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Life Science Competitiveness Indicators

June 2019

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Ministerial foreword

Lord Henley
Parliamentary Under Secretary of State of the Department for Business, Energy and Industrial Strategy

I am pleased to introduce the fifth annual Life Science Competitiveness Indicators report. Since last year's publication, the UK has generated almost £74bn in annual turnover and employs close to a quarter of a million people across the sector, making it a crucial pillar of the UK economy.

Today the UK has one of the strongest, most productive health and life sciences industries in the world. Government is fully committed to the sector, having already invested in excess of £500m, in addition to significant funding of over £2bn leveraged from industry through investments and partnerships, as part of our two Life Sciences Sector Deals. The second Life Sciences Sector Deal, published in December 2018 set out further plans to secure a global lead in those areas that represent the greatest opportunities for the UK, details our deeper partnership with the sector and demonstrates the pivotal role of the NHS as a key delivery partner. Notably, this included an expansion of the Accelerated Access Collaborative (AAC) to serve as the umbrella organisation for UK health innovation and the front door to support for innovators and the health system.

This engagement has also been supported through the successful negotiation with industry on the new Voluntary Scheme for Branded Medicines Pricing and Access. Coming into effect on 1 January 2019, this scheme not only establishes mechanisms to control the cost of branded medicines to the NHS, but also sets out Government commitments to support innovation, access and uptake of new medicines.
As the UK leaves the European Union, the Life Sciences industrial strategy unites the whole sector – charities, academics and the full breadth of the industry – behind a vision that affirms the UK's place as a top tier global hub. Taking this as the basis for future growth, it set a roadmap for the UK to create whole new industries over the next two decades in the fields of early disease detection and genomics; digital technologies and data analytics; and in advanced therapeutics.

This report includes a set of metrics which displays UK performance compared to a range of comparator countries. Investment in the UK life sciences sector continues to grow, with foreign direct investment capital expenditure at £1.1bn in 2018, the highest expenditure seen in the past eight years. The UK also remains a key location for education and skills with the highest proportion of graduates from Natural Sciences, Mathematics and Statistics programmes among comparator countries at 14% of all UK graduates in 2016.

We have strong ambitions to further support this by working closely with our partners across the sector. We are committed to increasing investment in life sciences in line with the Governments' ambition to increase R&D spending to 2.4 per cent of GDP by 2027 and 3 per cent over the longer term. This is demonstrated by the fact that in 2017, the UK also saw the highest level of government spend on health R&D in Europe, second only to the USA. Through the second Life Sciences Sector Deal, the National Institute for Health Research (NIHR), Health Research Authority (HRA) and Medicines and Healthcare Products Regulatory Agency (MHRA) also committed to a suite of measures to make our clinical research environment faster, more efficient, streamlined and innovative.

The Voluntary Scheme commitments build on this, showing the Government's clear intention to create an environment where industry innovation is rewarded. There will be more, and faster, NICE assessments, supported by NHS England offering improved commercial arrangements, preferentially applied for the best value propositions. The AAC will also be delivering improved horizon scanning across the health system to help the NHS plan for new treatments and technologies coming to the market, with NHS England in turn committing to proactively support the implementation of the most clinically and cost-effective new innovations.

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 boosting growth.

Baroness Blackwood
Parliamentary Under Secretary of State of the Department of Health and Social Care

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Introduction

This Office for Life Sciences (OLS) report brings together a set of competitiveness indicators on the life science environment in the UK and presents how these compare internationally. This is the fifth report and follows the publication of another annual OLS publication – Bioscience and Health Technology Sector Statistics – which provides detailed analysis of the life science sector in the UK.

Changes since last publication

This report seeks consistency with previous Competitiveness Indicators publications, so there have been minimal changes from the 2018 report. The latest available data have been used to produce the indicators. Where new data have been produced but were not available for this report, indicators have been omitted.

Three indicators were not included due to unavailability of data:

- Total private investment in biotech and healthcare and Number of companies receiving private equity investment in biotech and healthcare (previously chart 13A and 13B).
- Instances where the MHRA is in a lead role in EU regulatory procedure (previously chart 17) .

Indicators will be reviewed in future years to ensure they remain fit for purpose.

Notes on the data

The web links to public sources along with caveats, as appropriate, are provided for each indicator. The data used in this publication can be found in the accompanying spreadsheet. In the few instances where data are sourced commercially or obtained directly from the organisation holding it, the supplier is clearly credited but no web link is given. Data availability restricts comparator country choice for some indicators. The data presented are the latest available for each source. This means that data may not be comparable to previous Competitiveness Indicators publications as the data may have been revised.

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

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Table of Contents

Office for Life Sciences

Overview: Performance of UK Life Science Sector

Section	#	Indicator	Reported value (year)	Current rank amongst selected 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 (2017/18)	N/A
	3	Pharmaceutical industry spend on research and development in the UK	£4.3bn (2017)	N/A
	4	Share of patients recruited to global studies (all trial phases)	2.7% (2017)	4 of 10
	5	Time from core package received to first patient enrolled in country (all trial phases)	180 days (2017)	4 of 10
	6A	Share of life sciences academic citations	12% (2014)	2 of 19
	6B	Share of most cited (top 1%) life sciences 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	32,180 (2016)	5 of 10
	7B	Number of people employed in manufacture of medical technology products	41,300 (2016)	4 of 9
	8	Gross Value Added for pharmaceutical manufacturing	€9.4bn (2016)	4 of 9
	9A	Global exports of pharmaceutical products	$33.3bn (2017)	7 of 18
	9B	Global exports of medical technology products	$4.0bn (2017)	12 of 18

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Overview: Performance of UK Life Science Sector

Section	#	Indicator	Reported value (year)	Current rank amongst selected comparator countries
Growth & Infrastructure (part 2)	10A	Global imports of pharmaceutical products	$34.0bn (2017)	4 of 18
	10B	Global imports of medical technology products	$5.1bn (2017)	8 of 18
	11A	Life sciences foreign direct investment projects	42 (2018)	3 of 15
	11B	Life sciences foreign direct investment - capital expenditure	£1.1bn (2018)	4 of 15
	12A	Share of global life science Initial Public Offerings in 2018 (IPOs)	1% (2018)	14 of 21
	12B	Amount raised in global life science Initial Public Offerings (IPOs) in 2018 (where known)	£63m (2018)	8 of 20
NHS collaboration	13	Speed and volume of NICE Technology Appraisals - time from Marketing Authorisation to first NICE output	3.9 months (2018/19)	N/A
	13	Speed and volume of NICE Technology Appraisals - time from Marketing Authorisation to final NICE guidance	8.8 months (2018/19)	N/A
	14A	Per capita uptake of new medicines – NICE approved (relative uptake compared against average comparator uptake 3 years after launch)	75% (2013 to 2017)	N/A
	14B	Per capita uptake of new medicines – non-NICE reviewed	85% (2013 to 2017)	N/A
Skills	15	Percentage of graduates from tertiary education graduating from Natural Sciences, Mathematics and Statistics programmes, both sexes (%)	14% (2016)	1 of 13

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Reinforcing the UK Science Offer

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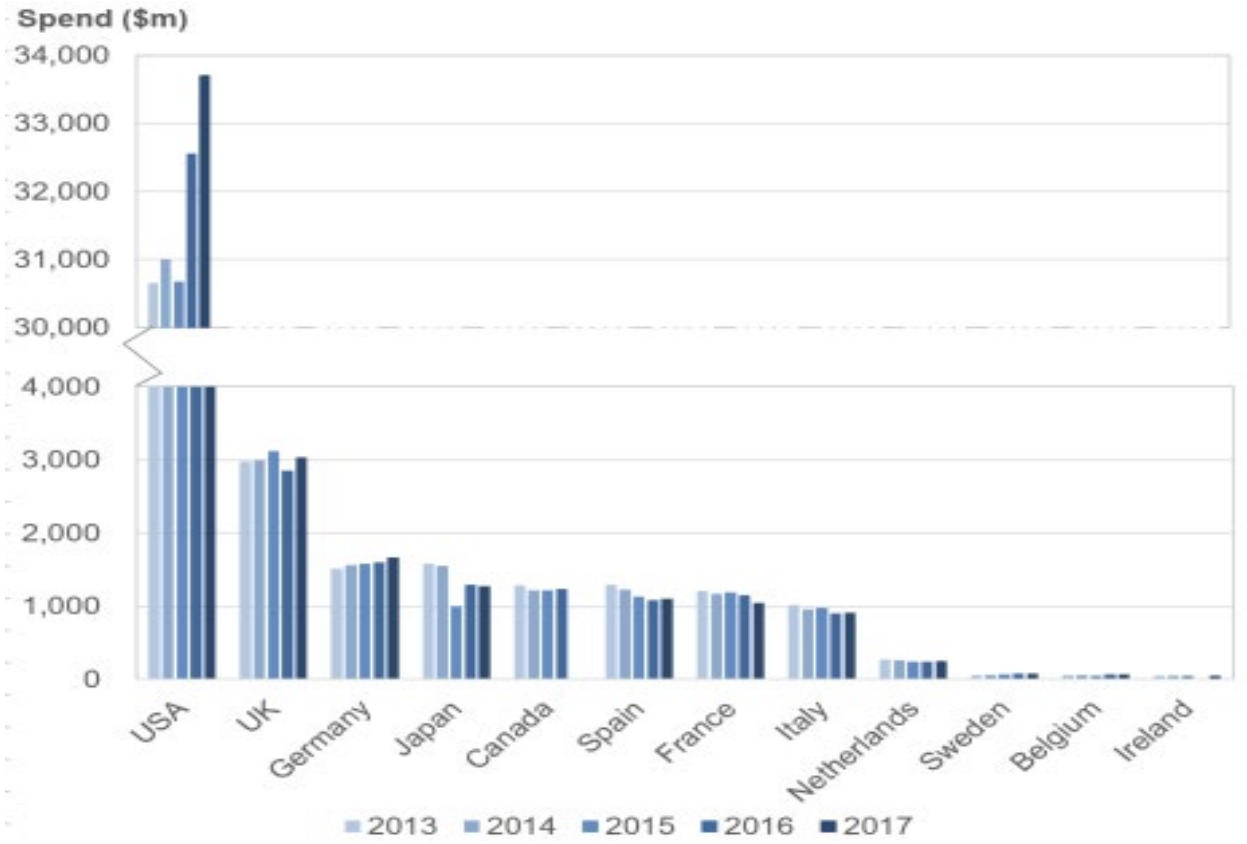
Chart 1:
Government spend on health research and development



- UK government spend on health R&D was $3.0bn in 2017, similar to 2015 levels following a small fall in 2016.
- The UK maintained its position as country with the second highest level of expenditure on health R&D among comparator countries, behind the USA.
- UK spend was around double that of comparator countries, with the exception of the USA.

Source: OECD Research & Development statistics
http://stats.oecd.org/index.aspx?r=227797
Notes: Government budget appropriations or outlays on R&D Health

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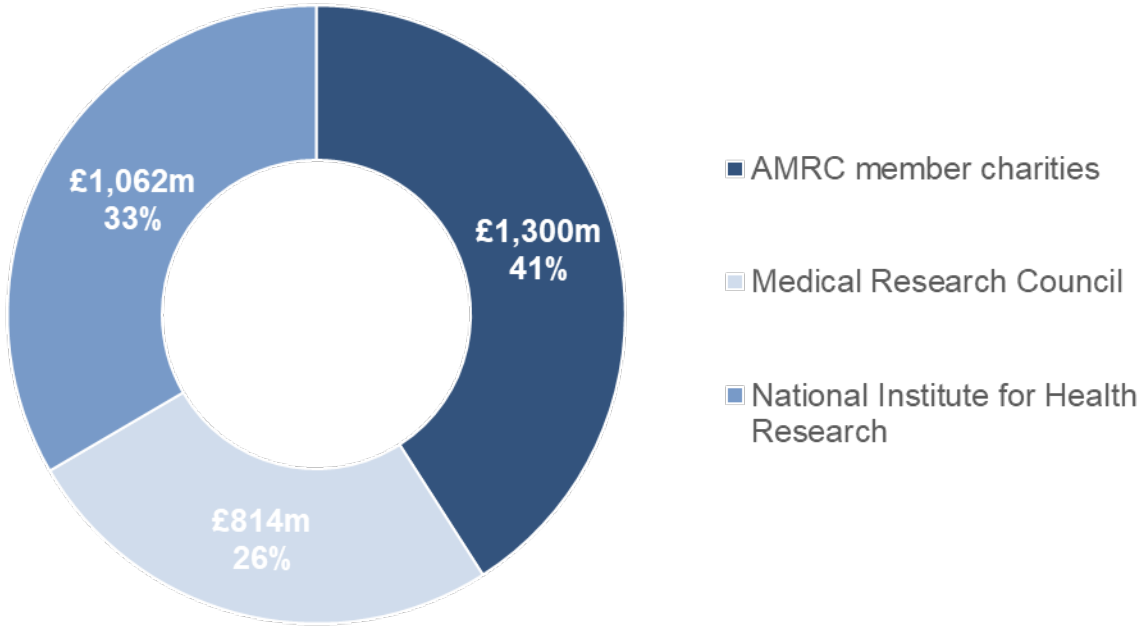
Chart 2:
Non-industry spend on research and development in the UK



- This indicator is a measure of UK medical research charity sector spend on medical and health R&D.
- In 2017/18, AMRC charities contributed 41% of non-industry spend on R&D, while the MRC and NIHR contributed 26% and 33% respectively.
- Between 2012/13 and 2017/18:
  - AMRC charities' expenditure is similar to 2012/13 levels following a fall between 2016/17 and 2017/18
  - MRC spend decreased by 6%
  - NIHR spend increased by 11%
- The relative contribution of each organisation has remained roughly constant since 2012/13.

