The Lord Darzi Review of Health and Care: 10 years on

IPPR — The Progressive Policy Think Tank

CF

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Executive summary

Population health

- **The health of the UK population has generally improved since 2008** with a higher life expectancy and reduced rates of smoking and drinking. However, the proportion of obese and overweight adults remains high, at over 60%, and the proportion of overweight and obese children is increasing. Inequality in life expectancy between socio-economic classes is increasing
- Rising life expectancy and the baby boomer "bump" means there will be 30% more people over the age of 65 by 2030. As the prevalence of long-term medical conditions increases with age, the UK's aging population is placing greater burden on the NHS

Quality

- **Quality indicators for primary medical, social, and acute care have generally improved since 2008 although there is more to go for.**
- Measures of quality in primary care, indicates overall improvements in outcomes have taken place. However, in the last five years, ratings of overall experience at GPs have fallen, as has patient satisfaction with involvement in decisions about their care
- Overall quality of social care, as rated by service users, increased over past decade, although most flag a desire for more social contact.
- Quality outcomes within acute care have improved, especially in cardiology, stroke, cancer and maternity care. Patient safety within an acute setting has improved, as the proportion of patients receiving harm-free care has increased from 92% in 2012 to 94% in 2017
- Mental health: recovery rates for adults with anxiety disorders and depression (IAPT recovery rates) have been on target since Q4 16/17

Access

- **Access to services has deteriorated in social care, primary medical care, emergency and elective acute care since 2008**
- The number of people accessing publicly funded social care dropped by 5% a year from 2008 to 2016 as eligibility thresholds increased
- The number of patients seen by a nurse or GP the same or following working day has fallen by 3% since 2012
- Urgent and emergency care access has hit crisis levels: since 2008 5x more patients waiting more than 4 hours, 8x increase in trolley waits, and 3% rise in occupancy levels (steadily above the 85% target). Planned care access has similarly seen a significant deterioration
- Completed Early Intervention in Psychosis pathways has declined since Mar 2017, while the share of 12+ weeks waiting times increased

Funding

- £61bn of extra funding for health and social care is required by 29/30, assuming our long run funding growth for health continues.
- In this optimistic funding scenario, £27bn of health productivity gains must also achieved by 29/30, which is approximately one and a half times historic level of gains

Contents

Population health

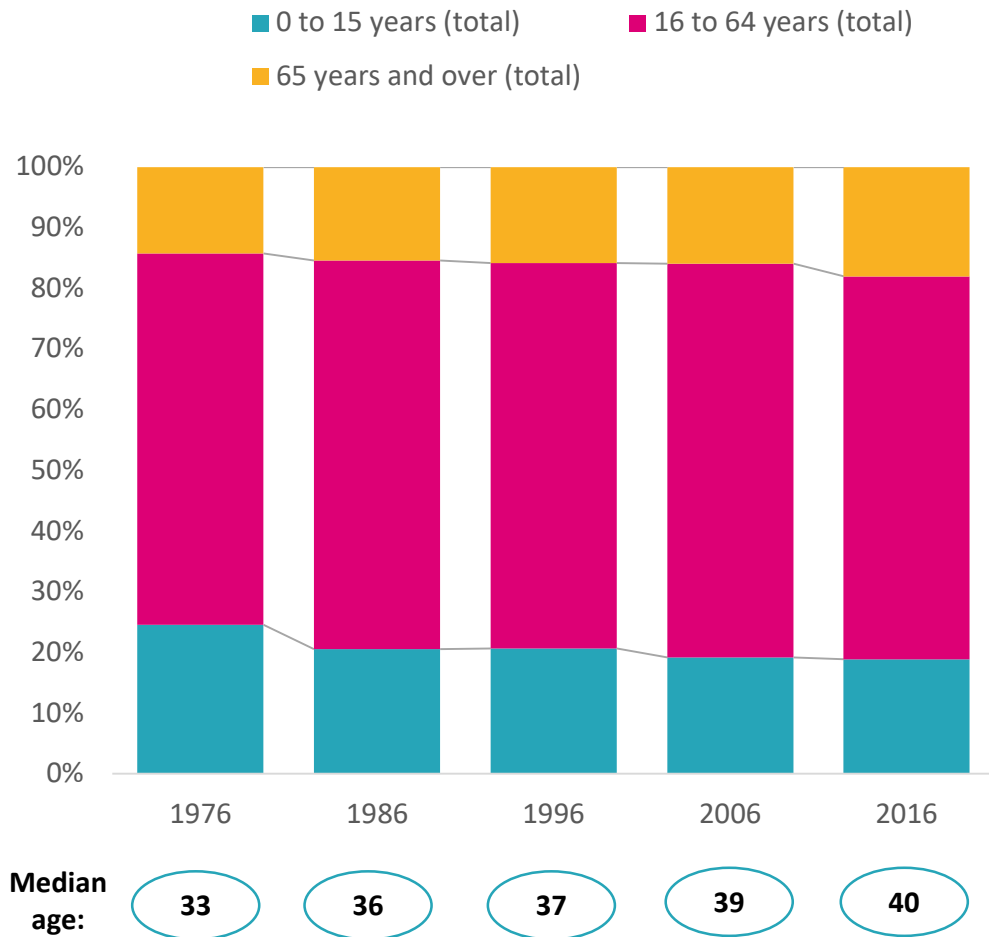**Quality**

Access

Funding

Population Health

Executive Summary: Population Health

Population health measures have generally improved since 2008, although child obesity rates and inequality of outcomes within UK has worsened:
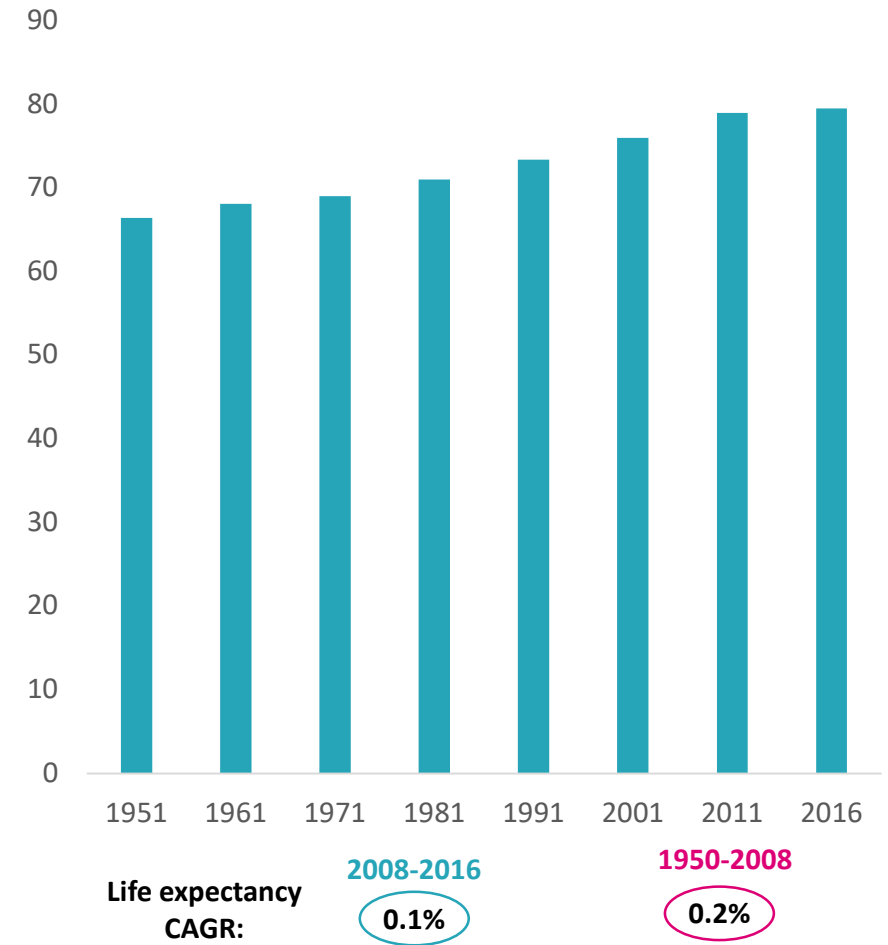
- While UK life expectancy has continued to rise since 2008, the rate of growth has slowed

- Compared to international peers, UK life expectancy has increased at a higher rate than in the Netherlands, Denmark and the US, but at a lower rate than in Italy, Spain, France, and Germany.

- Within the UK, there is significant variation in life expectancy:

    - Regional variation - life expectancy in the South is around 2.5 years higher than in the North

    - Socio-economic variation – the gap in life expectancy between most deprived 20% of Local Authorities and rest of England reduced from 2004 to 2012 but has widened from 2013-2015, for both males and females. A significant gap exists between socio-economic classes, and this gap is increasing, with 'Higher Management and Professionals' expected to live 4-6 years longer than those within the 'Routine' class.

- The interaction of rising life expectancy and the baby boomer "bump" means there will be 30% more people over the age of 65 by 2030. Additionally, the prevalence of long-term medical conditions increases with age, and as a result, the UK's aging population is placing greater burden on the health system.

- Since 2008, alcohol and smoking consumption rates have declined, falling by 1.6% and 2.0% a year, respectively. Drug misuse has also declined by 1.9% since 2008.

- The proportion of adults who are overweight or obese has plateaued at over 60% of the population; however, obesity rates of children aged 10 has risen by 5% a year for the past decade.

- Overall, sexual health has improved, with fewer new infections diagnosed, however, there has been a marked increase in certain infections, e.g. a 228% increase in the number of cases of gonorrhoea.

- Within mental health, the suicide rate has seen a decline, however, the prevalence of severe mental illness has increased, and the number of detentions under the mental health act has risen

In the UK, life expectancy has been rising since 1950 but since 2008, the rate of growth has slowed; at the same time, median age has increased

Age distribution, UK
From 1976 to 2016

- ■ 0 to 15 years (total)
- ■ 16 to 64 years (total)
- ■ 65 years and over (total)

Median age:

1976	1986	1996	2006	2016
33	36	37	39	40

Life expectancy at birth, years (England and Wales, males)
From 1951 to 2016

Life expectancy CAGR:

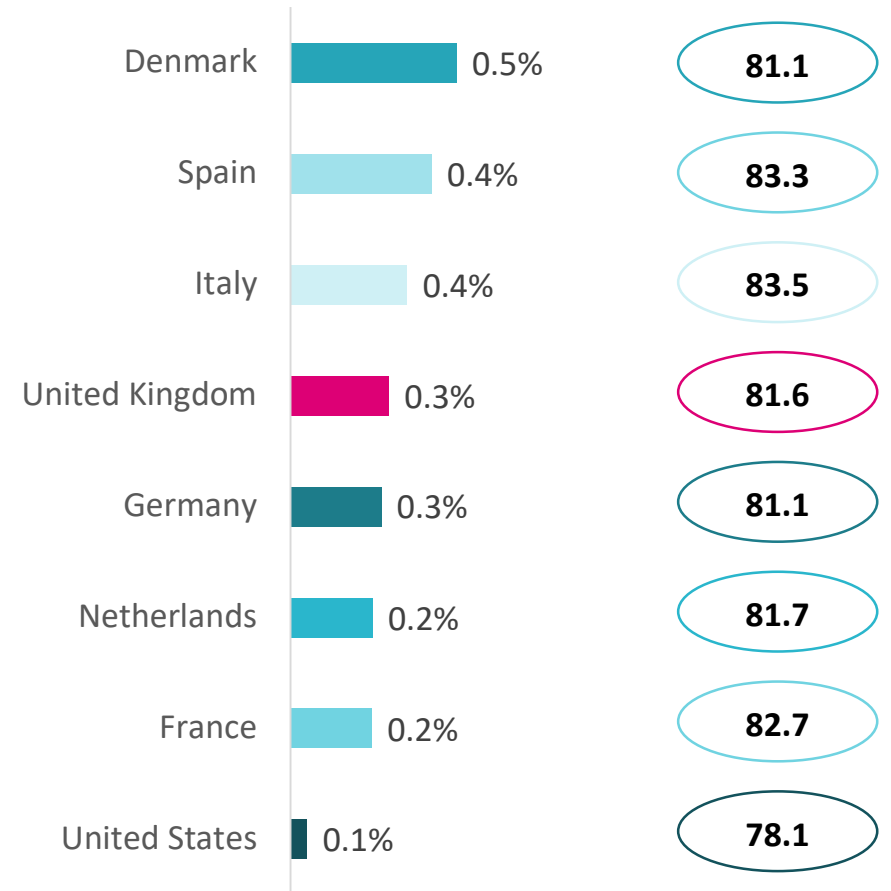|	2008-2016	1950-2008
	0.1%	0.2%

SOURCE: ONS; CF analysis 2018

Life expectancy in the UK has increased at a higher rate than in the Netherlands, Denmark and the US, but at a lower rate than in Italy, Spain, France and Germany

International comparison life expectancy, years
**1960 to 2015**

Life expectancy growth p.a.
2010-2015

Country	Growth	
Denmark		0.5%
Spain		0.4%
Italy		0.4%
United Kingdom		0.3%
Germany		0.3%
Netherlands		0.2%
France		0.2%
United States		0.1%

Life expectancy
2015

81.1	
83.3	
83.5	
81.6	
81.1	
81.7	
82.7	
78.1	

SOURCE: World Development Indicators, CF analysis 2018

Although life expectancy at birth has increased across all regions, life expectancy in the South is 2.5 years higher than in the North

