
- UK uptake of NICE-approved medicines in the first year after launch for the 2014-2018 cohort was 19% of the median uptake level. This rose to 66% by year-5.
- There were 61 medicines included in the 2014-18 cohort, compared to 64 in 2013-17 and 48 in 2012-16. Medicines were only included in this analysis that had UK sales above £1m in 2019 and were on sale for a minimum of 12 months in at least 4 of the comparator countries and the UK.
- This analysis adjusts for population size, but not for need (no. of cases), standard clinical practice or total medicine spend in each country, which are likely to have a significant impact on uptake figures.

Source: ABPI analysis of IQVIA data
Notes: Comparator countries: Australia, Austria, Belgium, Canada, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Spain, Switzerland, Sweden, USA

Chart 14B:
Per capita uptake of new medicines – non-NICE reviewed

Per capita uptake vs comparator median



	Year 1	Year 2	Year 3	Year 4	Year 5
2012-16	18%	41%	52%	69%	82%
2013-17	18%	39%	49%	65%	72%
2014-18	18%	41%	49%	65%	72%

- This indicator is a measure of relative uptake per capita for new medicines which were not reviewed by NICE and first launched between 2014 and 2018. These values are compared to the median uptake of medicines launched during 2012-2016 and 2013-2017. A value of 100% means the UK per capita consumption is identical to the average uptake per capita in the comparator countries.
- Uptake of non-NICE reviewed medicines in the first year after launch for the 2014-18 cohort was 18% of the median uptake in comparator countries. This rose to 72% by year-5.
- There were 35 medicines included in the 2014-2018 cohort, compared to 37 in 2013-17 and 35 in 2012-16. Medicines were only included in this analysis that had UK sales above £1m in 2019 and were on sale for a minimum of 12 months in at least 4 of the comparator countries and the UK.
- This analysis adjusts for population size, but not for need (no. of cases), standard clinical practice or total medicine spend in each country, which are likely to have a significant impact on uptake figures.

Source: ABPI analysis of IQVIA data
Notes: Comparator countries: Australia, Austria, Belgium, Canada, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Spain, Switzerland, Sweden, USA

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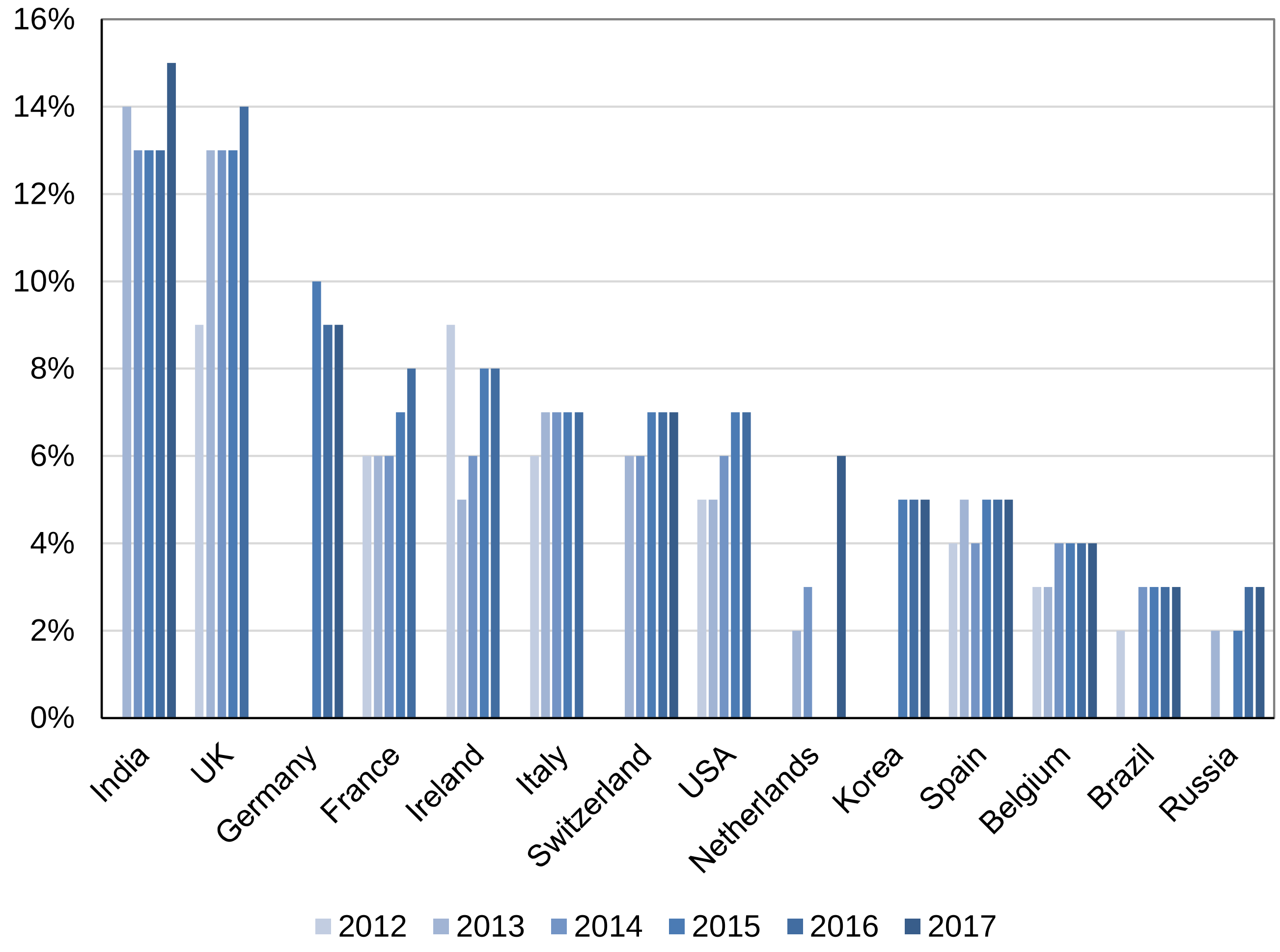
Skills

Chart 15:
Percentage of graduates from tertiary education graduating from Natural Sciences, mathematics, and Statistics programmes, both sexes (%)



- This indicator is a measure of upcoming talent and potential skills base for the life science sector. Tertiary education is an undergraduate degree or equivalent.
- The UK ranked second for the proportion of graduates coming from ‘Natural Sciences, Mathematics and Statistics’ programmes amongst the comparator countries. India came first, having surpassed the UK this year.
- Rankings are based on available data and may be updated as the data is improved in the future.
- 2017 data was not available for the UK, France, Ireland, Italy, or the USA. For these countries 2016 data was used in the comparison.

Source: [UNESCO, Education theme]

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