Sources: AMRC, MRC and NIHR annual reports 2017/18
https://www.amrc.org.uk/2019-infographic
https://mrc.ukri.org/publications/browse/annual-report-and-accounts-2017-18/
https://www.nihr.ac.uk/about-us/documents/NIHR-Annual-Report-2017-18.pdf
Note: Spend by health departments in Scotland, Wales and Northern Ireland not illustrated

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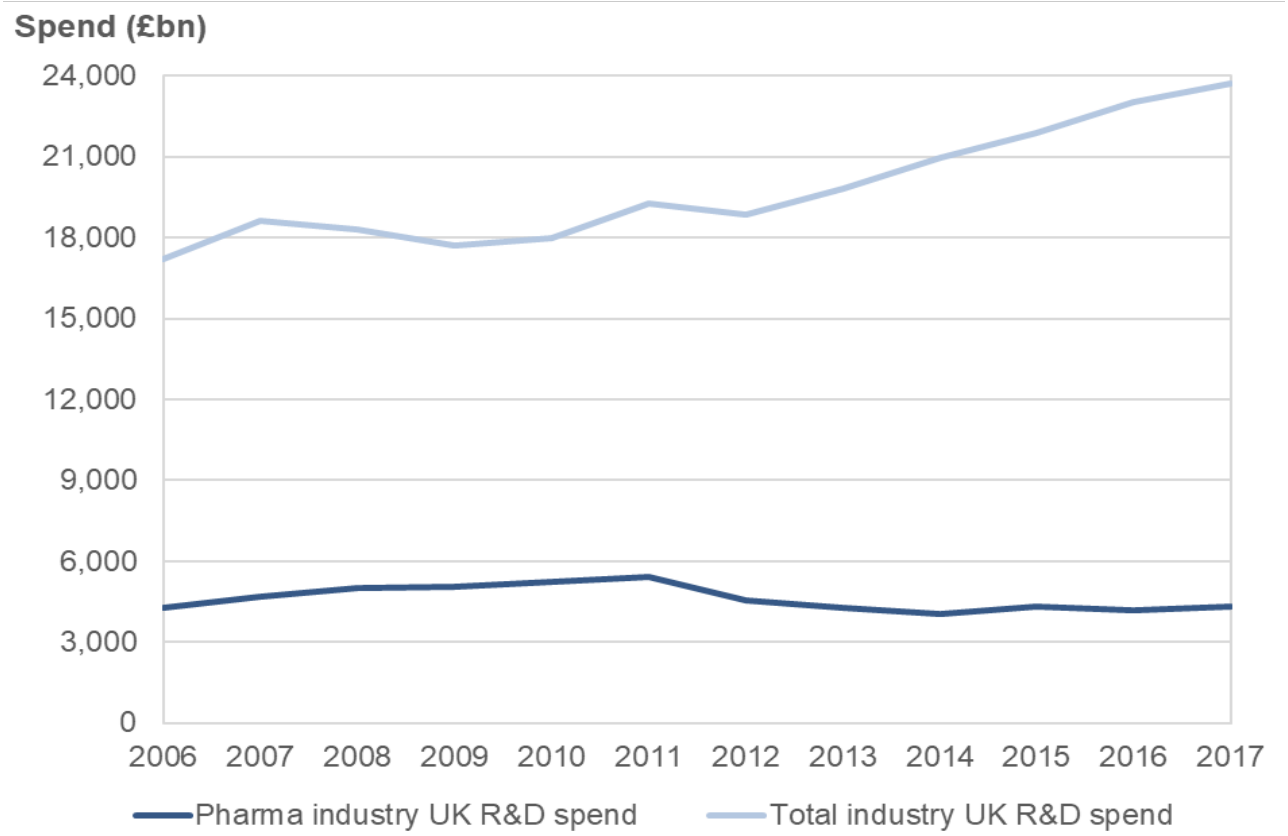
Chart 3: Pharmaceutical industry spend on research and development in the UK



- Pharmaceutical industry UK spend on R&D in 2017 was £4.3bn.
- Pharmaceutical industry R&D spend represented around a fifth of total industry R&D spend in the UK.
- Between 2006 and 2011, pharmaceutical industry UK R&D spend grew steadily to a peak of £5.4bn in 2011, followed by a decline to £4.0bn in 2014. Spend grew by 7% in 2015 and is back to similar levels in 2017.
- Pharmaceuticals' share of total industry R&D spend in the UK increased from 25% to 29% between 2006 and 2010. Pharmaceuticals' share decreased from 29% to 18% between 2010 and 2017 as a decline in pharma spend (by 17%) coincided with a substantial increase in total industry spend (by 32%).

Source: UK Business Expenditure on Research and Development (BERD) 2017 survey, Office for National Statistics (ONS)
https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/datasets/ukbusinessenterpriseresearchanddevelopment

Notes: Data are not available for medical technology industry spend

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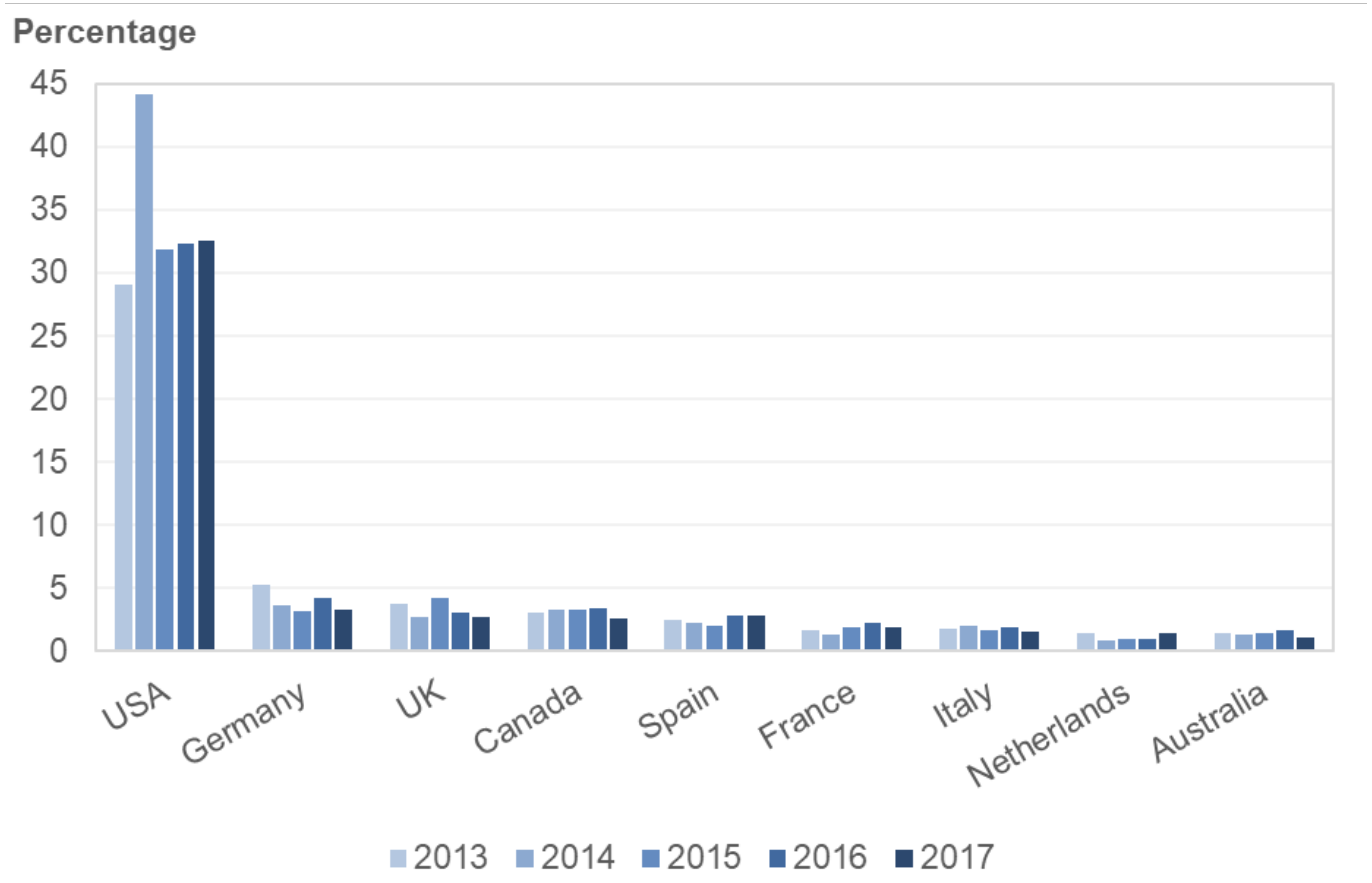
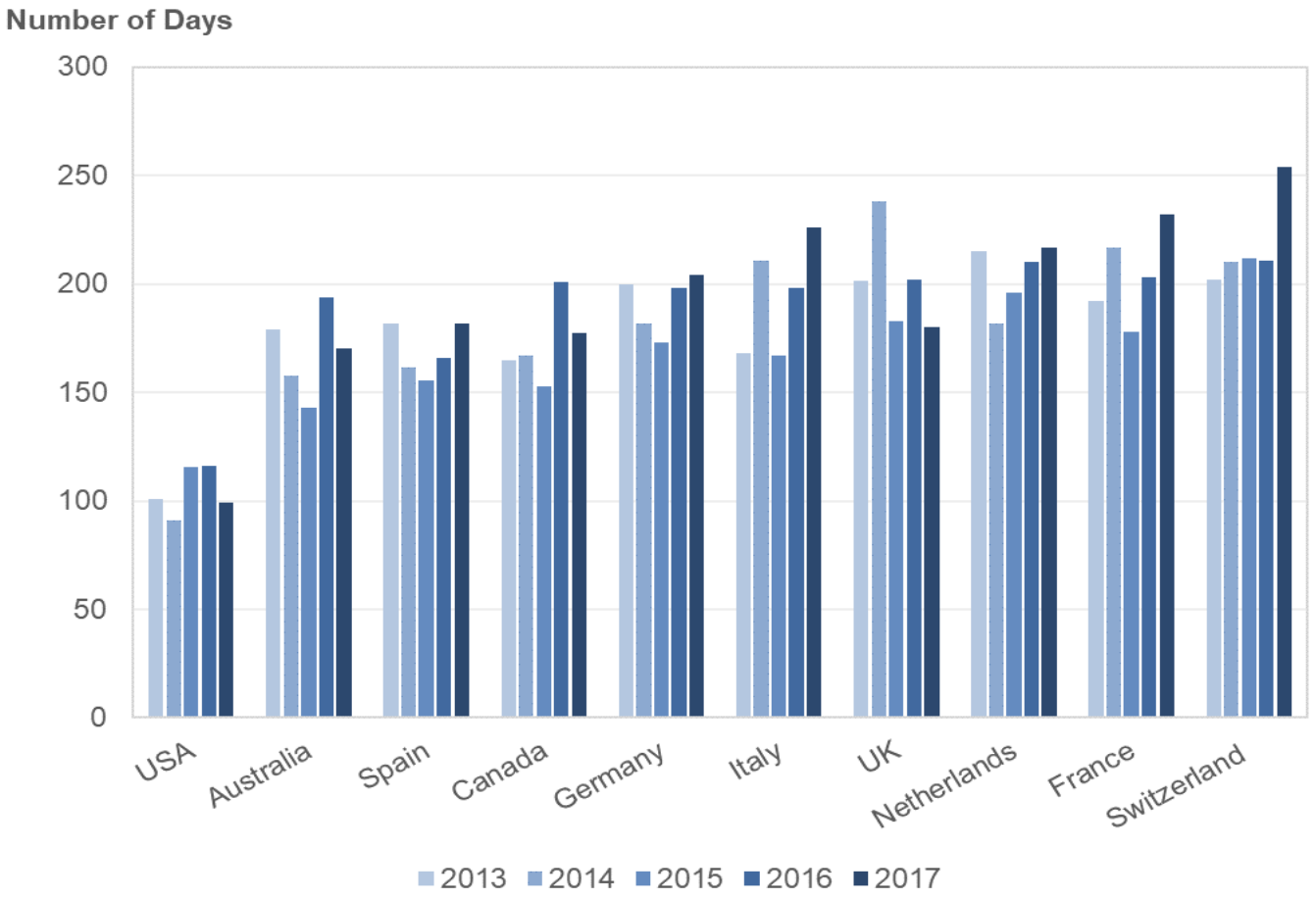
Chart 4:
Share of patients recruited to global studies (all trial phases)



- The UK's share of patients recruited to global studies in 2017 was just under 3%, falling from a peak of just over 4% in 2015.
- The UK ranked fourth among comparator countries, behind the USA, Germany and Spain.
- The USA consistently outstrips other comparator countries with a share of around 33% in 2017.
- The number of UK clinical trials of investigational medicinal products decreased from 1,000 in 2017 to 955 in 2018. The number of first-in-human trials also decreased slightly from 105 in 2017 to 85 in 2018.
- From the NIHR, the number of participants recruited to commercial contract studies almost doubled from 25,760 in 2013/14 to 50,112 in 2017/18, through the support of the NIHR Clinical Research Network.