Life expectancy, years for newborn baby boys by region (England)
1991 to 1993 compared to 2012 to 2014
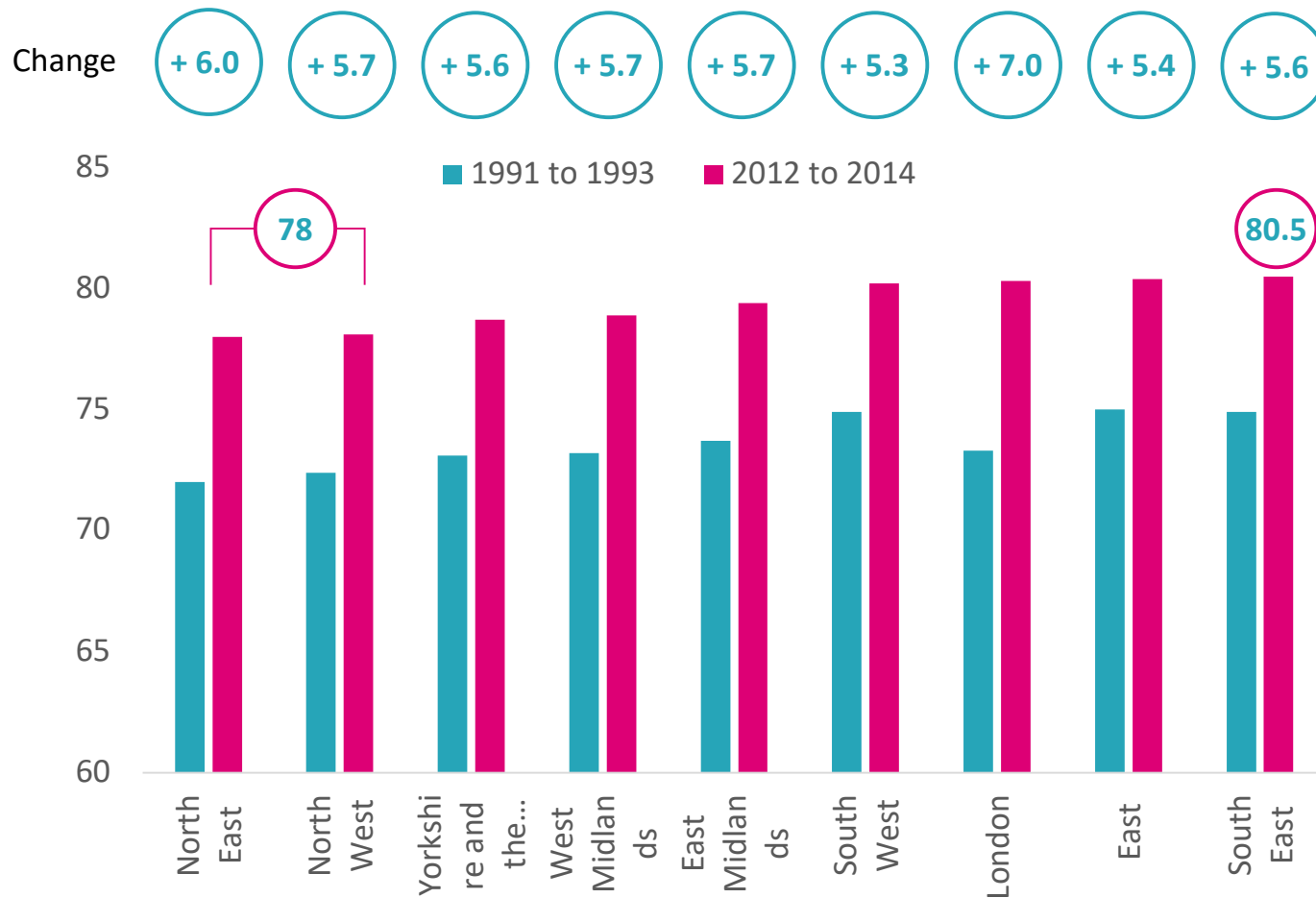
Findings

- Between 1993 and 2014, there was an improvement in life expectancy across all regions

- The highest life expectancy is found in the South East (at 80.5 in 2012-14)

- The lowest life expectancy is in the North East (78.0 in 2012-14)

- The range of life expectancies between regions has fallen from 3 years to 2.5 years

SOURCE: Office for National Statistics; CF analysis 2018

The gap in life expectancy between the most deprived 20% of LAs and the rest of England narrowed between 2004 and 2012, but has widened between 2013 and 2015

Annual change to gap in life expectancy between most deprived 20% of Local Authorities and rest of England, months
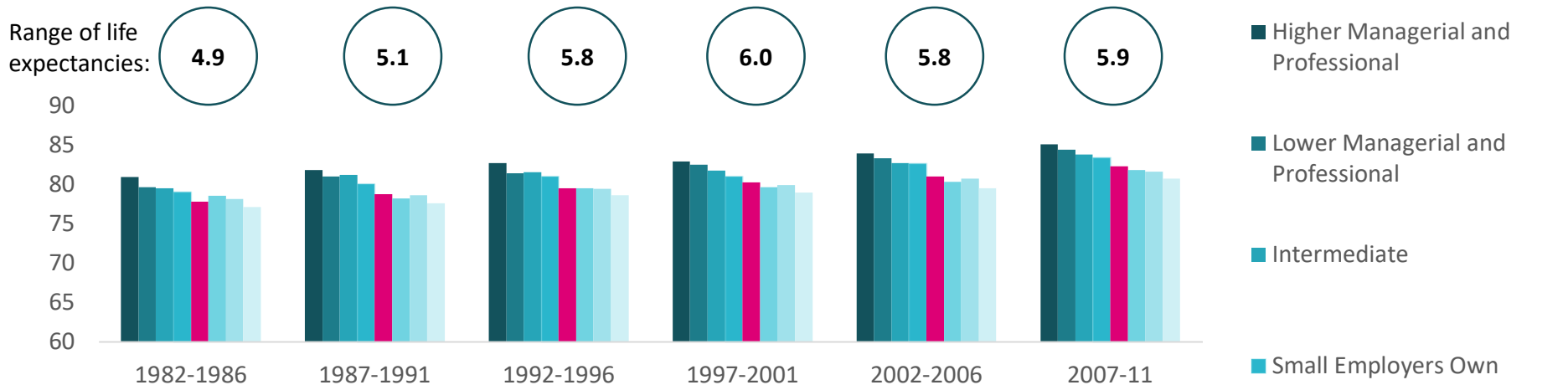
From 2004 to 2012 and 2013 to 2015

Between 2004-12:
- For men, the gap in life expectancy between the most deprived areas and the rest of England narrowed by 0.91 months per year
- For women, the gap also narrowed by 0.50 months per year

During 2013 – 15:
- For men, the gap in life expectancy between the most deprived LAs and the rest of England widened by 0.68 months per year
- For women, there was a corresponding increase, as the gap gap widened by 0.31 months per year

SOURCE: Investigating the impact of the English health inequalities strategy: time trend analysis, Ben Barr, BMJ, CF analysis 2018

Social class impacts on life expectancy: there was a difference of 6 years for females and 4 years for males between 'higher managerial/professional' and 'routine' classes
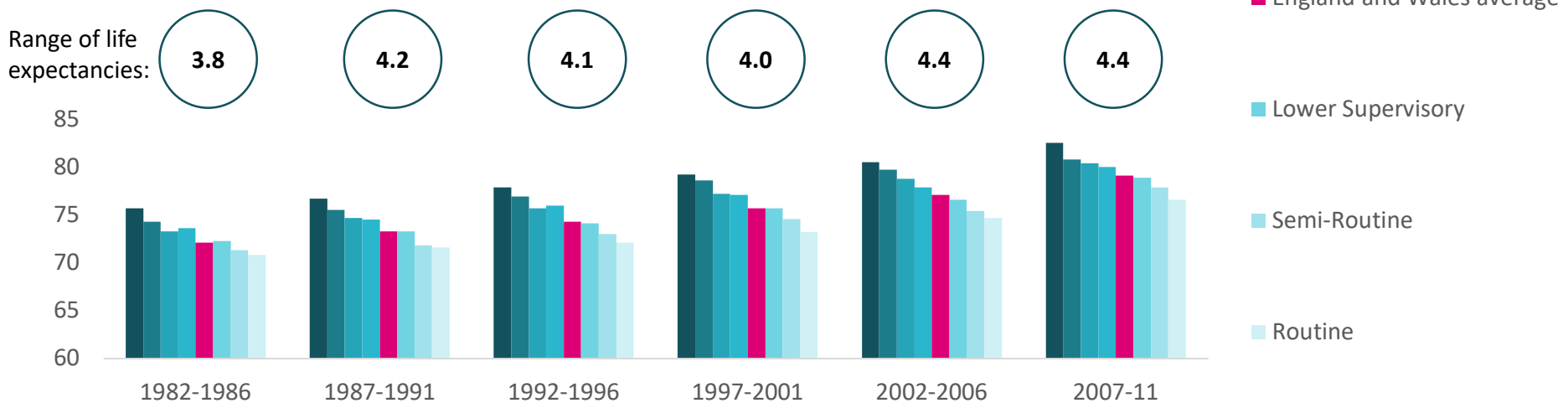
Female life expectancy at birth, by socioeconomic class
Years

Range of life expectancies:

(4.9) (5.1) (5.8) (6.0) (5.8) (5.9)

1982-1986   1987-1991   1992-1996   1997-2001   2002-2006   2007-11

- ■ Higher Managerial and Professional
- ■ Lower Managerial and Professional
- ■ Intermediate
- ■ Small Employers Own Account Workers
- ■ England and Wales average
- ■ Lower Supervisory
- ■ Semi-Routine
- ■ Routine

Male life expectancy at birth, by socioeconomic class
Years

Range of life expectancies:

(3.8) (4.2) (4.1) (4.0) (4.4) (4.4)

1982-1986   1987-1991   1992-1996   1997-2001   2002-2006   2007-11

SOURCE: ONS Longitudinal Study (LS) based estimates of Life Expectancy (LE) by the National Statistics Socioeconomic Classification (NS-SEC): England and Wales, 1982-86 to 2007-11, CF analysis 2018

In the UK, the interaction of rising life expectancy and the baby boomer "bump" means there will be 30% more people over the age of 65 by 2030
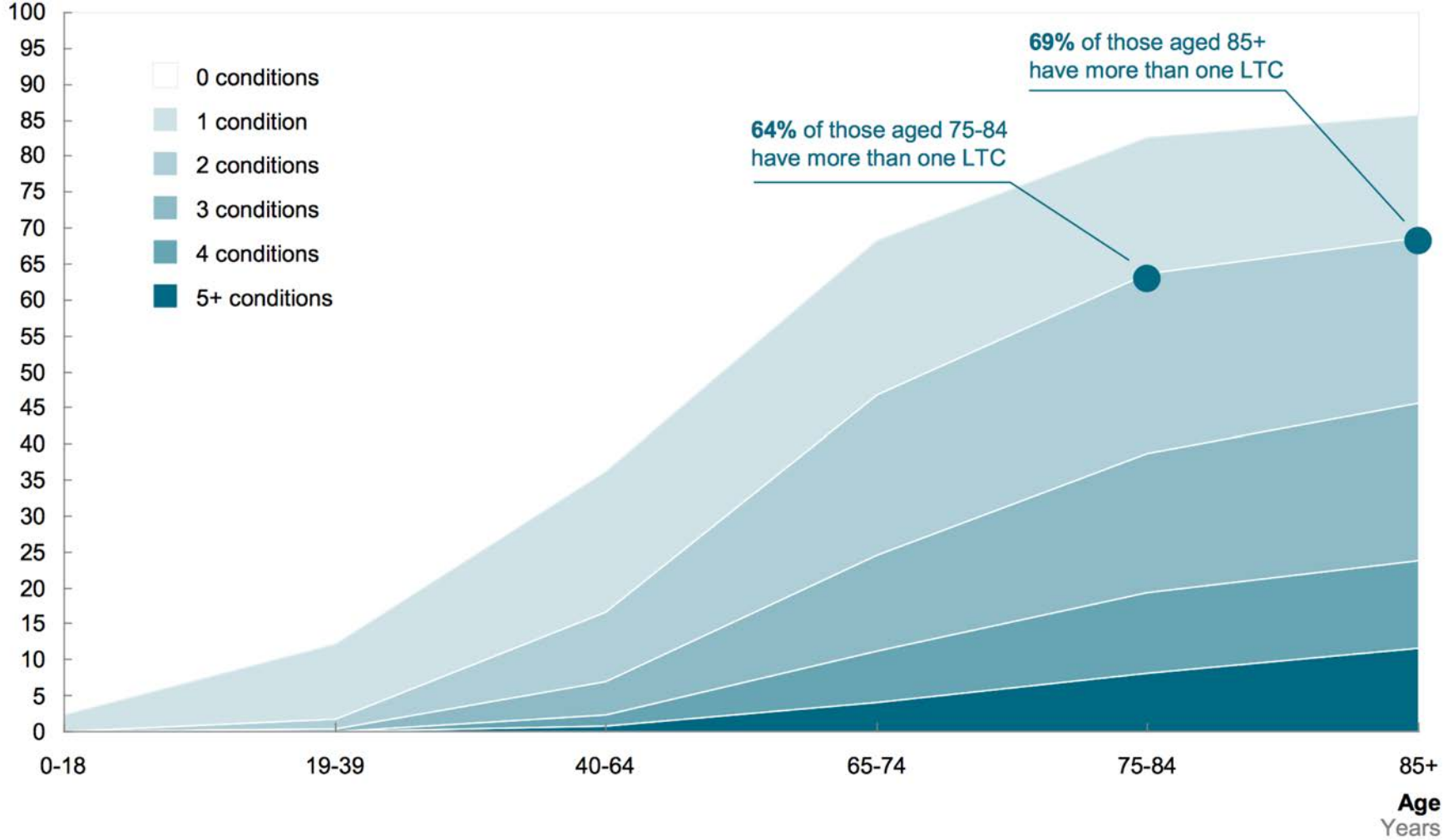
Age distribution, % by segment (UK)
1975 to 2045 (projected)

Legend:
- 0 to 15 years (%)
- 16 to 64 years (%)
- 65 years and over (%)

Baby boomers born in 1946 turn 65 in 2011

Baby boomers born in 1964 turn 65 in 2029

Baby boomer "bump"