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

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



- In 2017, the average time from core package being received to the first patient being enrolled in the UK was 180 days.
- This was a decrease of 22 days from 2016 and the shortest average time in the past six years.
- The UK ranked fourth among comparator countries.
- The USA continued to be the quickest to enrol patients with an average time of 99 days in 2017, and a six year average of 104 days.
- Data from the National Institute for Health Research (NIHR) shows that 74% of commercial contract studies in 2017/18 were delivered to time and target by the NIHR Clinical Research Network, maintaining the previous year's progress.
- In 2017/18 the NIHR Clinical Research Network supported recruitment of 24 global and 5 European-first patients into studies across a range of therapy areas.

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.

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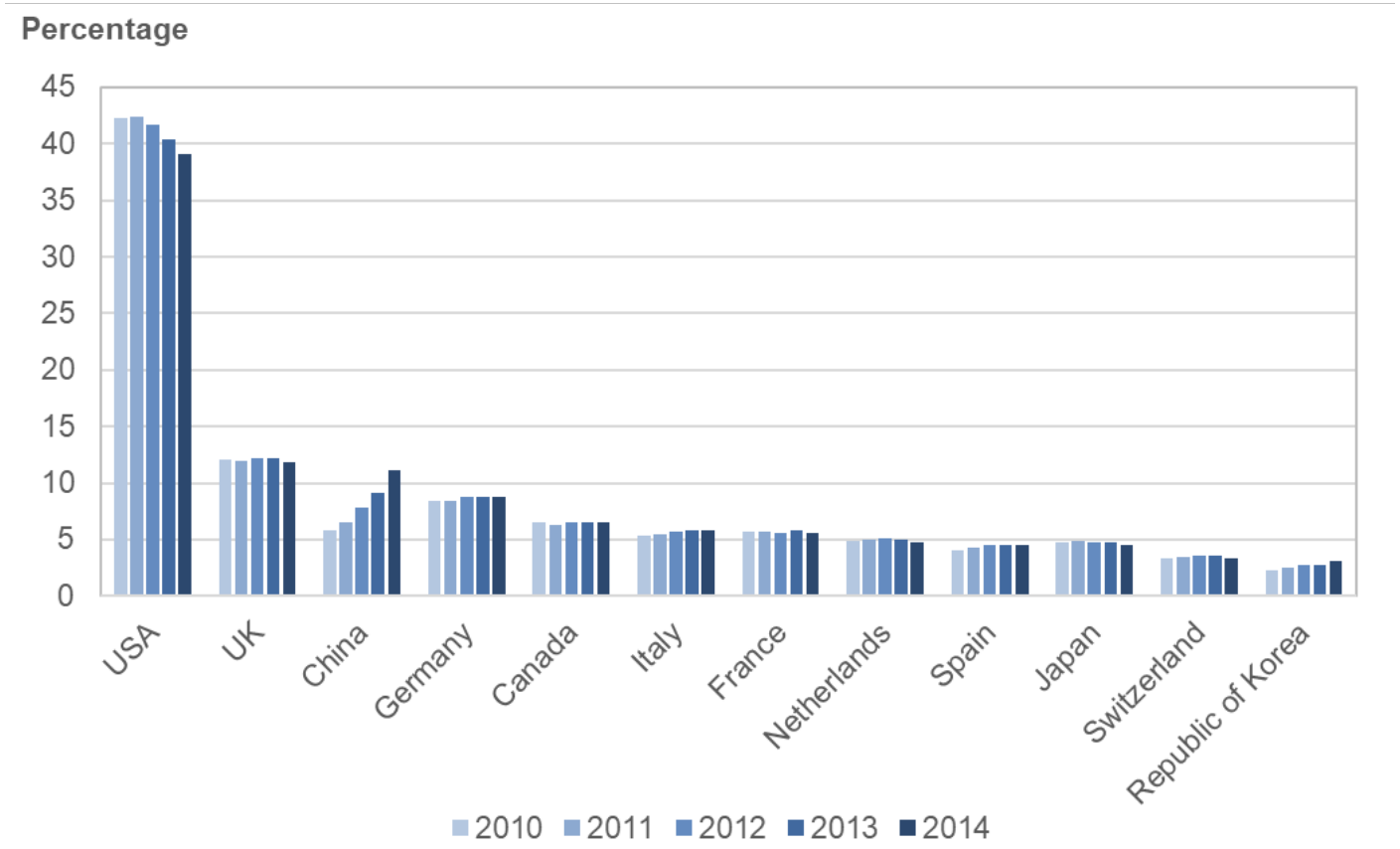
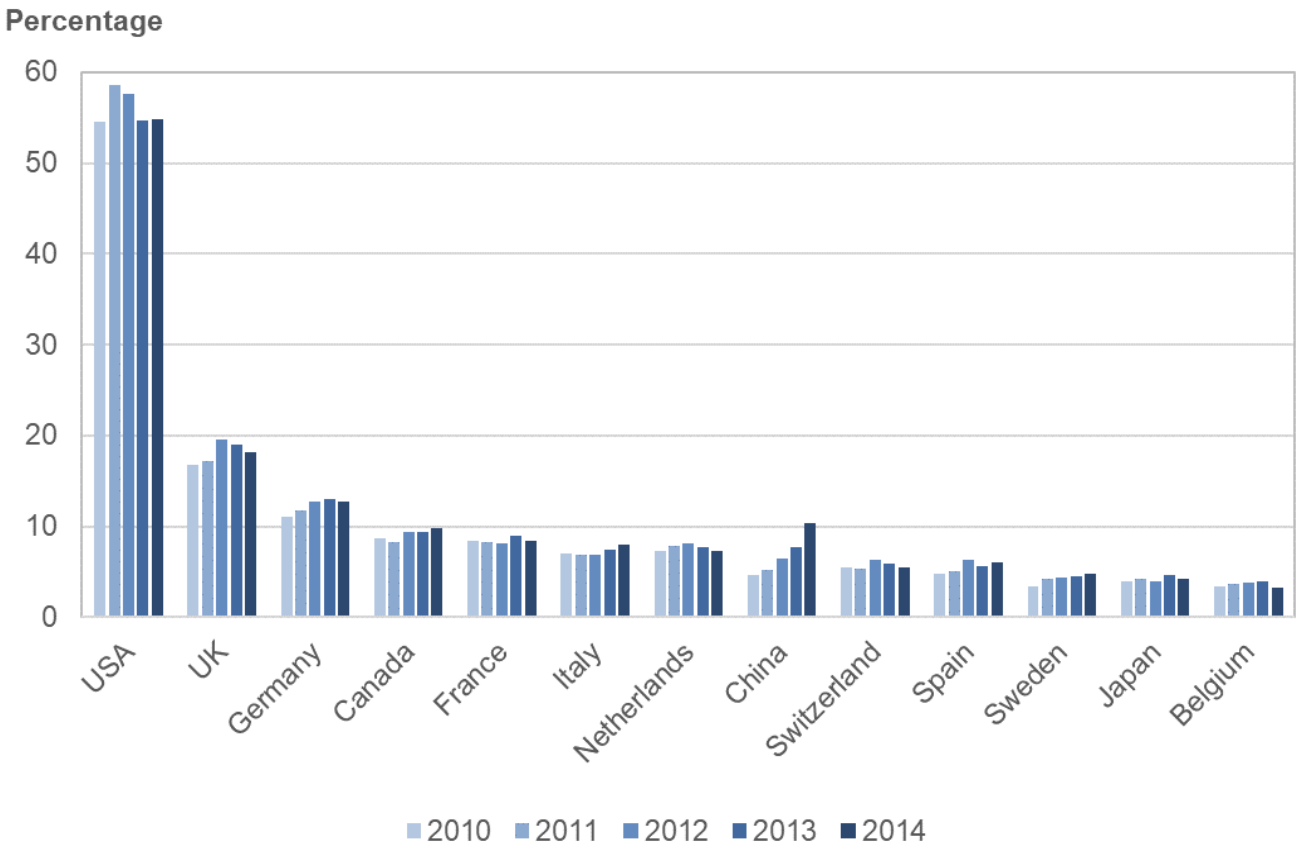
Chart 6A: Share of life sciences academic citations



- Data for this indicator are updated biennially, so no update is available in 2019.
- 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 ranked first;
  - 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, citations will be recorded for both countries.

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



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

- Data for this indicator are updated biennially and so no update is available in 2019.
- Share of top 1% of academic citations is an indicator of the quality of research.
- 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' share remained steady from 2005 to 2014 with the exception of:
  - USA, whose share declined from 62% to 55% but remained ranked first;
  - 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, citations will be recorded for both countries.

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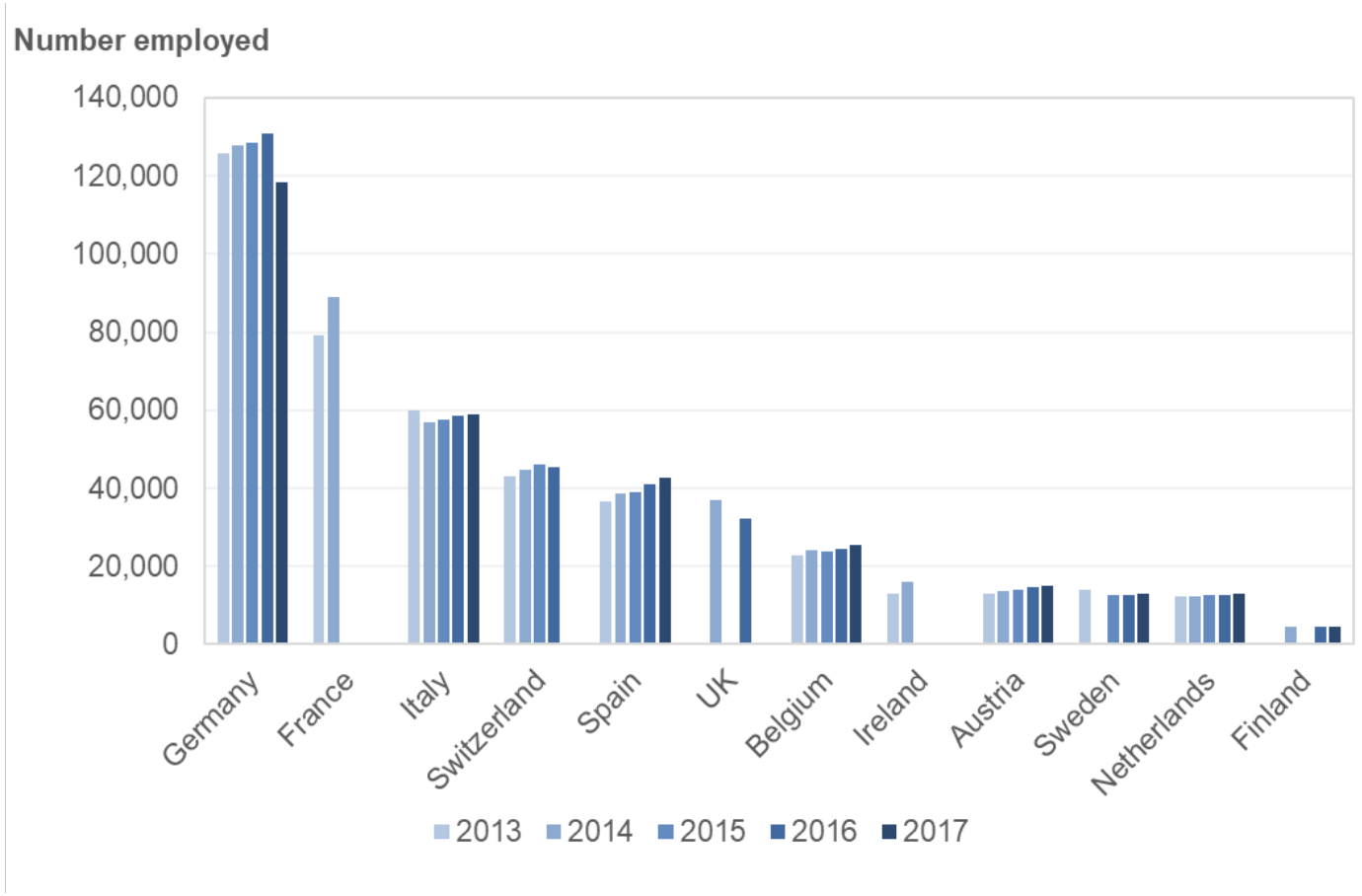
Growth and Infrastructure

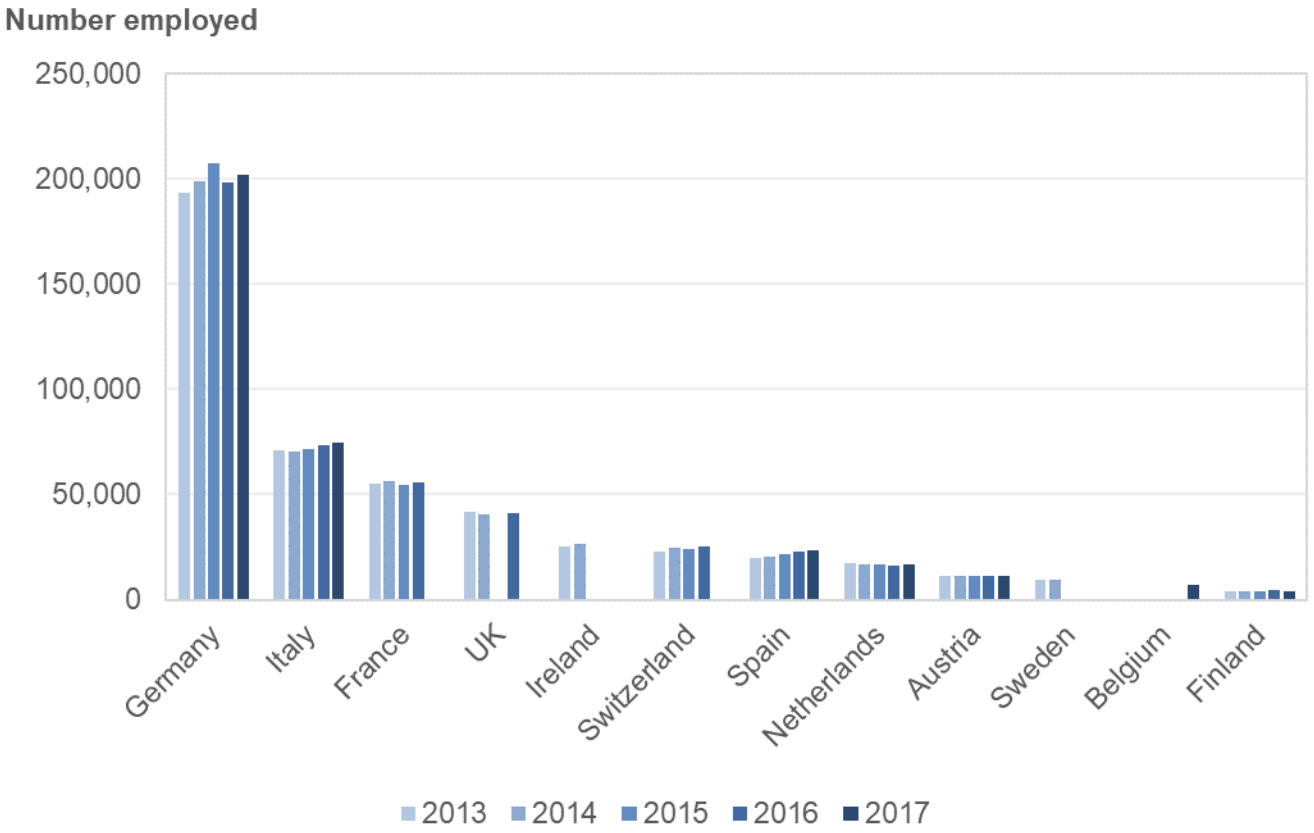
Chart 7A:
Number of people employed in manufacture of basic pharmaceuticals and pharmaceutical products



- Eurostat data are not available for all years for the UK and some comparator countries. Comparisons are made against 2016 data, the latest available year for the UK
- Employment in pharmaceutical manufacturing in the UK was 32,200 people in 2016. This is an decrease of almost 5,000 from 2014.
- In 2016, the UK ranked fifth for pharmaceutical employment compared to comparator countries with data available. Rankings may change as data becomes available for all comparator countries.
- Germany consistently had the highest employment among selected comparator countries throughout 2012 to 2016.
- OLS's Bioscience and Health Technology Sector Statistics publication provides a more complete and up-to-date picture of trends in UK life science employment.

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

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



- Eurostat data are not available for all years for the UK and some comparator countries. Comparisons are made against 2016 data, the latest available year for the UK.
- Employment in medical technology manufacturing in the UK was 41,300 people in 2016. Employment has remained steady since 2013, following a drop of 4,500 between 2012 and 2013.
- In 2016, the UK ranked fourth for med tech employment out of comparator countries with data available. Rankings may change as data becomes available for all comparator countries.
- Germany consistently had the highest employment among selected comparator countries throughout 2013 to 2017.
- These data allow like-for-like international comparisons but are known to be underestimates and do not capture the full breadth of medical technology.
- OLS's Bioscience and Health Technology Sector Statistics publication provides a more complete and up-to-date picture of trends in UK life science employment.

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
Notes: Med Tech chart is compiled from figures for 266 (Manufacture of irradiation, electromedical and electrotherapeutic equipment) + 325 (Manufacture of medical and dental instruments and supplies)

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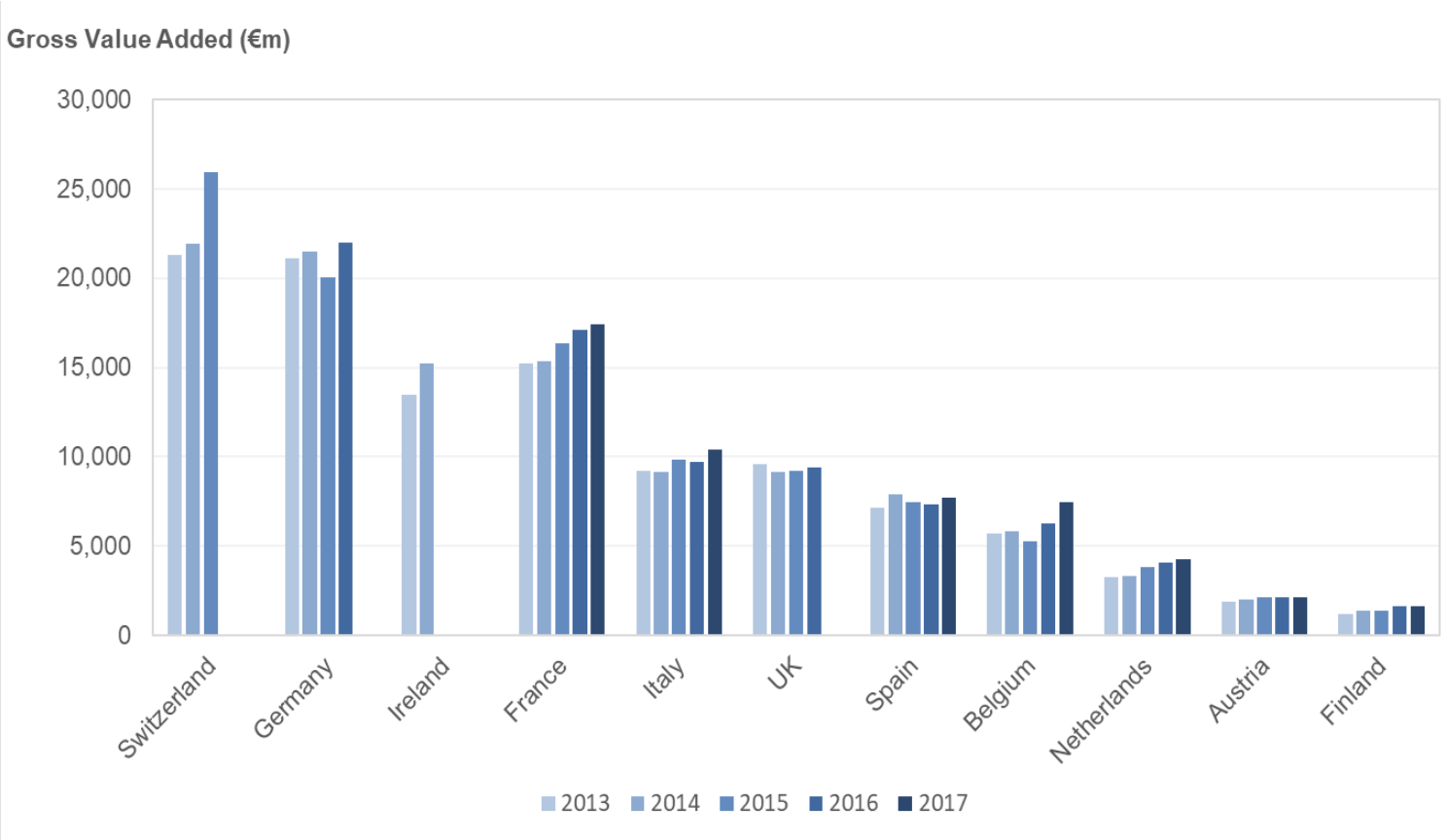
Chart 8:
Gross Value Added for pharmaceutical manufacturing



- Eurostat data are not available for all years for the UK and some comparator countries. Comparisons are made against 2016 data, the latest available year for the UK
- Gross Valued Added (GVA) measures the contribution to the economy of an industry. It is calculated as either outputs minus inputs, or revenue (turnover) minus costs.
- In the UK, the GVA for pharmaceutical manufacturing increased between 2015 and 2016 to £9.4bn.
- In 2016, UK GVA ranked fourth among comparator countries with data available. Rankings may change as data becomes available for all comparator countries.
- Available data suggest Switzerland and Germany are consistently the most productive pharmaceutical manufacturing sectors.