Period	CAGR Over 65
2030 - 2045	1.32%
2011 - 2029	1.34%
Pre 2011	0.33%
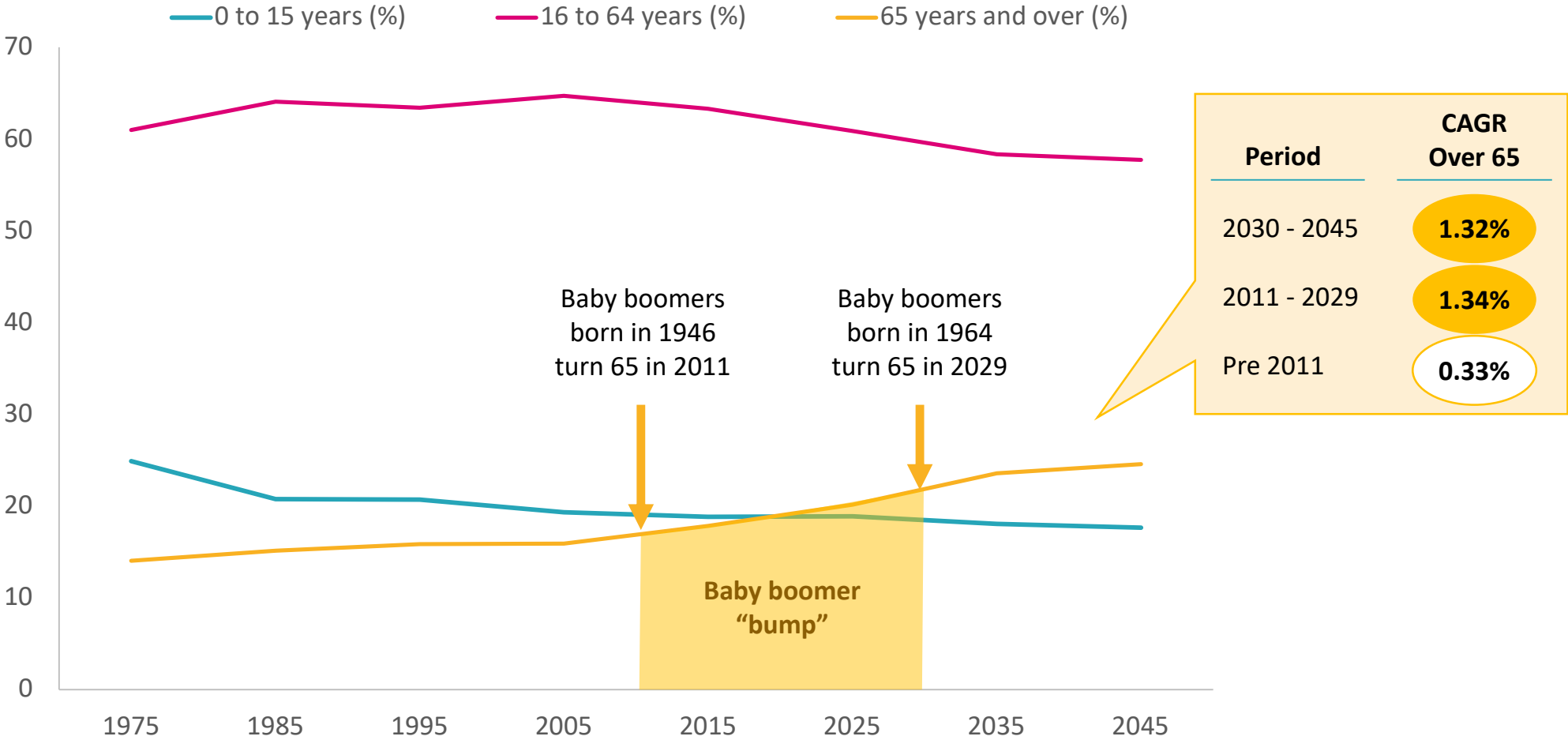
SOURCE: Office for National Statistics; CF analysis 2018

The prevalence of conditions increases with age, causing an aging population to place greater burden on the health system

Share of patients with no, one, or multiple long-term conditions by age
Percent of total

Legend:
- 0 conditions
- 1 condition
- 2 conditions
- 3 conditions
- 4 conditions
- 5+ conditions

69% of those aged 85+ have more than one LTC

64% of those aged 75-84 have more than one LTC

Age Years: 0-18, 19-39, 40-64, 65-74, 75-84, 85+

SOURCE: Bestsennyy, Kibasi, and Richardson (2013)

Since 2008, alcohol and smoking consumption rates have continued to decline, falling by 1.6% and 2.0% a year, respectively

Alcohol consumption, litres per capita (UK)
From 1961-2015
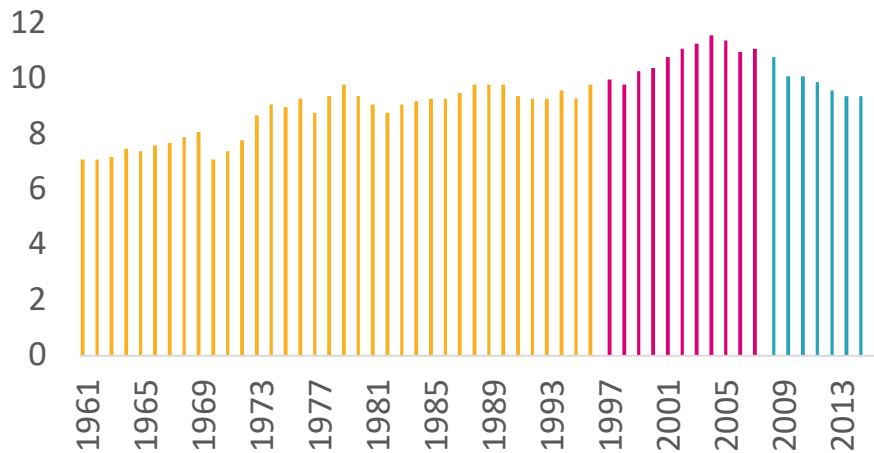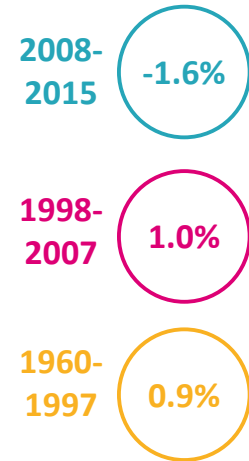
CAGR		Drivers
2008-2015	**-1.6%**	• Steady increase in alcohol consumption between 1960 and the mid-2000s is reflective of increased affordability of alcohol
1998-2007	**1.0%**	• In an effort to combat the affordability, duties on alcohol between 2008-12 increased at 2% above inflation
1960-1997	**0.9%**	• Consumption has fallen most amongst younger people (16-24)

Percentage of 15+ reporting to smoke every day (UK)
From 1960-2015
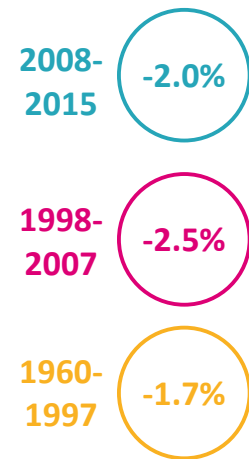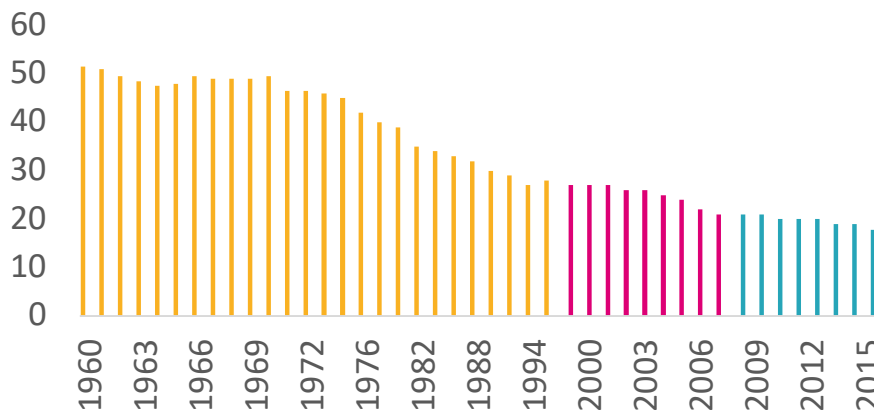
CAGR		Drivers
2008-2015	**-2.0%**	• The lower proportion of smokers has been driven by the public health strategies of successive governments, these have involved actions such as:
1998-2007	**-2.5%**	- Mass media campaigns - Smoke-free laws
1960-1997	**-1.7%**	- Advertising bans - Tax rises

SOURCE: OECD UK data, CF analysis 2018

The proportion of adults who are overweight or obese has plateaued; obesity rates of children aged 10 has risen by 5% a year for the past decade

Percentage of population 15+ overweight or obese (UK)
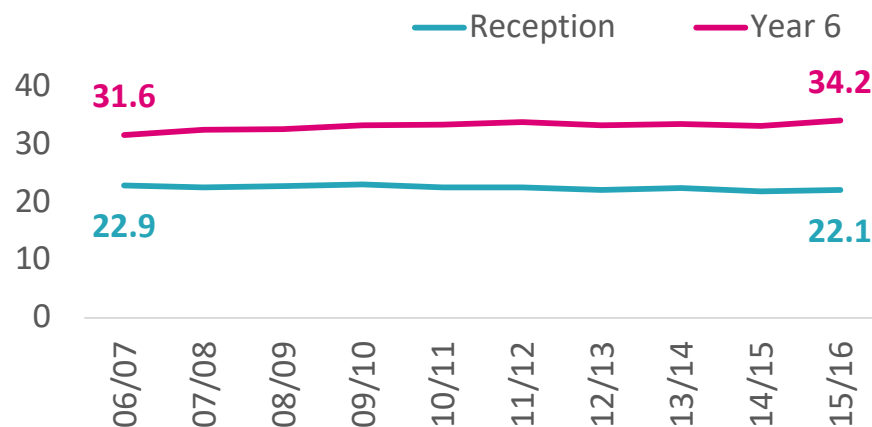**From 1980-2015**
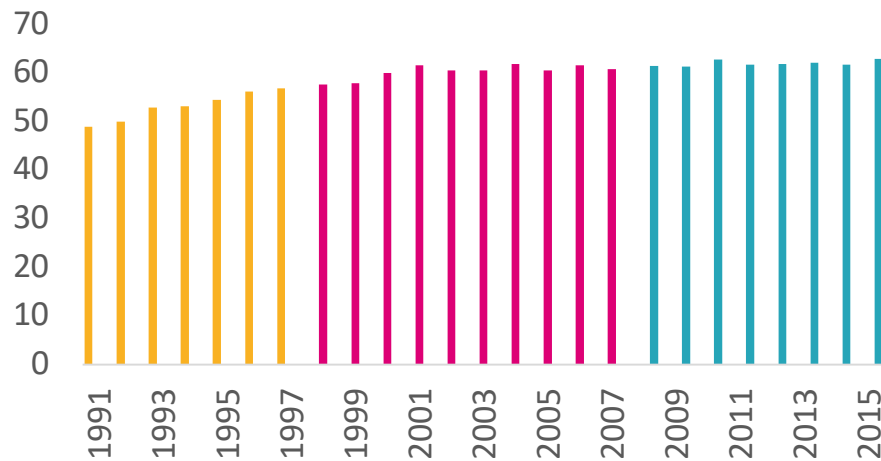
CAGR

Drivers

2008-2015 **0.3%**

- Long-term trends driven by increasingly sedentary lifestyles, coupled with availability of high-fat, high-sugar foods

- Little has been done legislatively to curb these trends

Percentage of children overweight or obese (UK)
From 2006/07 – 2015/16

— Reception   — Year 6

31.6   34.2

22.9   22.1

2008-2015 **5%**

2008-2015 **-2%**

SOURCE: OECD Stats, CF analysis 2018

The proportion of the population with reported drug misuse reduced by 1.9% since 2008/09, and the proportion of class A drug misuse dropped by 0.8%