Source: Eurostat - Data Explorer National Accounts aggregates by industry http://appsso.eurostat.ec.europa.eu/nui/show.do
Notes: Category used is "Manufacture of basic pharmaceuticals and pharmaceutical products". Data are in chain linked volumes (2005)

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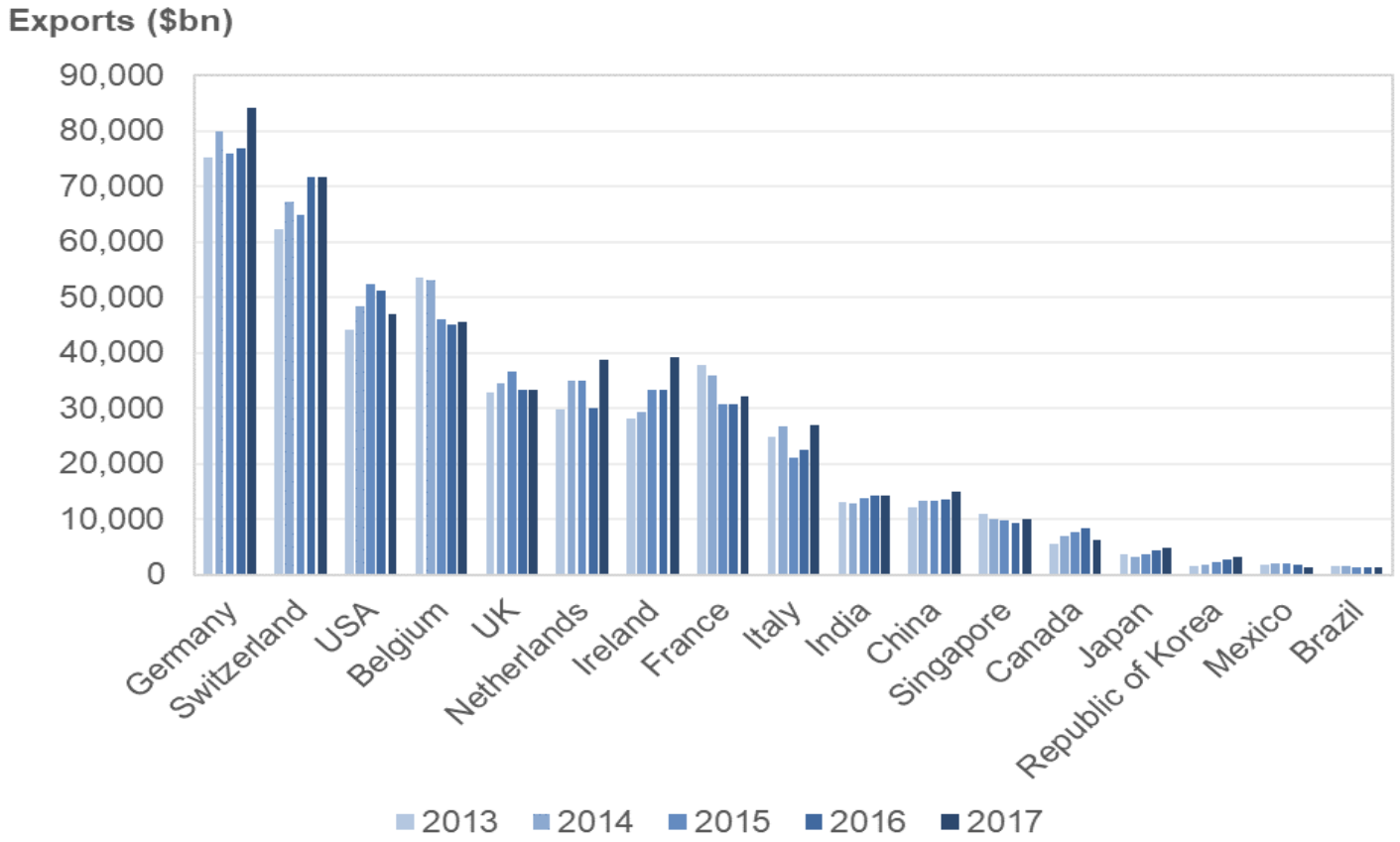
Chart 9A: Global exports of pharmaceutical products



- UK exports of pharmaceutical products had a value of $33.3bn in 2017.
- This is an 9% fall from a peak of $36.4bn in 2012, after a steady rise from $29.1bn in 2007.
- In 2017, the UK ranked seventh. Germany has consistently shown the highest value pharmaceutical exports since 2007, with Belgium dropping into fourth behind Switzerland and the USA from 2015.
- Up-to-date UK data, available from ONS, shows a 9% fall in pharmaceutical exports between 2017 and 2018.

Source: UNCTAD STAT Data Center
http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx
Notes: Categories used from UNCTAD are “541 Medicinal and pharmaceutical products”, “542 Medicaments including veterinary medicament”. Data are in current prices.

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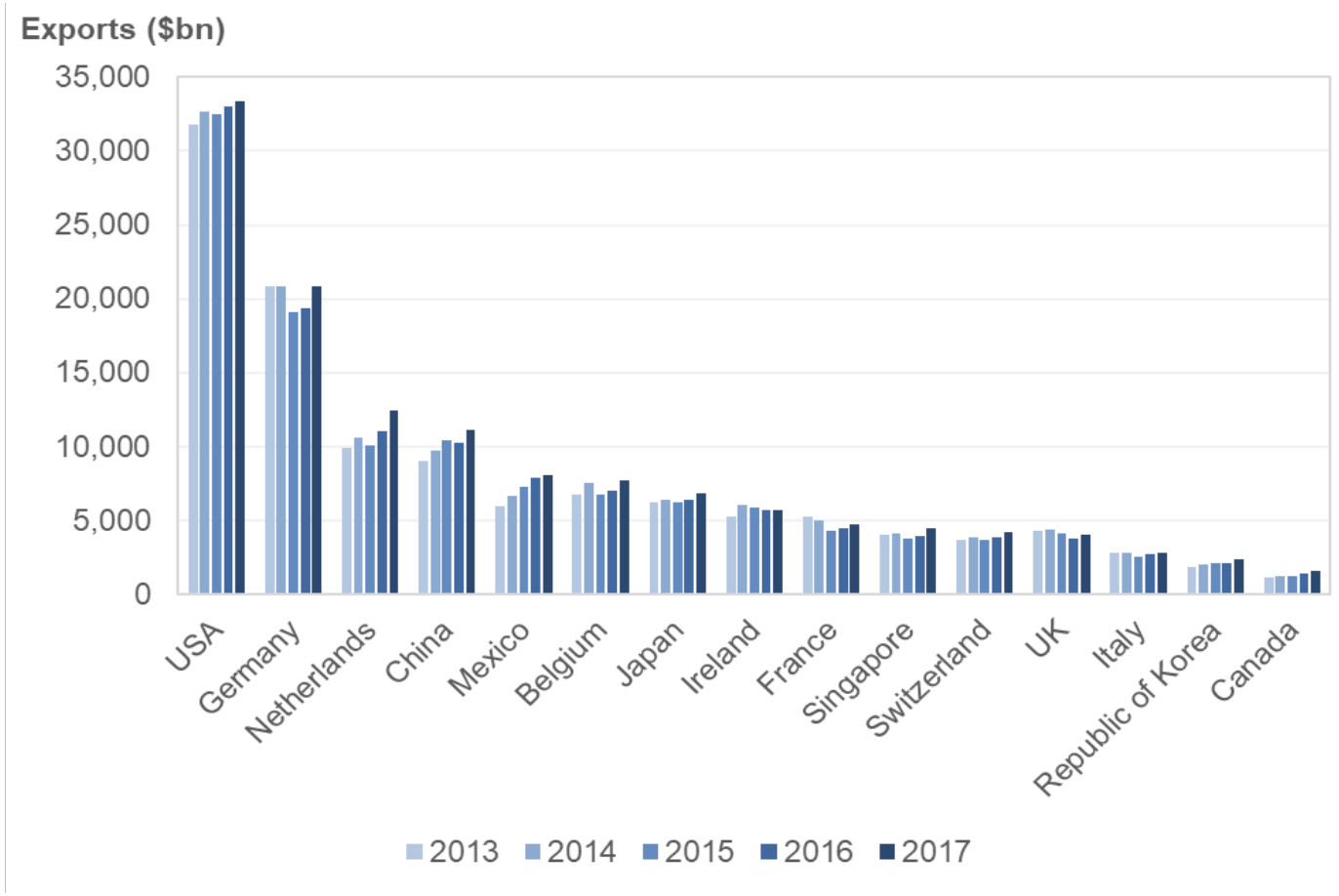
Chart 9B: Global exports of medical technology products



- UK exports of medical technology products had a value of $4.0bn in 2017.
- This is an increase (by 5%) since 2016, after a steady rise from $3.5bn in 2007.
- In 2017, the UK ranked 12th out of the 18 comparator countries in value of medical technology exports.
- Up-to-date UK data, available from ONS, shows a 5% rise in medical technology exports between 2017 and 2018.

Source: UNCTAD STAT Data Center
http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx
Notes: Categories used from UNCTAD STAT are “774 Electro-diagnostic apparatus for medical science etc.” and “872 Instruments and appliances, n.e.s, for medical, etc.” Data are in current prices.

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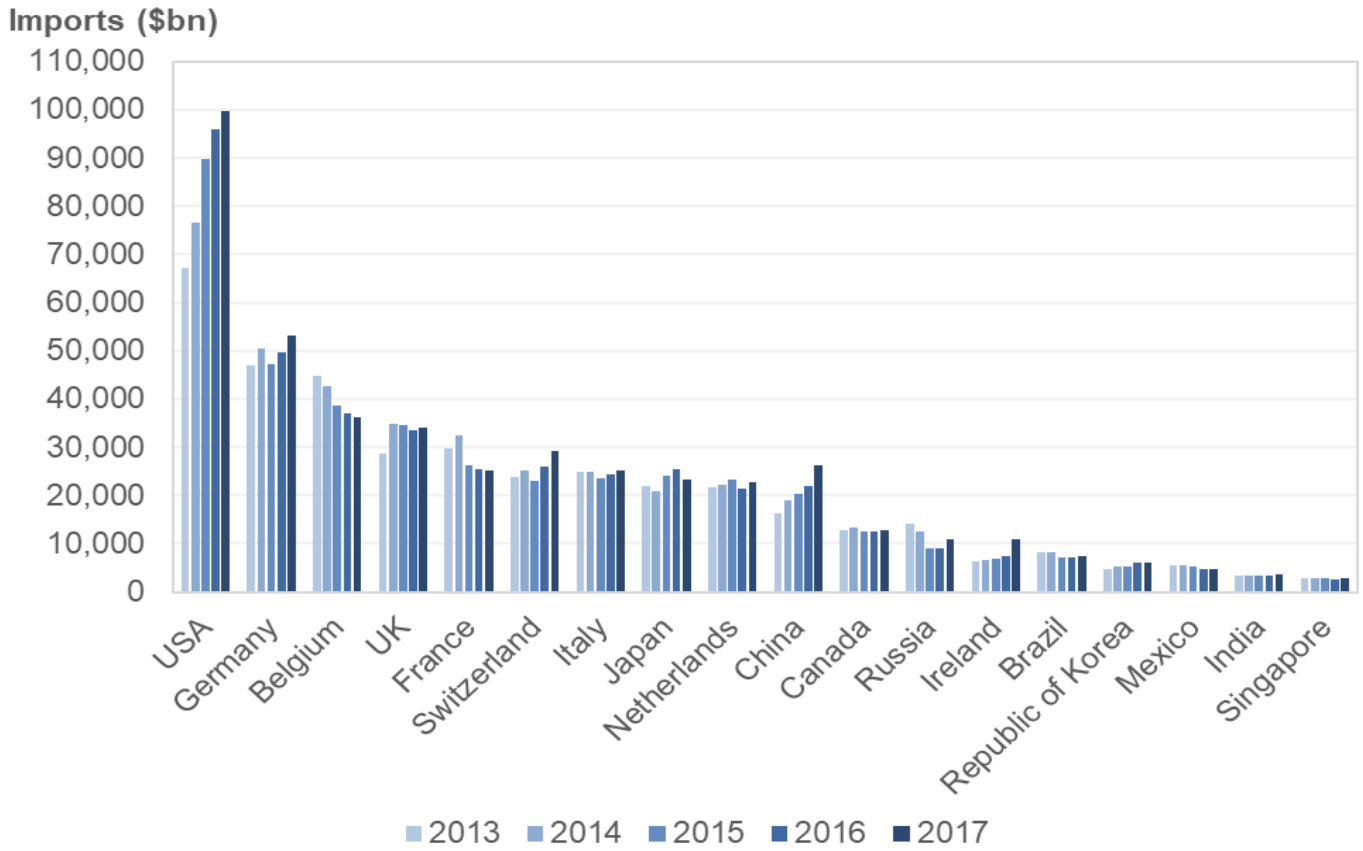
Chart 10A: Global imports of pharmaceutical products



- UK imports of pharmaceutical products had a value of $34.0bn in 2017, slightly more than the value of UK exports at $33.3bn.
- In 2017, the UK had the fourth highest pharmaceutical imports, behind the USA, Germany and Belgium.
- The USA saw an increase of over $40bn in pharmaceutical imports between 2007 and 2017. China and Japan saw increases of $22bn and $14bn respectively during the same period, to over $20bn in 2017.

Source: UNCTAD STAT Data Center
http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx
Notes: Categories used from UNCTAD STAT are “774 Electro-diagnostic apparatus for medical science etc.” and “872 Instruments and appliances, n.e.s, for medical, etc.” Data are in current prices.