Proportion of 16 to 59 year olds reporting drug misuse in the last year, % (England and Wales)
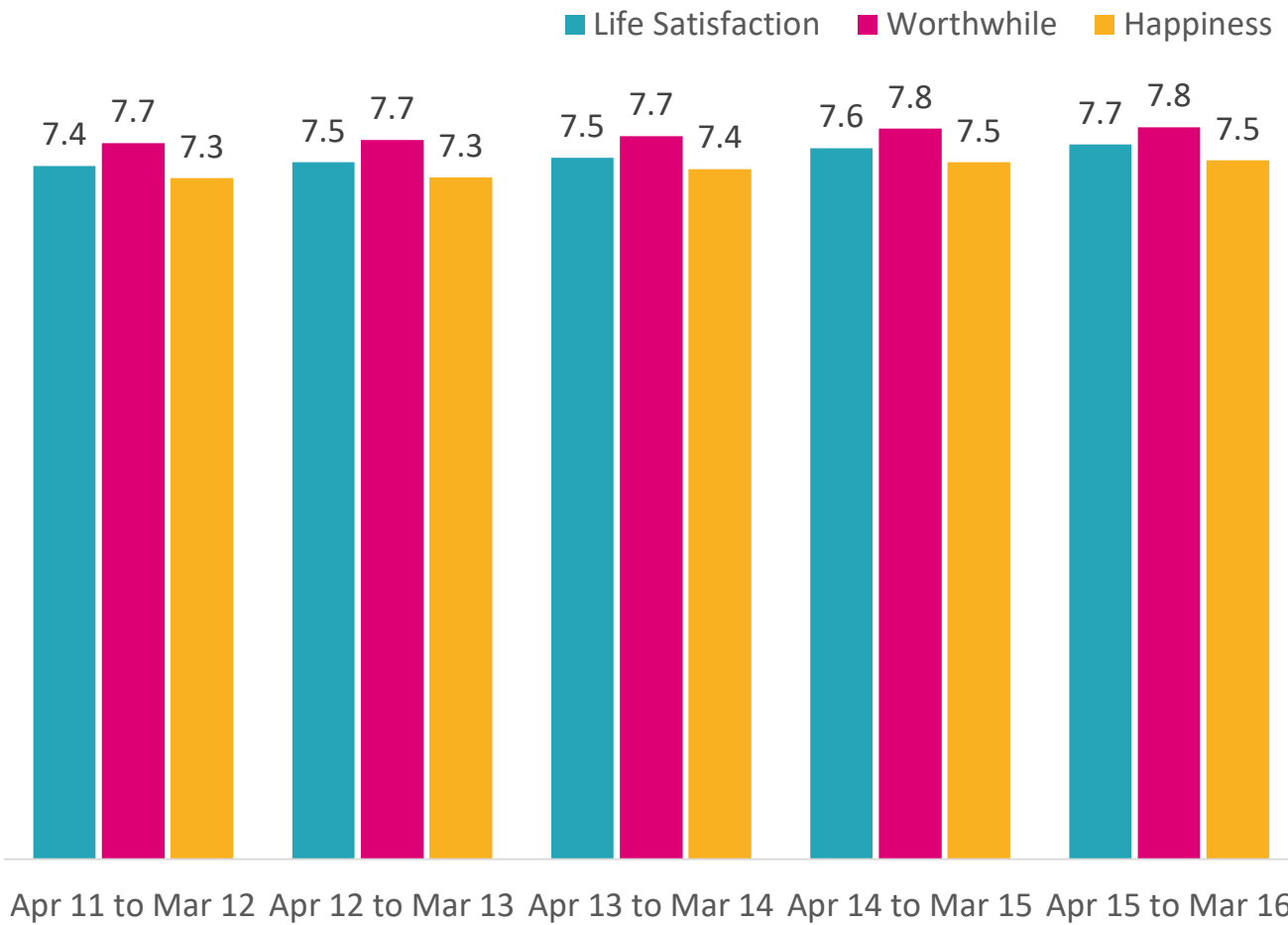**2001/02 to 2016/17**
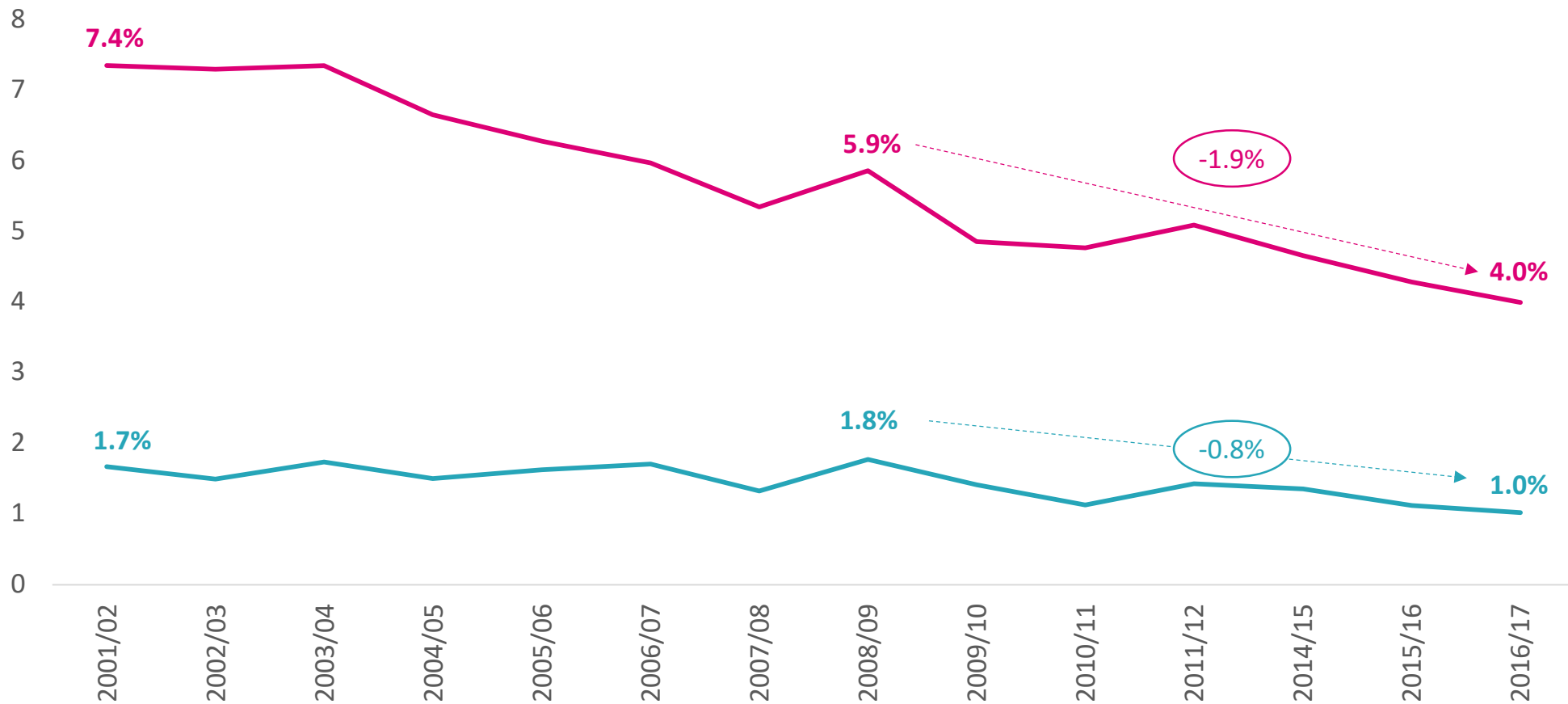
SOURCE: 2016/17 Crime Survey for England and Wales, CF analysis 2018
NB: 'Any Class A drug' comprises powder cocaine, crack cocaine, ecstasy, LSD, magic mushrooms, heroin and methadone, plus methamPublic Health Englandtamine since 2008/09 interviews.
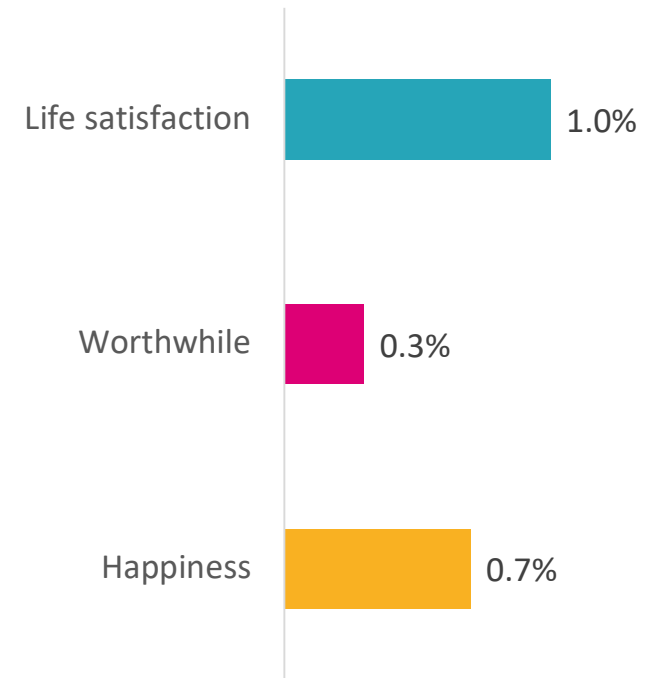
On average, people in the UK had an increasing level of life satisfaction, happiness and worthwhileness by 2.7% and 1.3% respectively from 2011 to 2016

Average life satisfaction, worthwhile and happiness ratings, out of 10 (UK)
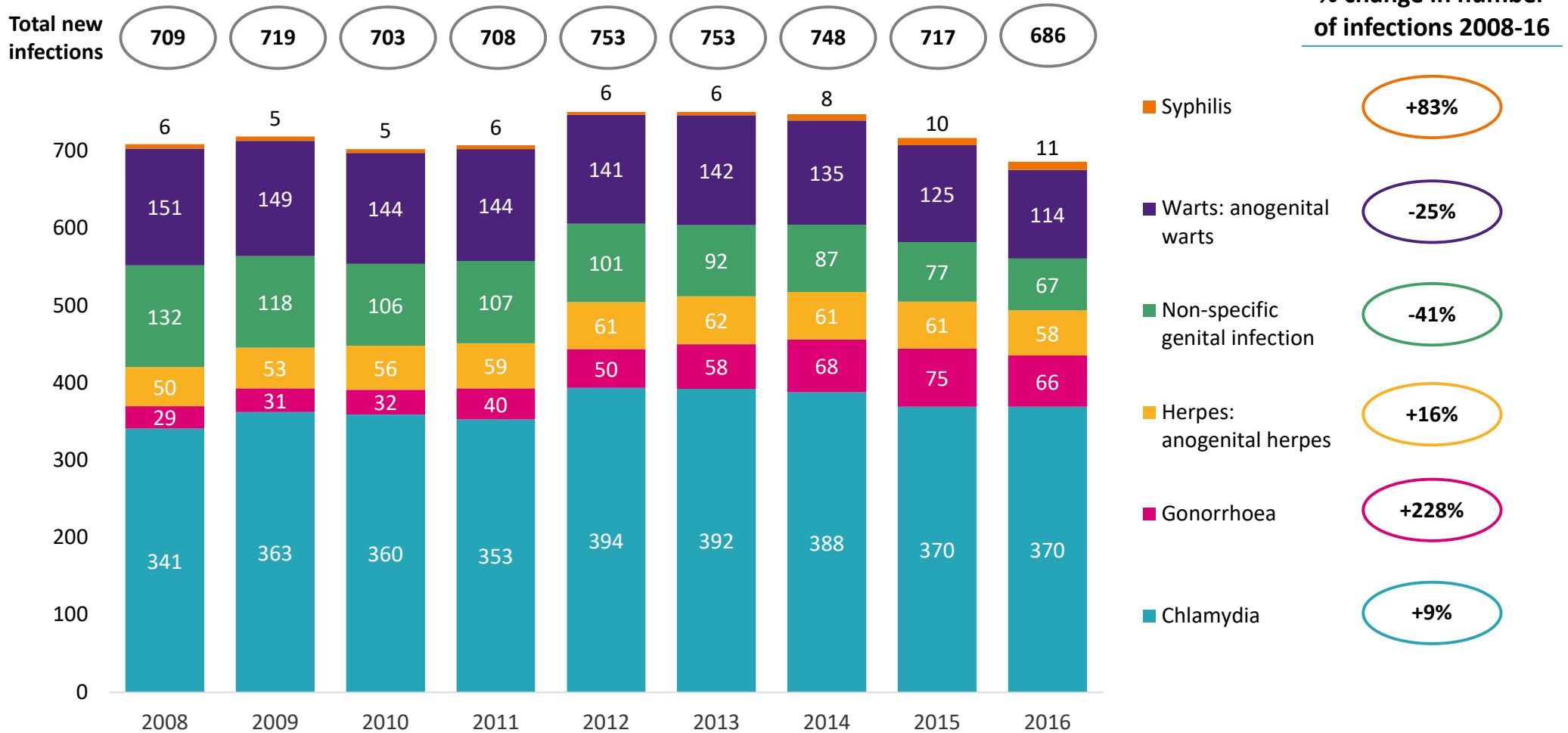**2011/12 to 2015/16**

CAGR
2011 to 2016

■ Life Satisfaction ■ Worthwhile ■ Happiness

Apr 11 to Mar 12   Apr 12 to Mar 13   Apr 13 to Mar 14   Apr 14 to Mar 15   Apr 15 to Mar 16

Life satisfaction — 1.0%
Worthwhile — 0.3%
Happiness — 0.7%

SOURCE: Annual Population Survey, Office for National Statistics, CF analysis 2018

Whereas the total number of new STI infections has decreased by 3%, syphilis and gonorrhoea infections have increased by 83% and 228% respectively

Number of new STI infections per 100k population
From 2008 to 2016

Total new infections:

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	709	719	703	708	753	753	748	717	686
Syphilis	6	5	5	6	6	6	8	10	11
Warts: anogenital warts	151	149	144	144	141	142	135	125	114
Non-specific genital infection	132	118	106	107	101	92	87	77	67
Herpes: anogenital herpes	50	53	56	59	61	62	61	61	58
Gonorrhoea	29	31	32	40	50	58	68	75	66
Chlamydia	341	363	360	353	394	392	388	370	370

% change in number of infections 2008-16

- Syphilis: **+83%**
- Warts: anogenital warts: **-25%**
- Non-specific genital infection: **-41%**
- Herpes: anogenital herpes: **+16%**
- Gonorrhoea: **+228%**
- Chlamydia: **+9%**

SOURCE: Public Health England, CF analysis 2018

Overall rates of teenage conception decreased by 49% from 2008 to 2015; regional variation has also decreased by 7 conceptions per 1,000 women (37%)