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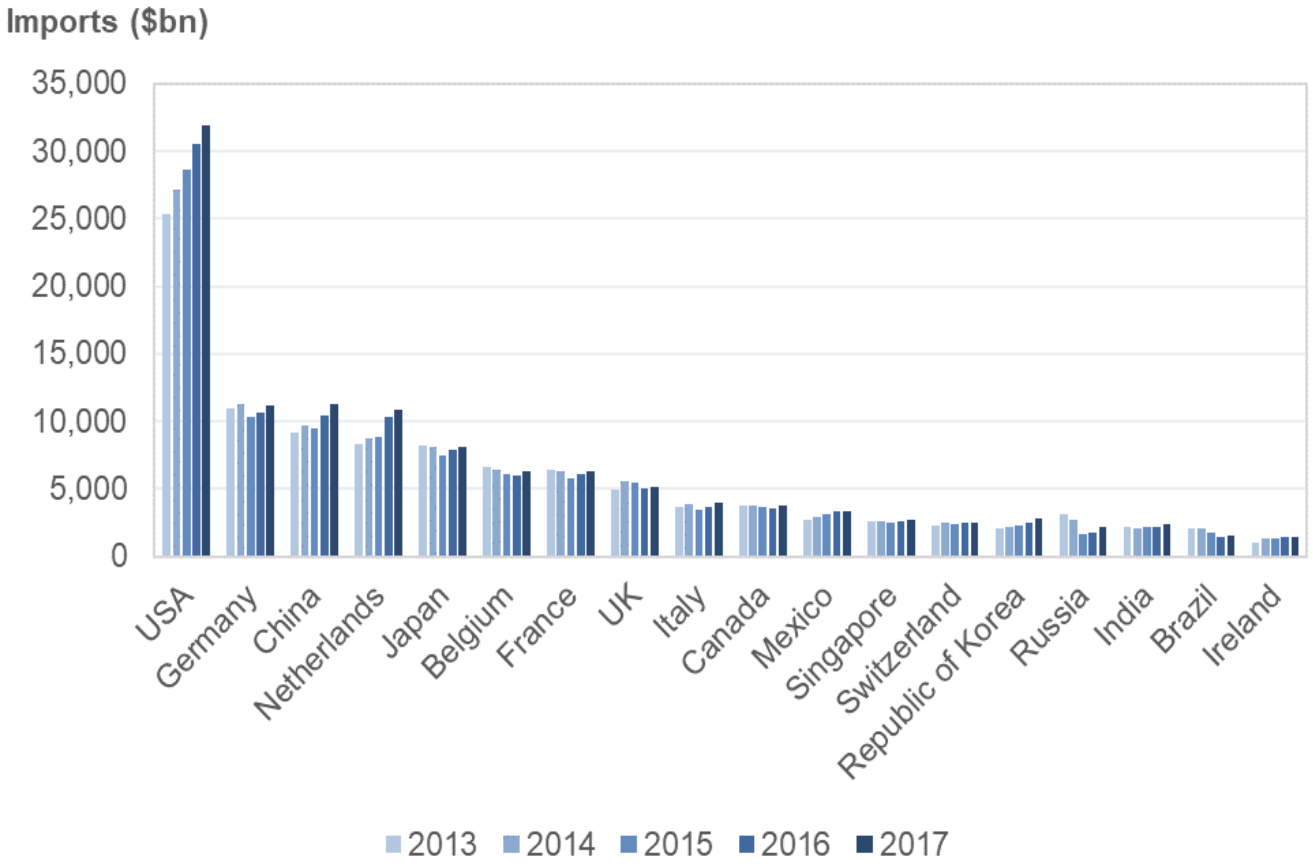
Chart 10B: Global imports of medical technology products



- The value of UK imports of medical technology products was $5.1bn in 2017.
- In 2017, the UK was eighth among the 18 selected comparator countries.
- The USA has consistently had the highest value of medical technology imports with a 2017 level nearly three times that of the second highest comparator country ($31.9bn compared to China's $11.3bn).
- The USA saw an increase of over $12bn in medical technology imports between 2007 and 2017. Other countries that experienced big increases during that period include China, the Netherlands, Germany, Japan and Belgium.

Source: UNCTAD STAT Data Center
http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en
Notes: Categories used from UNCTAD STAT are "774 Electro-diagnostic apparatus for medical science etc." and "872 Instruments and appliances, n.e.s, for medical, etc." Data are in current prices.

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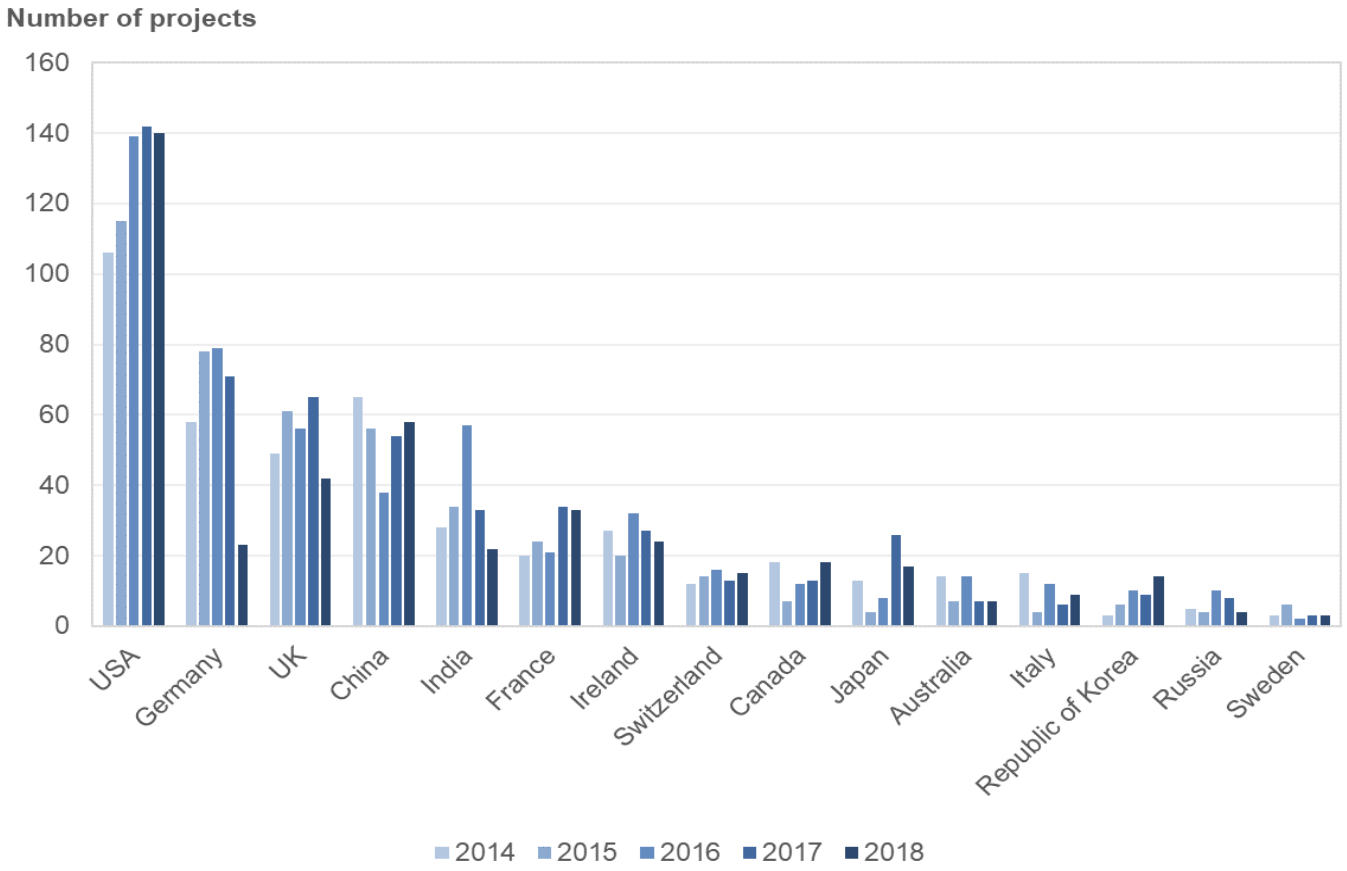
Chart 11A: Life sciences foreign direct investment projects



- There were 42 life science foreign direct investment projects in the UK in 2018, although it should be noted that there is volatility in these numbers year to year.
- In 2018, the UK fell to third for number of life sciences fDI projects among comparator countries, behind the USA and China. The UK ranks first among European comparator countries.
- The USA consistently ranked first among selected comparator countries between 2014 and 2018, with 140 projects in 2018.

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.

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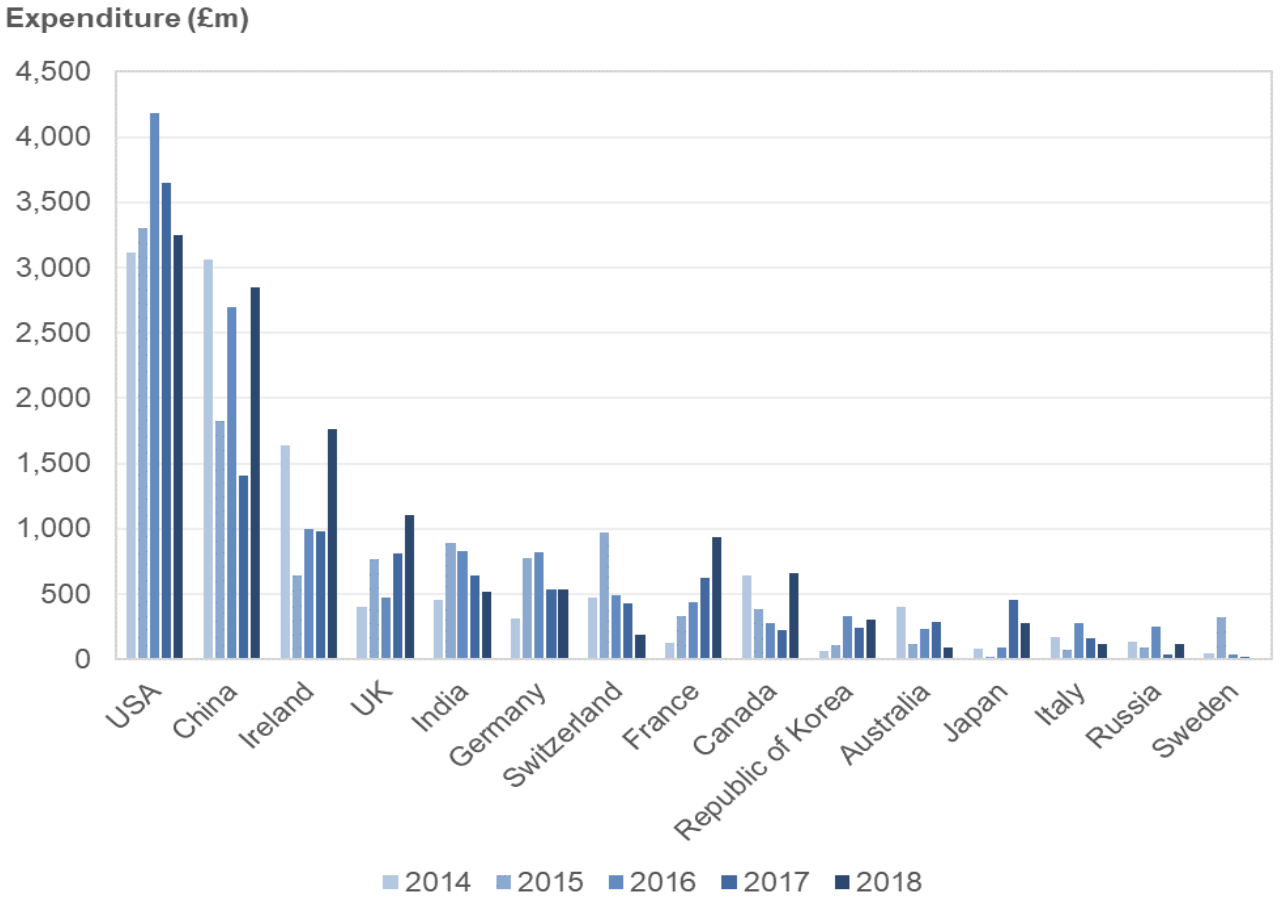
Chart 11B:
Life sciences foreign direct investment – capital expenditure



- The value of life sciences foreign direct investment capital expenditure in the UK was £1.1bn in 2018, an increase of 37% on 2017 levels and the highest expenditure seen in the past eight years.
- In 2018, the UK ranked fourth in value of fDI among comparator countries, behind the USA, China and Ireland.
- In 2018 the UK life sciences foreign direct investment capital expenditure was nearly three times the 2014 level. During the same period large proportional increases in expenditure were also seen in France, Japan and the Republic of Korea.

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.

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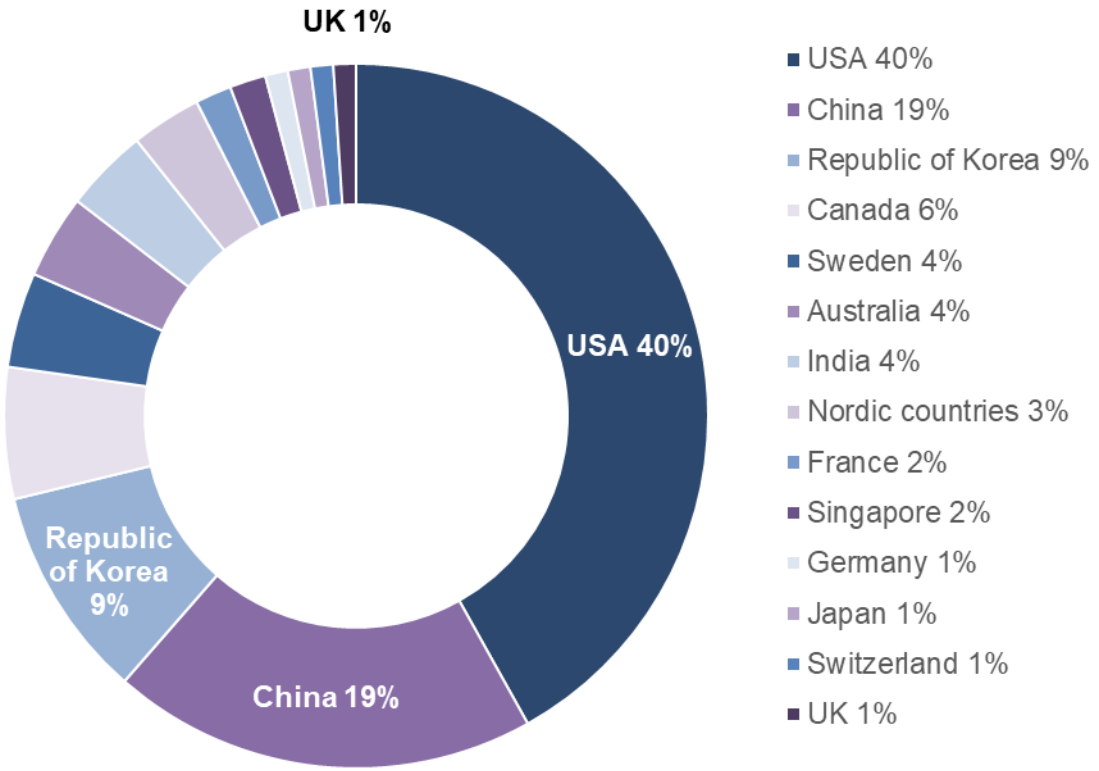
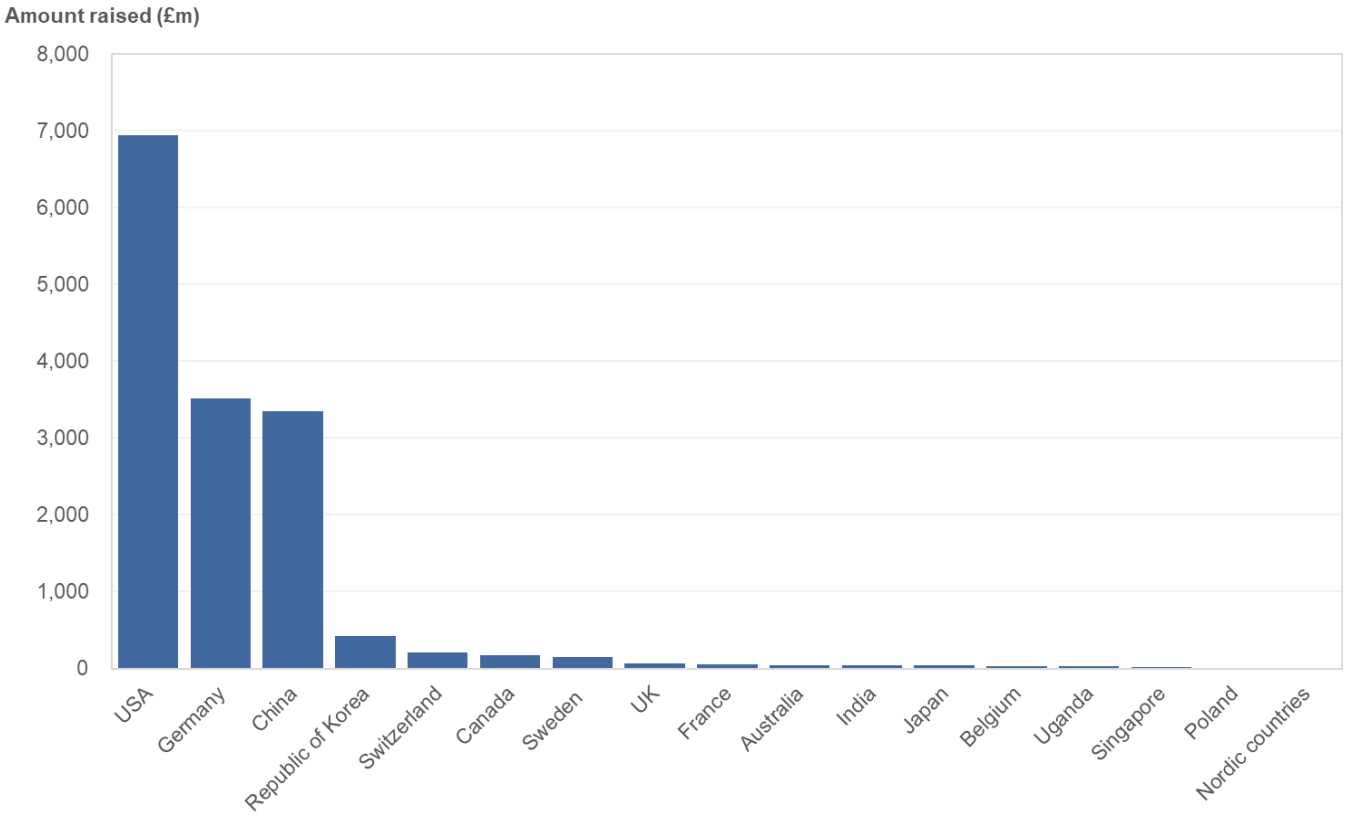
Chart 12A: Share of global life sciences Initial Public Offerings (IPOs) in 2018



- 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%.

Source: S&P Capital IQ http://www.spcapitaliq.com/
Notes: Country is the country in which the IPO was launched, not the domicile of the IPO country.
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)



- 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 of 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: 'Country' is the country in which the IPO was launched, not the domicile of the IPO. 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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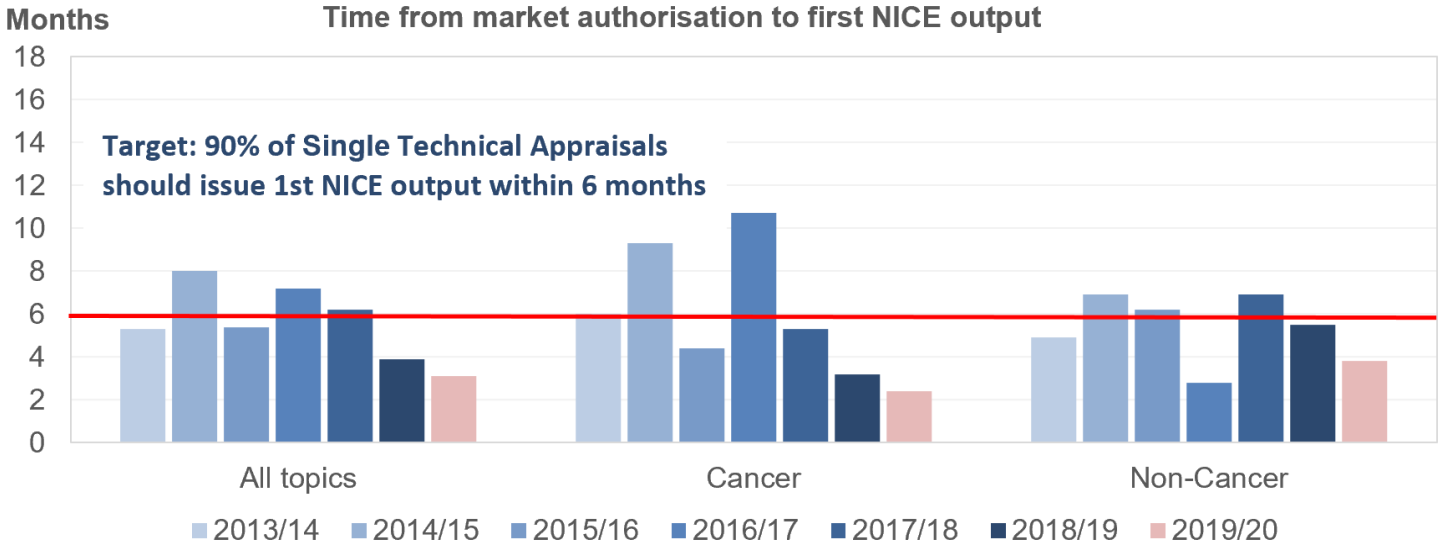
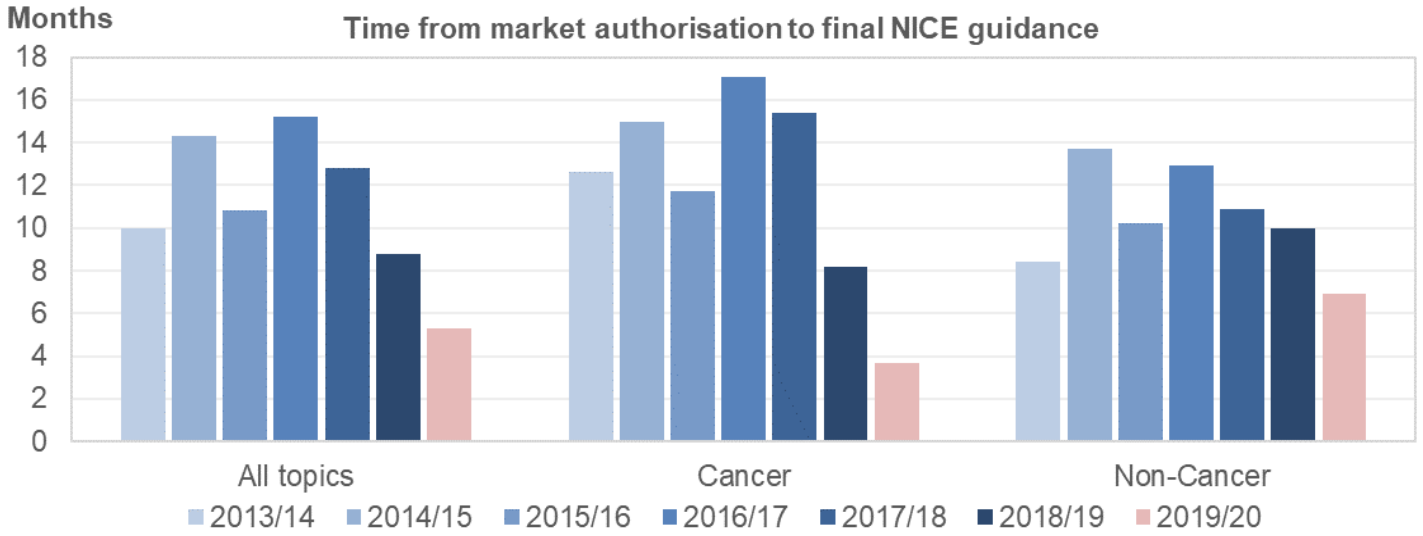
Chart 13: Speed and volume of NICE Technology Appraisals