Under 18 conception rate, number of conceptions to women aged under 18 per 1,000 women aged 15 to 17 (England and Wales)
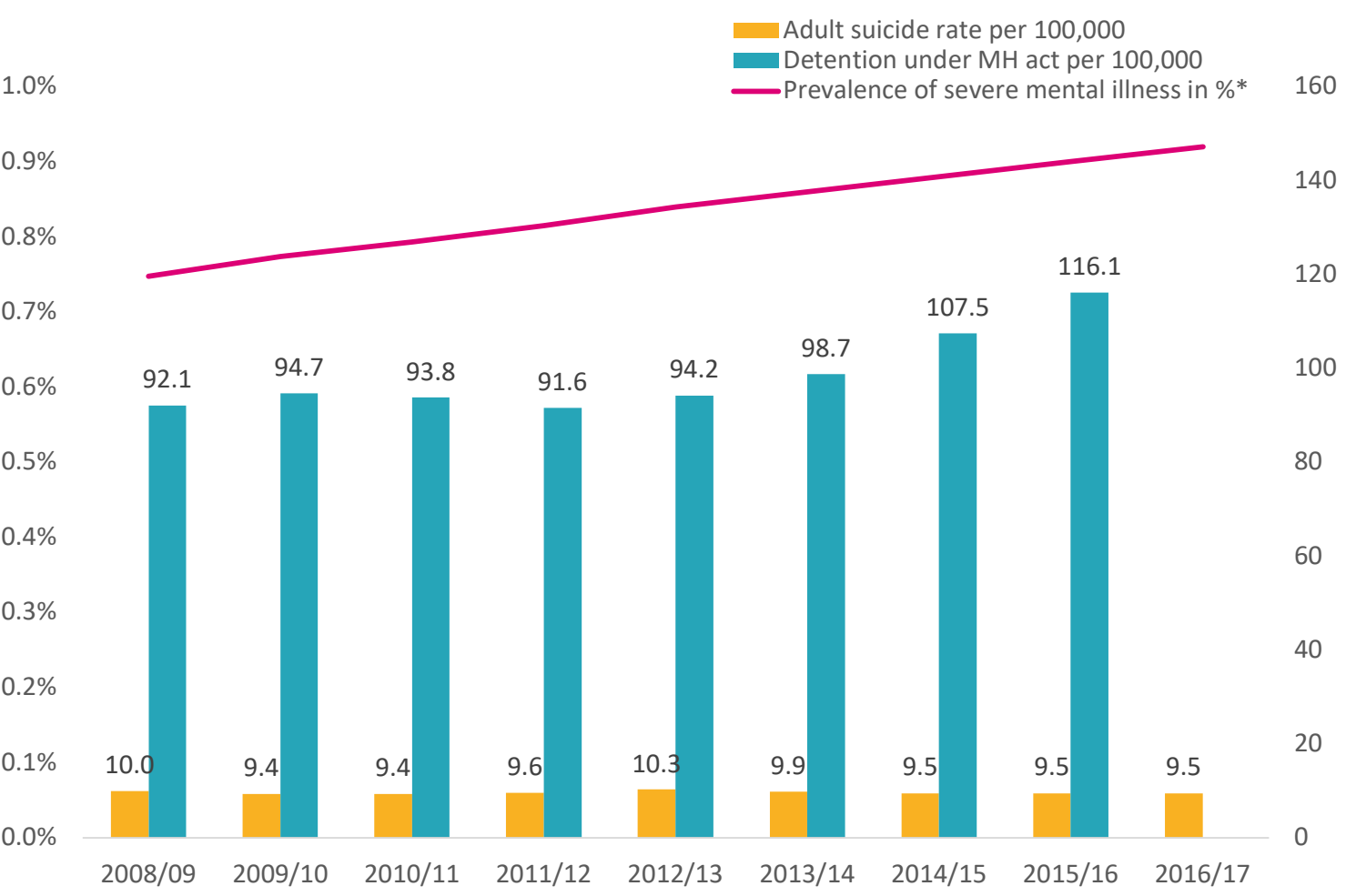**1990 to 2015**
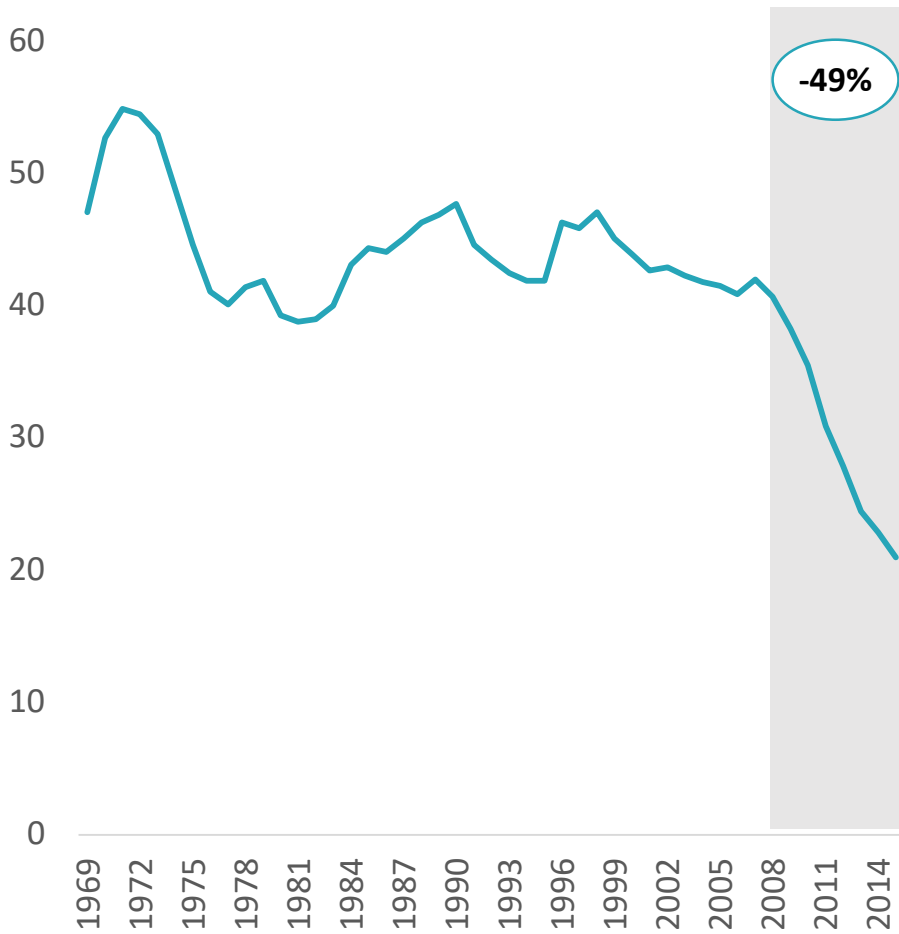
Under 18 conception rate, number of conceptions to women aged under 18 per 1,000 women aged 15 to 17 (England and Wales)
2008 to 2015

-49%

Range = 19

Range = 12

- North East
- East Midlands
- South West
- South East
- North West
- West Midlands
- East
- London

SOURCE: Office for National Statistics, CF analysis 2018
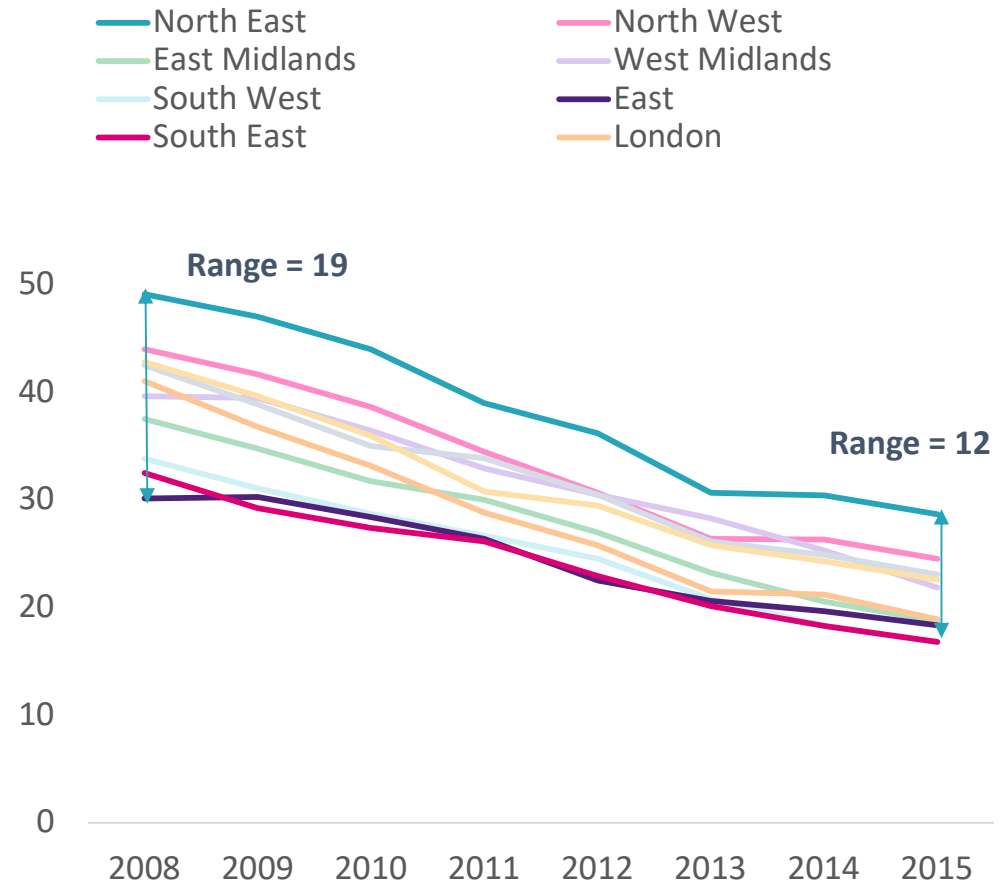
Prevalence of Severe Mental Illness and detentions have increased by 2.3% and 2.9% p.a respectively since 2008/9; suicide rates have declined by 0.6% p.a.

Prevalence of severe mental illness (SMI) in %, adult suicide and detention under the Mental Health Act rate per 100,000 population
Population England

CAGRs
2008/09-2015/16

Legend:
- Adult suicide rate per 100,000
- Detention under MH act per 100,000
- Prevalence of severe mental illness in %*

Detention values: 92.1, 94.7, 93.8, 91.6, 94.2, 98.7, 107.5, 116.1

Suicide values: 10.0, 9.4, 9.4, 9.6, 10.3, 9.9, 9.5, 9.5, 9.5

Years: 2008/09, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17

Prevalence CAGR: **2.3%**
Detentions CAGR: **2.9%**
Suicides CAGR: **-0.6%**

SOURCE: ONS, QOF, CF analysis 2018; NB: *People with schizophrenia, bipolar disorder and other psychoses

Public attitudes towards people suffering from ill mental health have generally become more tolerant

Share of respondents agreeing with social exclusion statements
1994 to 2012

Percentage point change
1994-2012

Locating mental health facilities in a residential area downgrades the neighbourhood — **-4**

It is frightening to think of people with mental problems living in residential neighbourhoods — **-2**

I would not want to live next door to someone who has been mentally ill — **+1**

A woman would be foolish to marry a man who has suffered from mental illness, even though he seems fully recovered — **-2**

Anyone with a history of mental problems should be excluded from taking public office — **-11**

People with mental illness should not be given any responsibility — **-7**

People with mental illness are a burden on society — **-3**

As soon as a person shows signs of mental disturbance, he should be hospitalized — **-3**

SOURCE: Attitudes to Mental Illness 2012 Research Report, CF analysis 2018

'Precarious employment': an increasing number of people are self employed and there has been a 630% increase in zero hours contracts since 2008

Self-employed workers (UK), in '000
From 2008 to 2017

— Self-employed full time
— Self-employed part-time
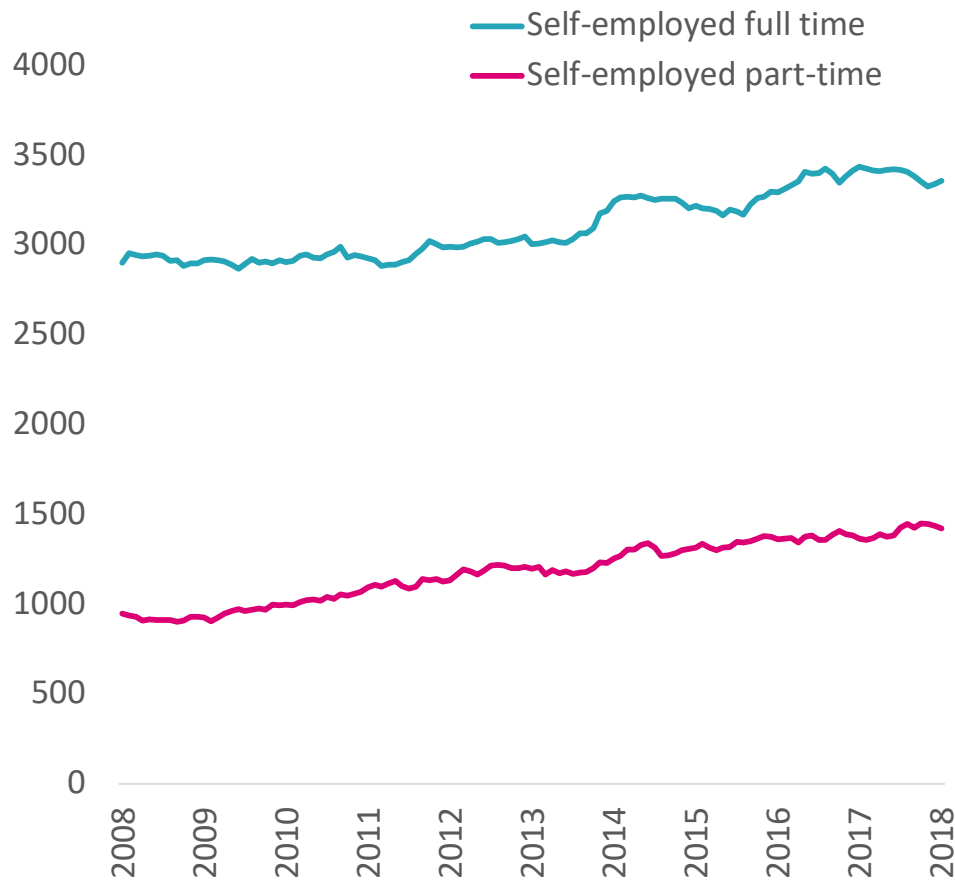
Workers on zero-hour contracts (UK), in '000
From 2008 to 2017

■ Number of workers on zero hours contracts '000s
— % of employees on zero hour contracts

630%

143 189 168 190 252 585 699 804 905 901
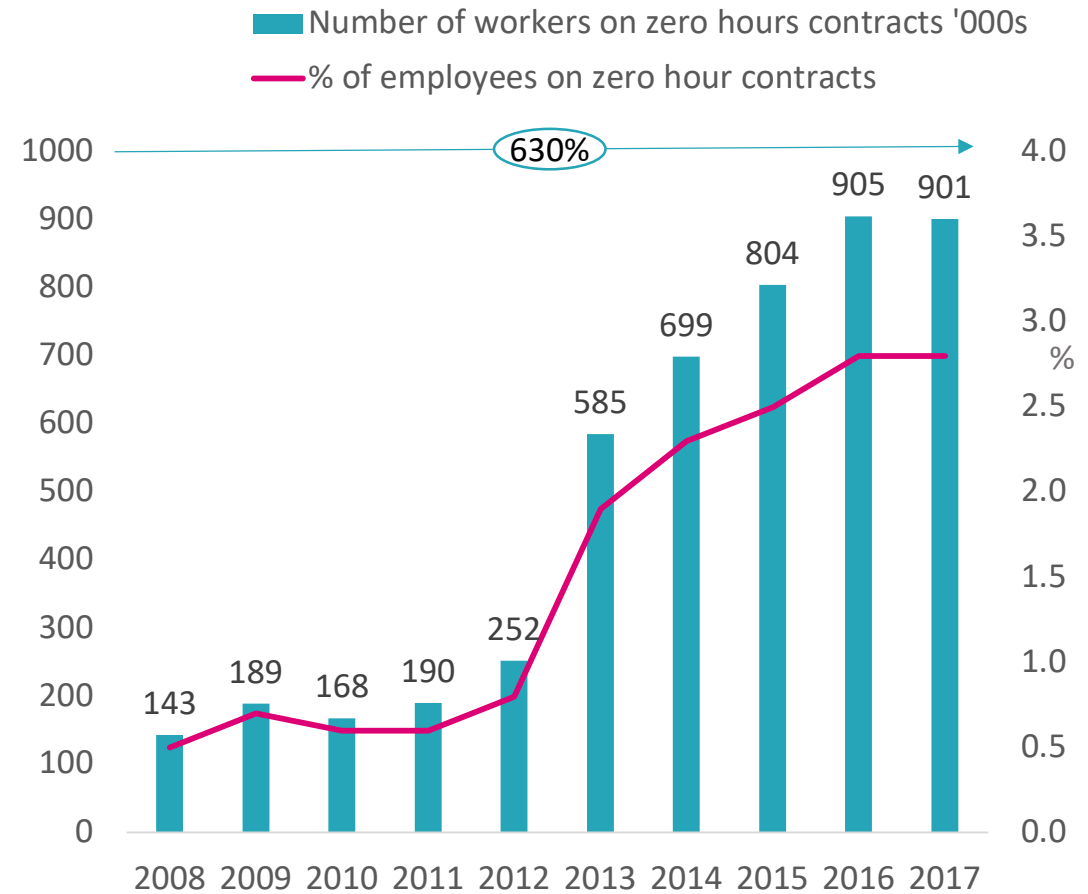
PM$_{10}$ levels have reduced by 50% and ozone levels have increased slightly in rural locations and have increased in urban locations

Ozone and PM$_{10}$ levels by location (UK)
From 1987 to 2016

Legend: Ozone - Rural | Ozone - Urban Background | PM10 - Roadside | PM10 - Urban Background
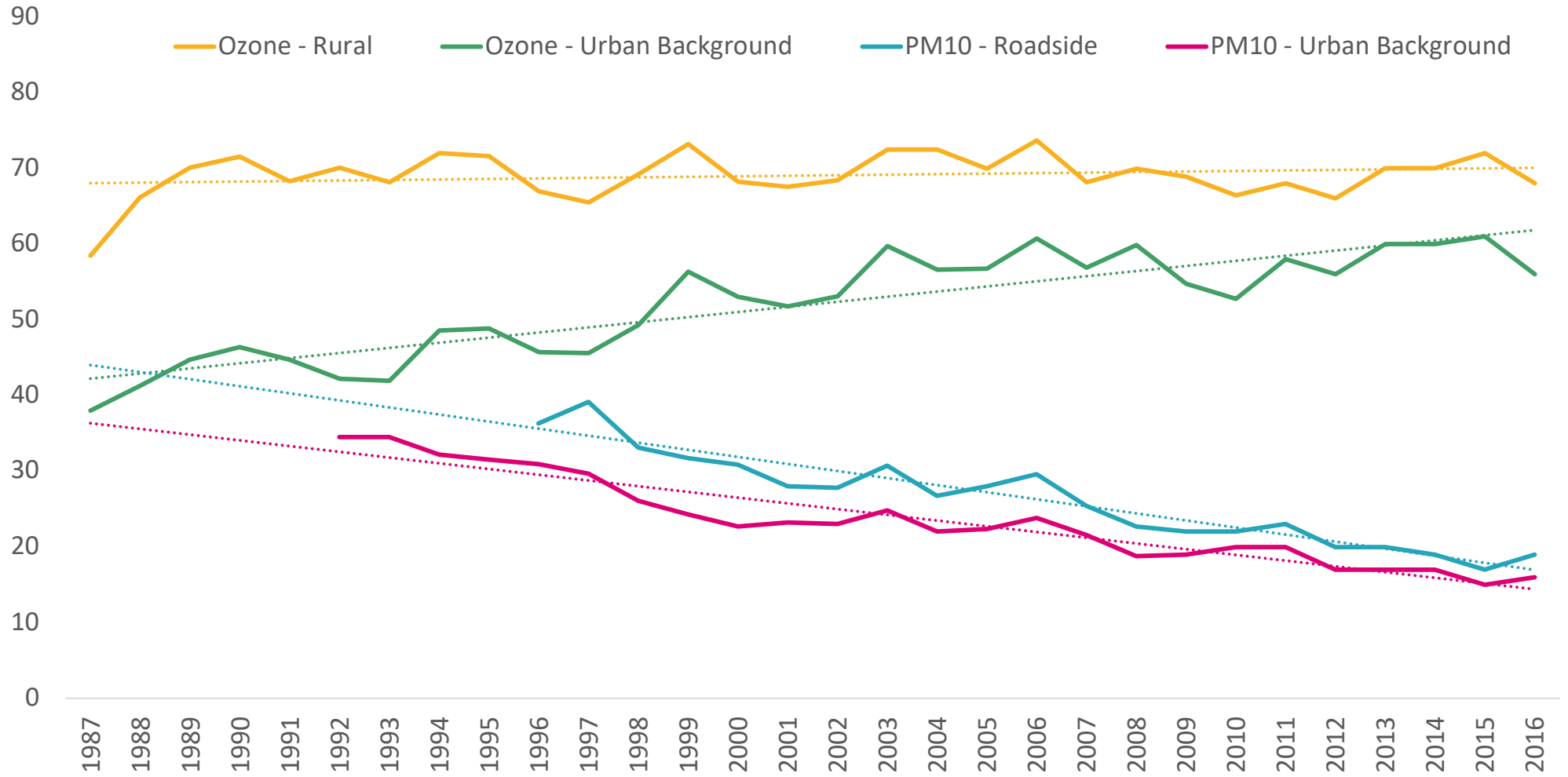
SOURCE: Department for Environment, Food and Rural Affairs (Defra), RICARDO Energy & Environment, CF analysis 2018

Quality

Executive summary: Quality

Quality of care measures have also improved since 2008, across several pathways:

- Primary care: Measures of quality in primary care (Quality Outcome Framework scores) indicate that outcomes have improved since 2010. Childhood immunisation rates have significantly improved. However, in the last five years, ratings of overall experience at GP practices have fallen, as has patient satisfaction with involvement in decisions about their care

- Social care: For those that have received social care, quality has been rising for most of the past decade. However significant regional variation exists and only 45% of service users are receiving as much social contact as they would like

- Stroke: 30-day mortality rates have decreased from 21% in 2008 to 16% in 2015. While nationwide improvement in stroke care can be seen, significant gaps remain and the uptake of proven model remains variable

- Cancer: survival rates have steadily improved, with the 1 year survival rate rising from 67% in 2008 to 72% in 2015. However, compared to other countries, the UK underperforms in five-year survival for most cancers (exception: childhood leukaemia).

- Cardiac surgery: mortality rates have dropped by 1% overall and 2.5% for complex procedures since 2006. Cardiac surgery case mix has become increasingly complex over the period.

- Maternity: mortality rates have fallen, from 6.9 to 4.5 (2008 to 2015) deaths per 100,000 live births, and infant mortality rates have also fallen, from 4.6 to 3.9 (2008 to 2015) deaths per 100,000 live births

- Mental health: recovery rates for adults with anxiety disorders and depression (IAPT recovery rates) have been on target since Q4 16/17, but there is significant variation among ethnic groups

Patient safety has improved since 2008:

- Patients receiving harm-free care has increased from 92% in 2012 to 94% in 2017. Proportion of patients with new pressure ulcers decreased by 1.5% points over the period. C. diff. and MRSA infections have fallen by 43k and 4k respectively since 2008 (however MSSA infections have increased)

Despite many improvements in quality of care, overall public satisfaction with the NHS has dropped and dissatisfaction has increased from 25% in 2008 to 29% in 2017

Measures of quality in primary care (Quality Outcome Framework scores) indicate that outcomes have improved since 2010

Total QOF score (England), %
**2010/11 to 2016/17**
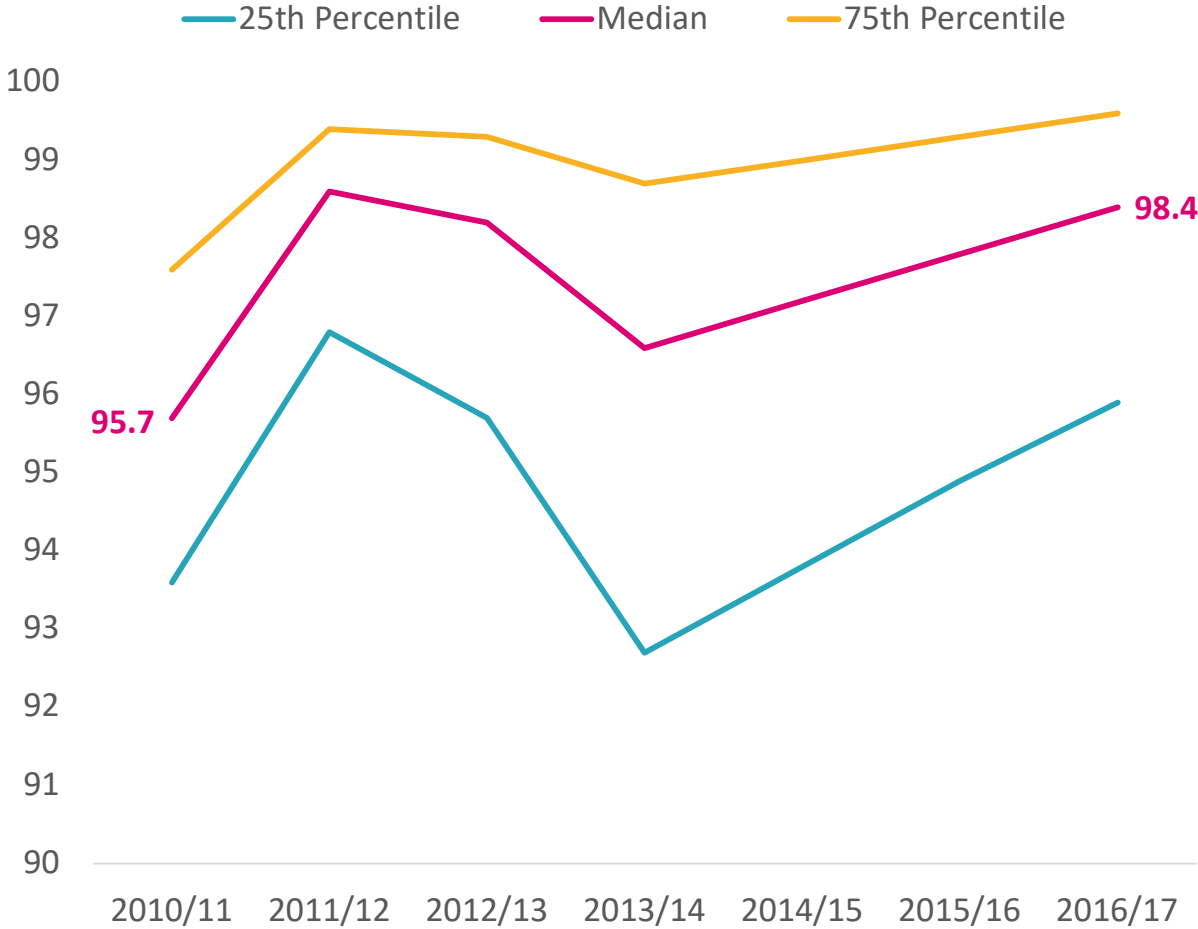
The Quality Outcome Framework (QOF) is a voluntary reward and incentive programme, which rewards GP practices for the quality of care they provide to patients. Participation in the scheme is very high, at over 95%.
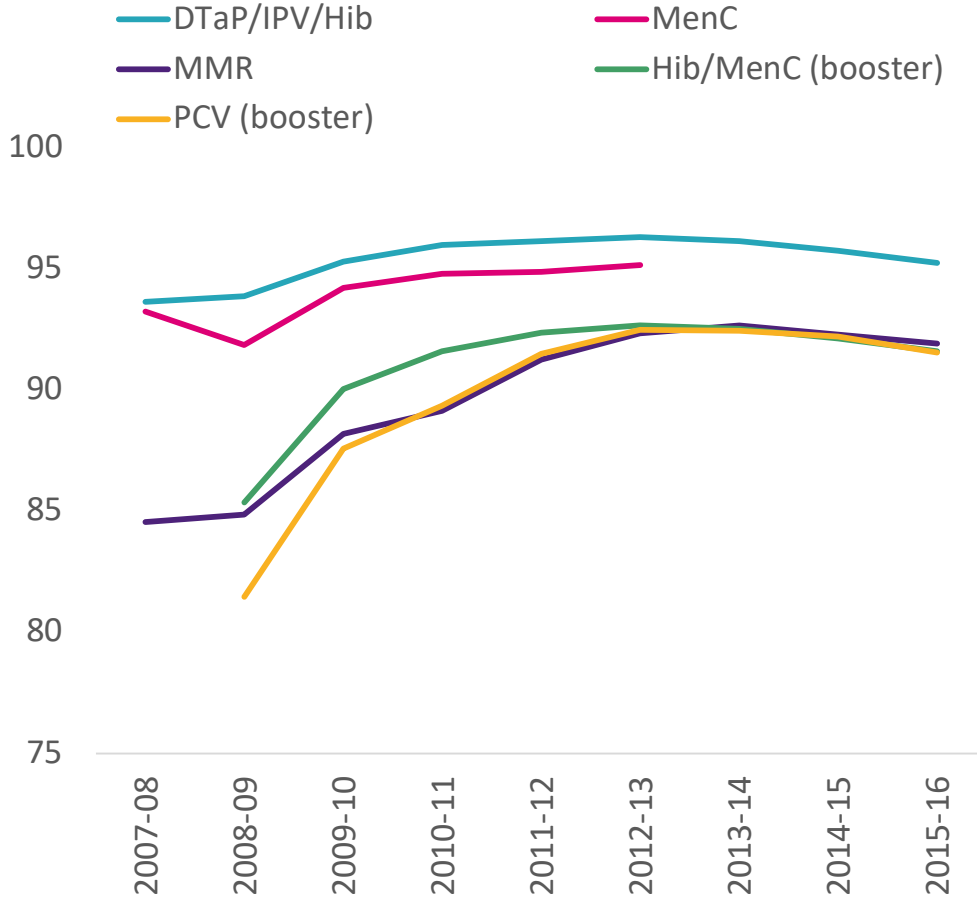
SOURCE: Public Health England, CF analysis 2018

Since 2008 overall childhood immunisation rates have increased although there has been a slight decline over the last three years