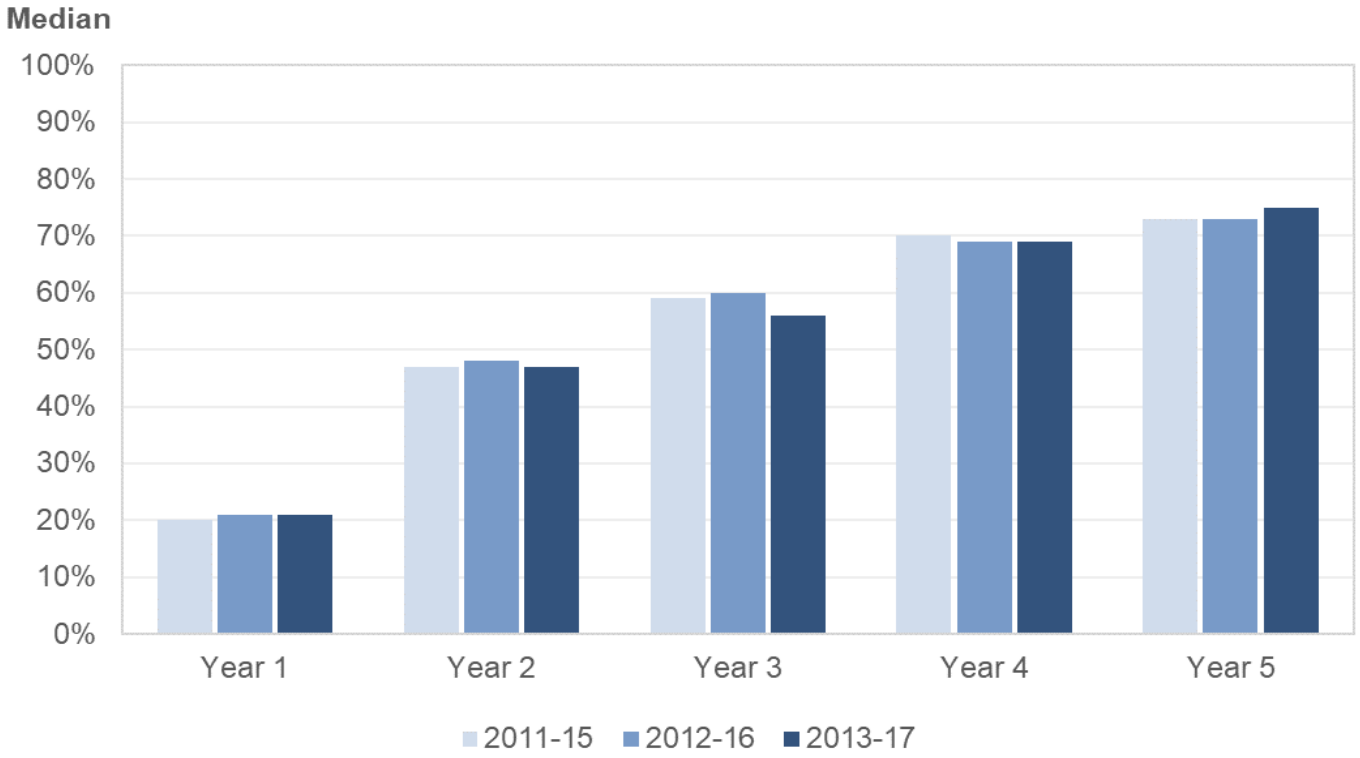


- In 2018/19, the average time from Marketing Authorisation to 1st NICE output was 3.9 months, and to final NICE guidance was 8.8 months.
- On average, 1st output is 1.4 months quicker than 5 years ago, and final guidance is 1.2 months quicker.
- Speed of appraisal output is affected by appeals, late referrals, additional committee meetings and companies negotiating timing of appraisal.
- Since NICE's creation in 2000 it has given 888 recommendations, arising from 572 Technology Appraisals.
- NICE had a positive recommendation rate of over 80% between April 2013 and March 2019 (recommended, optimised and CDF).

Recommendation categories	Total (1 April 2013 to 31 March 2019)
Recommended	162 (47%)
Optimised	103 (30%)
CDF*	25 (7%)
Only in Research	3 (1%)
Not Recommended	53 (15%)
Total	**346 (100%)**

Notes: CDF was introduced in 2016, re-appraisals of existing products have been excluded. 2019/20 data are forecasted.
Source: NICE

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

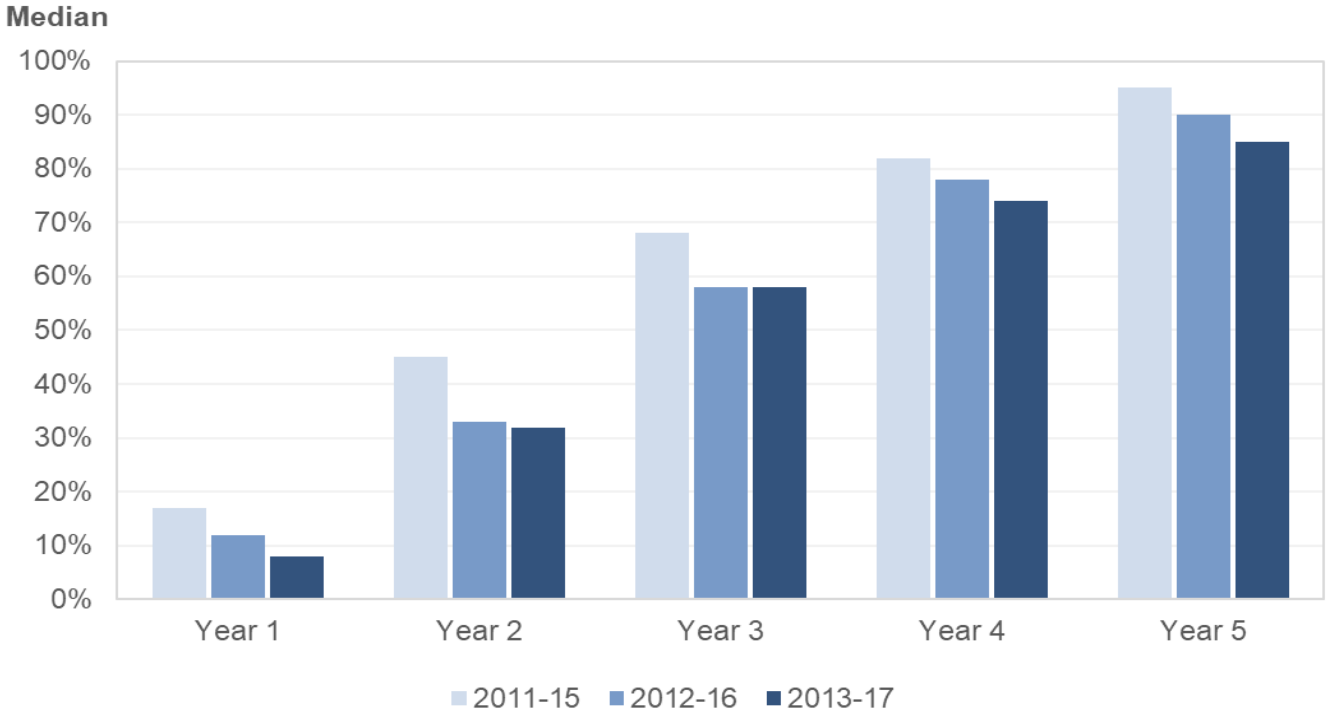


	Positive Recommendation				
	Y1	Y2	Y3	Y4	Y5
2011-2015	20%	47%	59%	70%	73%
2012-2016	21%	48%	60%	69%	73%
2013-2017	21%	47%	56%	69%	75%

- This indicator is a measure of relative uptake per capita for new medicines first marketed between 2013 and 2017 and recommended by NICE, compared to the **median** uptake of medicines launched during 2012 to 2016 and 2011 to 2015. A value of 100% means UK per capita consumption is identical to the average uptake per capita for the comparison countries.
- UK uptake of NICE-approved medicines in the first year after launch for the 2013-17 cohort was at 21% of the median uptake level of comparator countries. This rose to 75% by year 5.
- There were 86 medicines included for 2013-17, compared to 94 for 2012-16 and 77 for 2011-15. Medicines are included only if UK sales were above £1m in 2017 and on sale for 12 months in at least 4 of the 16 comparators.
- The analysis adjusts for population size, but not for need (no. of cases), standard clinical practice or total medicine spend in each country, which is likely to affect uptake.

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



	Non NICE reviewed				
	Y1	Y2	Y3	Y4	Y5
2011-2015	17%	45%	68%	82%	95%
2012-2016	12%	33%	58%	78%	90%
2013-2017	8%	32%	58%	74%	85%

- This indicator is a measure of relative uptake per capita for new medicines first marketed between 2013 and 2017 and not reviewed by NICE, compared to the **median** uptake of medicines launched during 2012 to 2016 and 2011 to 2015. A value of 100% means UK per capita consumption is identical to the average uptake per capita for the comparison countries.
- UK uptake of non-NICE reviewed medicines in the first year after launch was at 8% of the median uptake level of comparator countries. This rose to 85% by year 5.
- There were 13 medicines included for 2013-17, compared to 14 for 2012-16 and 12 for 2011-2015. Medicines are included only if UK sales were above £1m in 2017 and on sale for 12 months in at least 4 of the 16 comparators.
- The analysis adjusts for population size, but not for need (no. of cases), standard clinical practice or total medicine spend in each country, which is likely to affect uptake.

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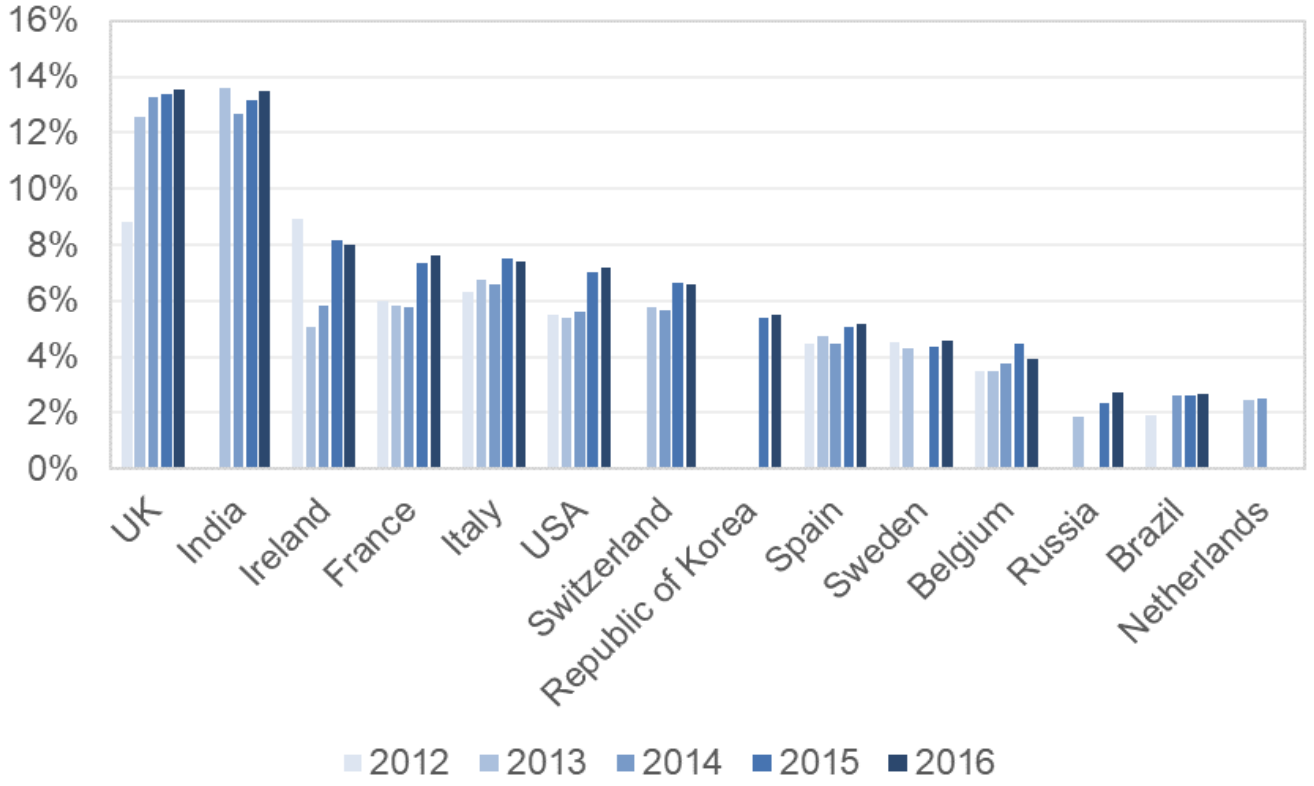
Chart 15:
Percentage of graduates from tertiary education graduation from Natural Sciences, Mathematics and Statistics programmes, both sexes (%)



- This indicator is a measure of upcoming talent and potential skills base for the life sciences. Tertiary education is an undergraduate degree or equivalent.
- The UK ranked first for the proportion of graduates from Natural Sciences, Mathematics and Statistics programmes among comparator countries, with India having only a slightly lower proportion.
- In 2016, approximately 14% of graduates were from these programmes, roughly similar to the previous three years.
- No data were available for Germany. Countries with fewer than 4% include: Belgium, Brazil, Netherlands and Russia.

Source: UNESCO, Education theme
http://data.uis.unesco.org/index.aspx?queryid=163#

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