Immunisation in year of first birthday by vaccination
2007/08 to 2015/16
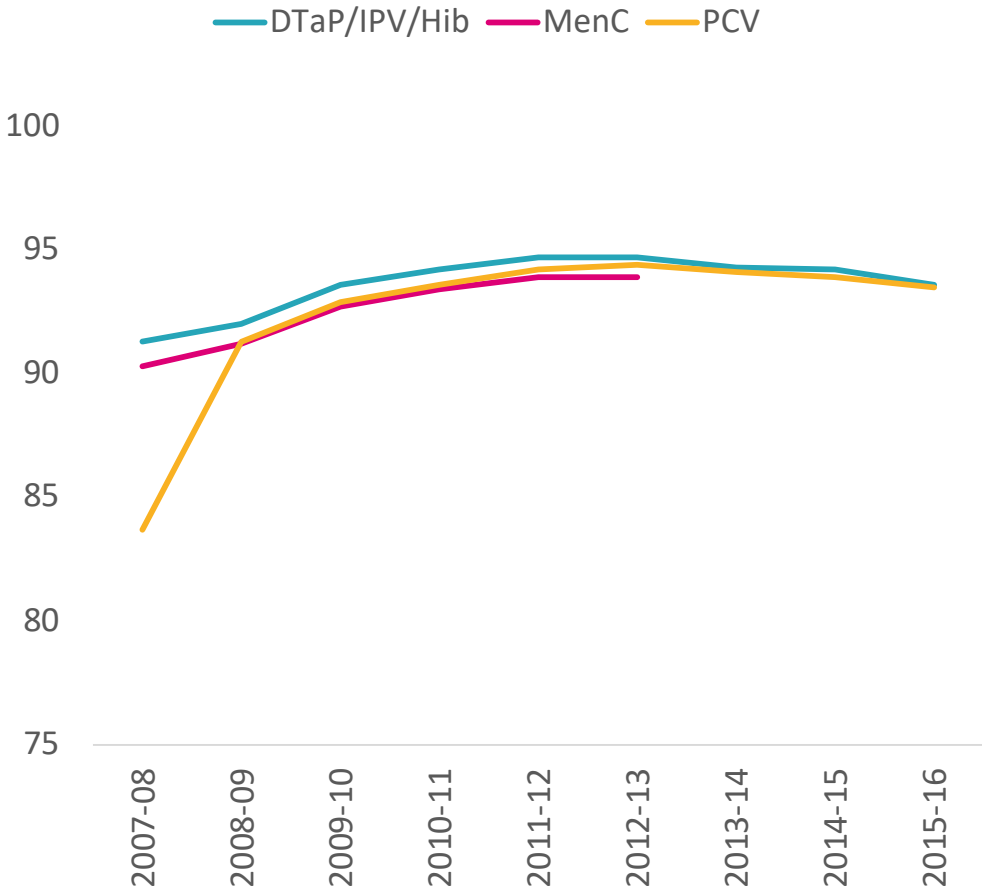
Immunisation in year of second birthday by vaccination
2007/08 to 2015/16

NOTE: DTaP/IPV/Hib = diphtheria, tetanus, pertussis, polio, Haemophilus influenza type B; MenC = Meningococcal C; PCV = Pneumococcal Conjugate; MMR = Measles, Mumps, Rubella

SOURCE: NHS Digital, CF analysis 2018

London has been lagging behind other regions in rates of childhood immunisations

DTaP/IPV/Hib immunisation in year of first birthday by region
2007/08 to 2015/16
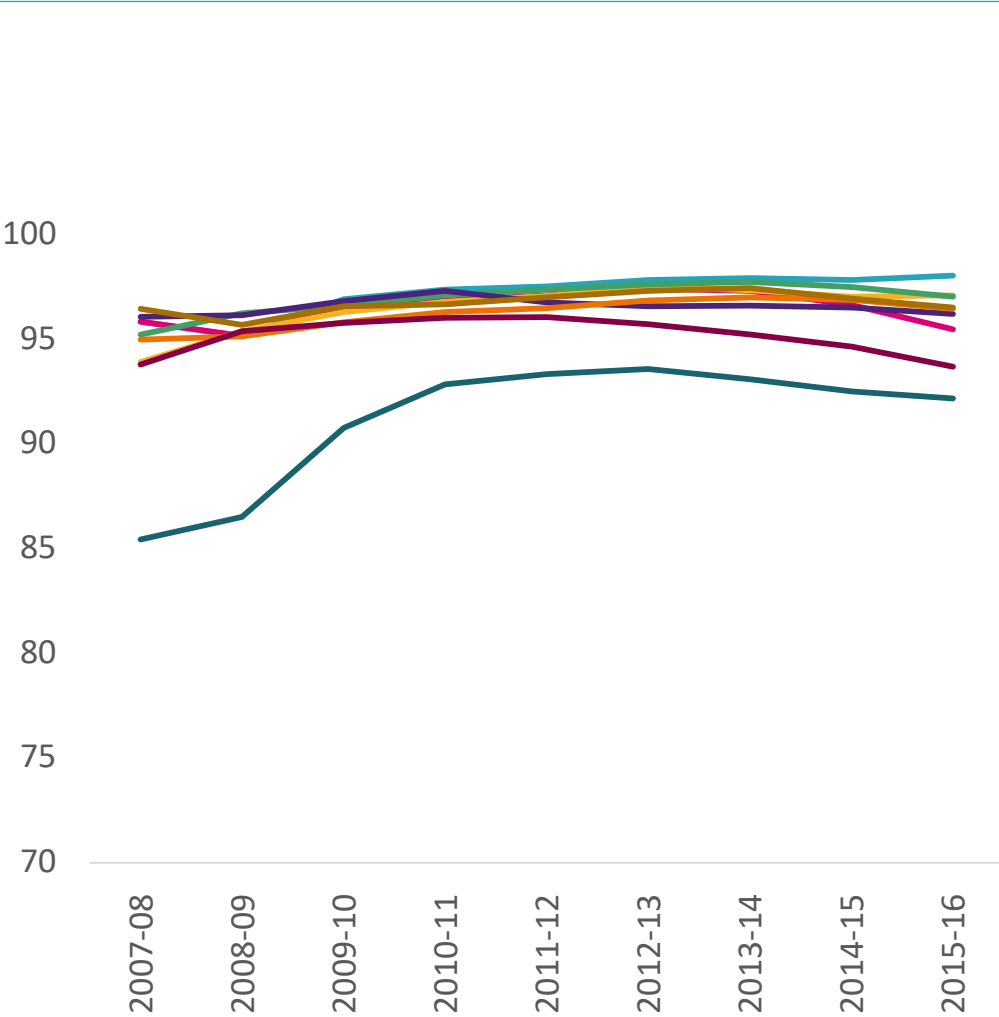
MMR immunisation in year of second birthday by region
2007/08 to 2015/16
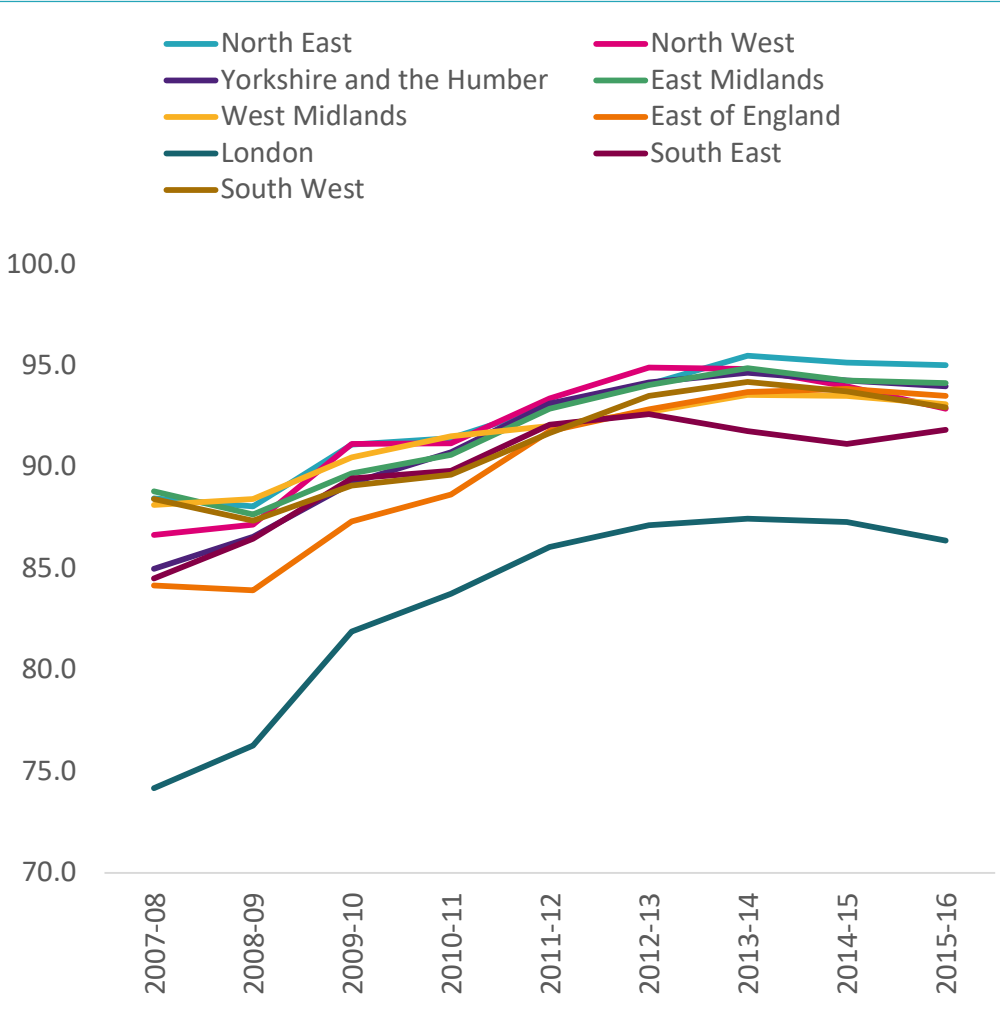
SOURCE: NHS Digital, CF analysis 2018

Since 2012, ratings of overall experience at GP practices have fallen, as has patient satisfaction with involvement in decisions about their care

Overall experience at GP practice, 2012 to 2017
Net promotor score %

84.8 82.3 81.0 79.9 81.0 79.5

2012 2013 2014 2015 2016 2017
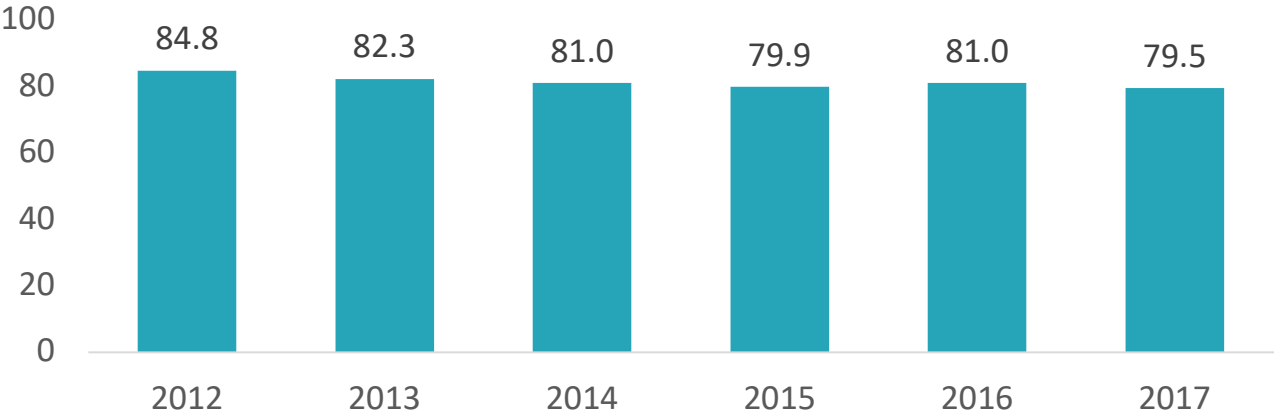
Satisfaction with involvement in decisions about care at last GP visit, 2012-2017
Net promotor score %

72.3 71.2 71.2 70.1 71.1 70.2

2012 2013 2014 2015 2016 2017

SOURCE: GPPS, CF analysis 2018
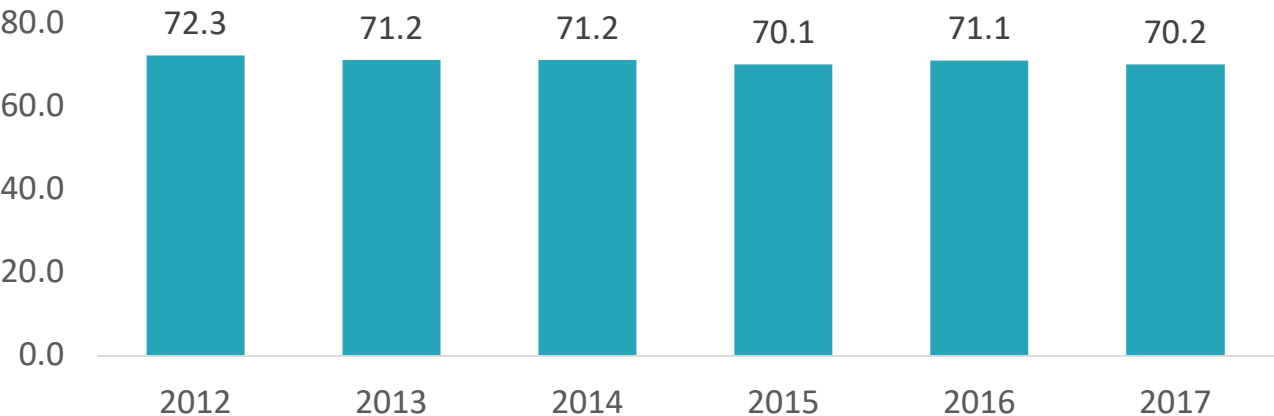
Overall ratings of experience at GPs

	2012	2017
Fairly poor or very poor:	3.6%	5.2%
Neither good nor poor:	8.1%	10.0%
Very good or fairly good:	88.4%	84.7%
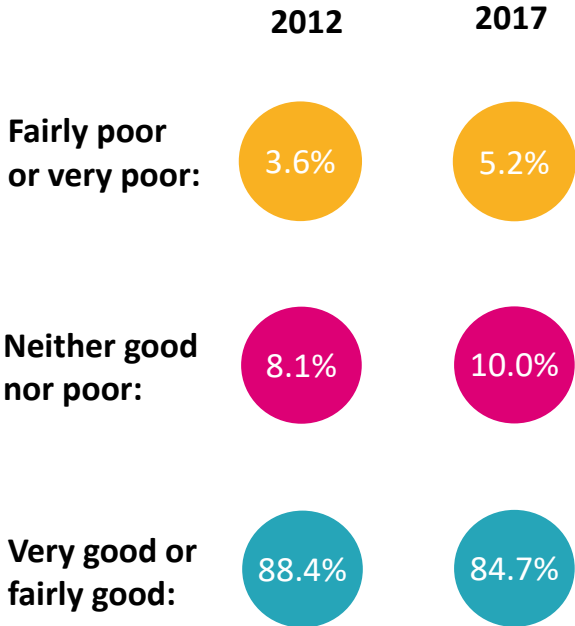
Net promotor score is defined as proportion of respondents that rated services positively minus the proportion who rated services negatively

Flu vaccination uptake has declined across England, since 2010, with London and the East of England showing the worst performance

Flu vaccination uptake amongst at-risk groups (aged 6 months – 64 years), by region
% of at risk group vaccinated
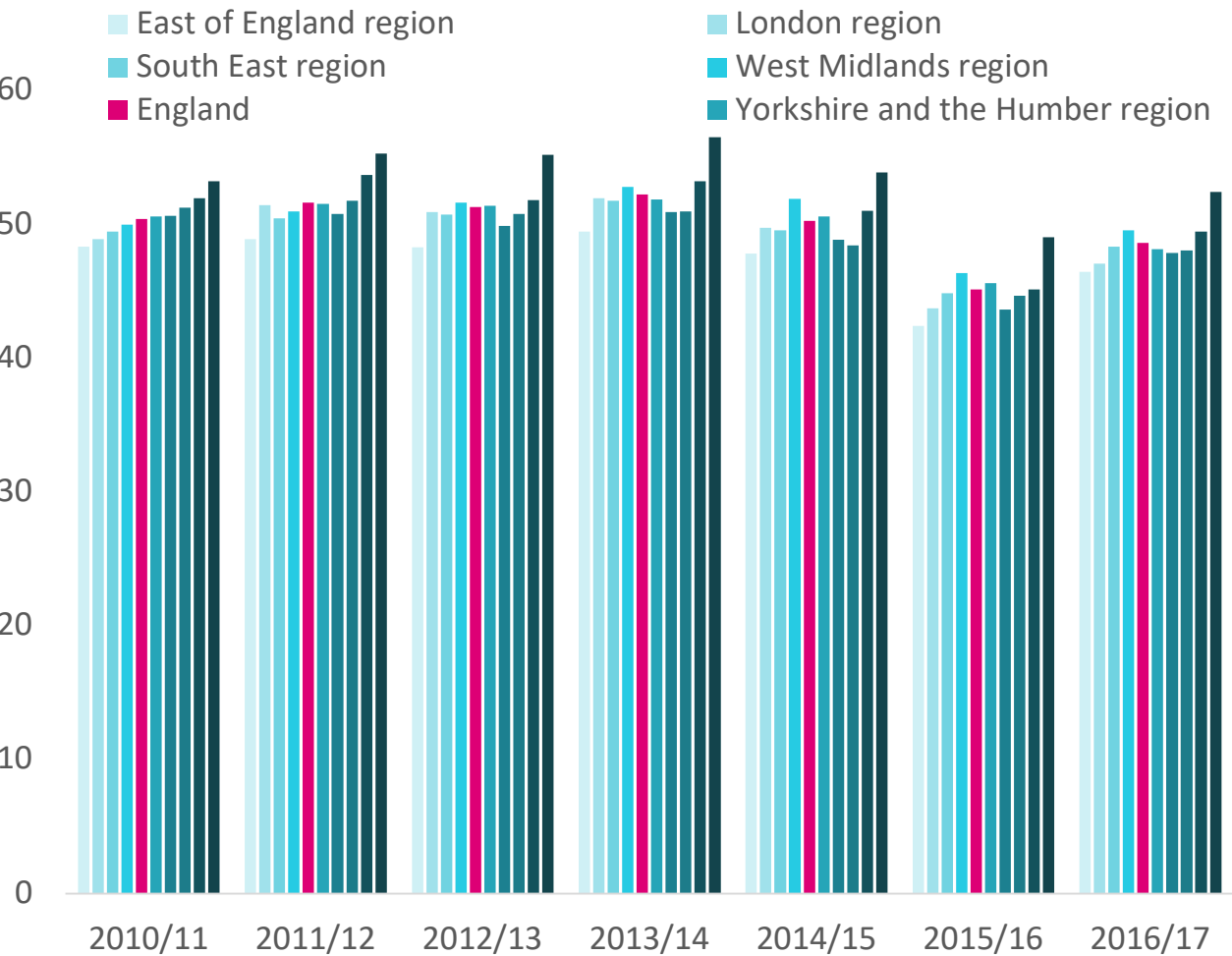
Best and worst performing regions 2010/11 and 2016/17

Legend:
- East of England region
- London region
- South East region
- West Midlands region
- England
- Yorkshire and the Humber region

	2010/11	2016/17
Best performing	North West 53.2%	North West 52.4%
Worst performing	East 48.3%	East 46.4%

For those that have received social care, quality has been rising for most of the past decade across all regions, however, quality of care is not uniform across regions

Social care-related quality of life score, score out of 24
2010/2011 to 2016/2017
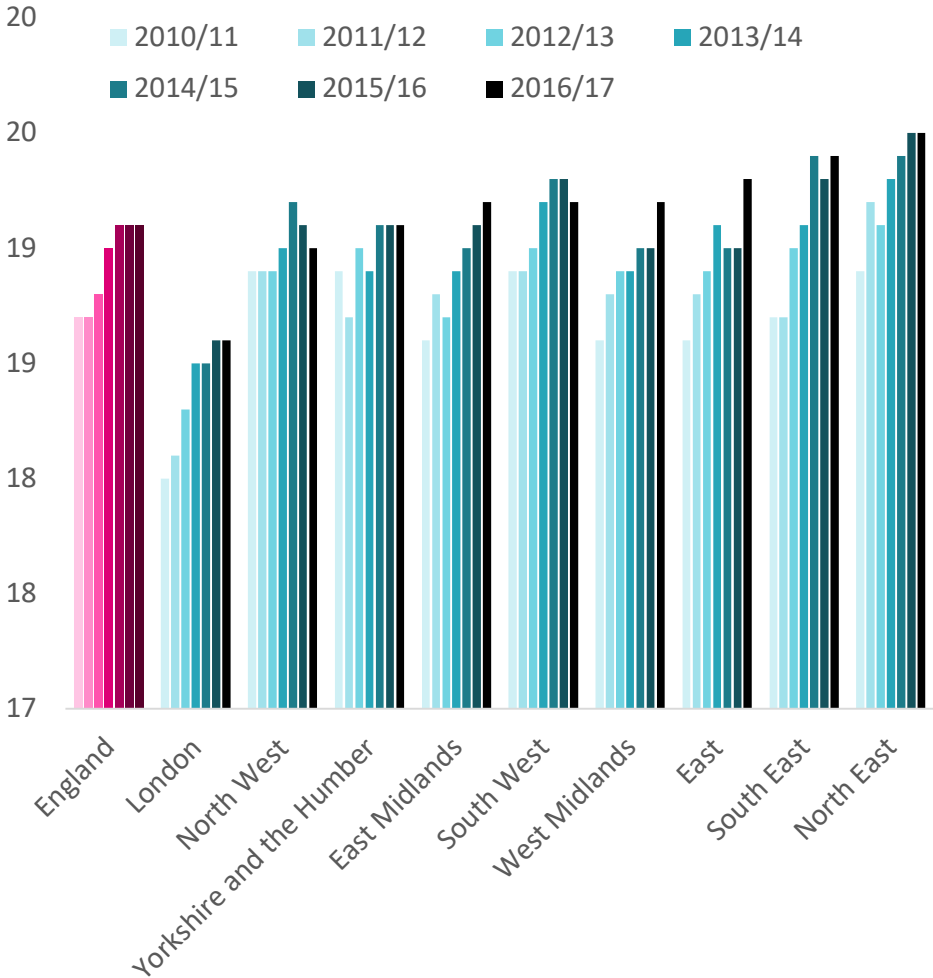
Best and worst performing regions
2011/12 to 2016/17

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Best	North East (19.2)	North East (19.1)	North East (19.4)	North East + South East (19.4)	North East (19.5)	North East (19.5)
Worst	London (18.1)	London (18.3)	London (18.5)	London (18.5)	London (18.6)	London (18.6)

The **social care-related quality of life score** is a composite measure, based on responses to survey questions that cover eight domains: control, dignity, personal care, food and nutrition, safety, occupation, social participation and accommodation.

SOURCE: NHS Digital; CF analysis 2018

Social care service users indicate that most do not have as much social contact as they like, although most do report having control over daily life

Proportion who have as much social contact as they like, %

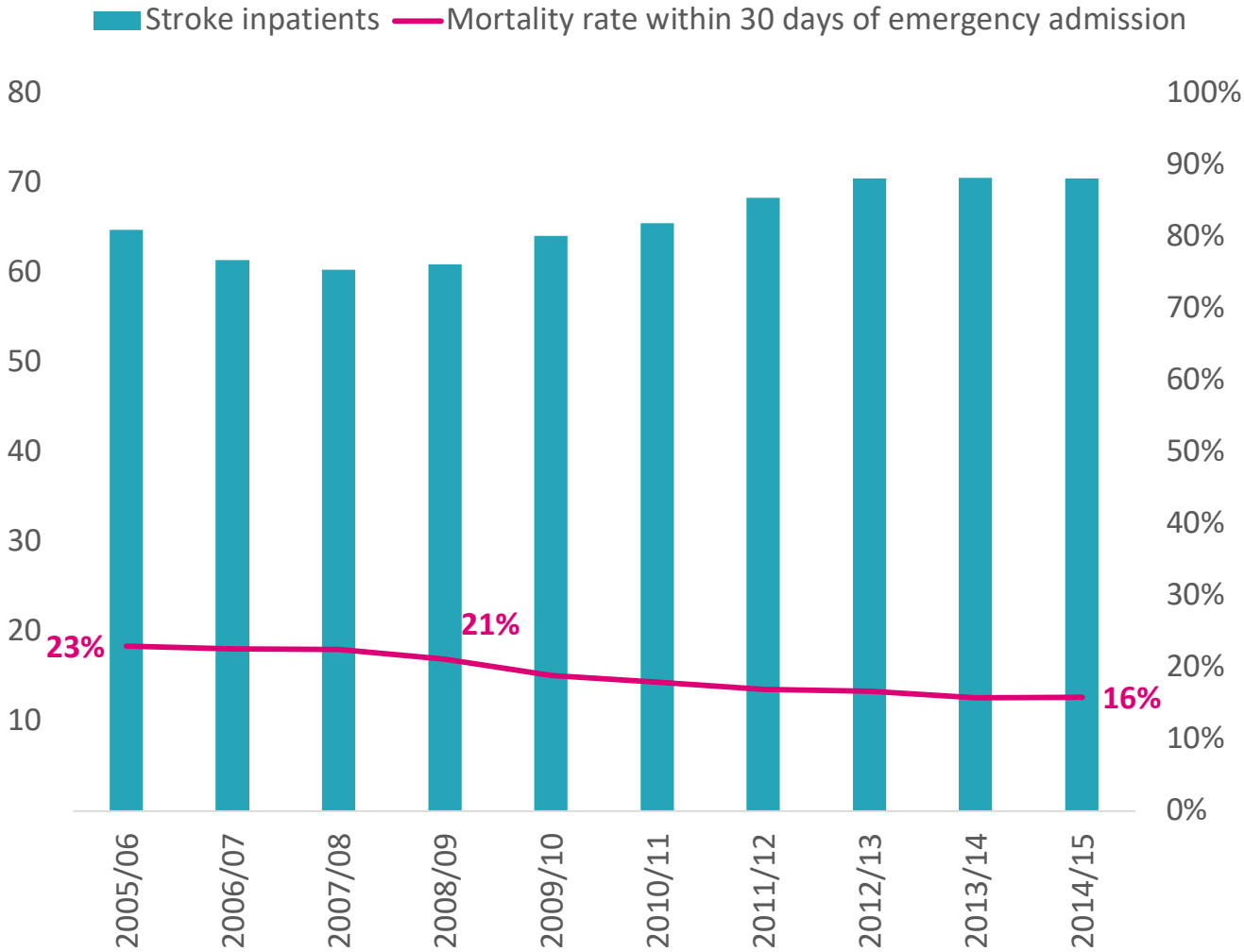**Proportion who have control over their daily life, %**
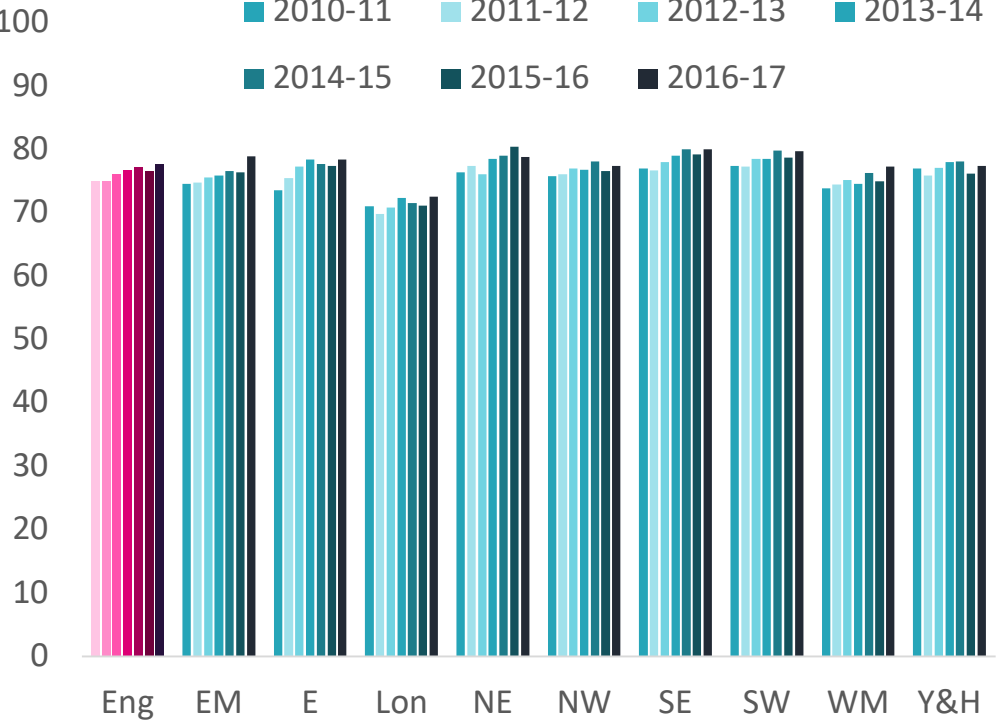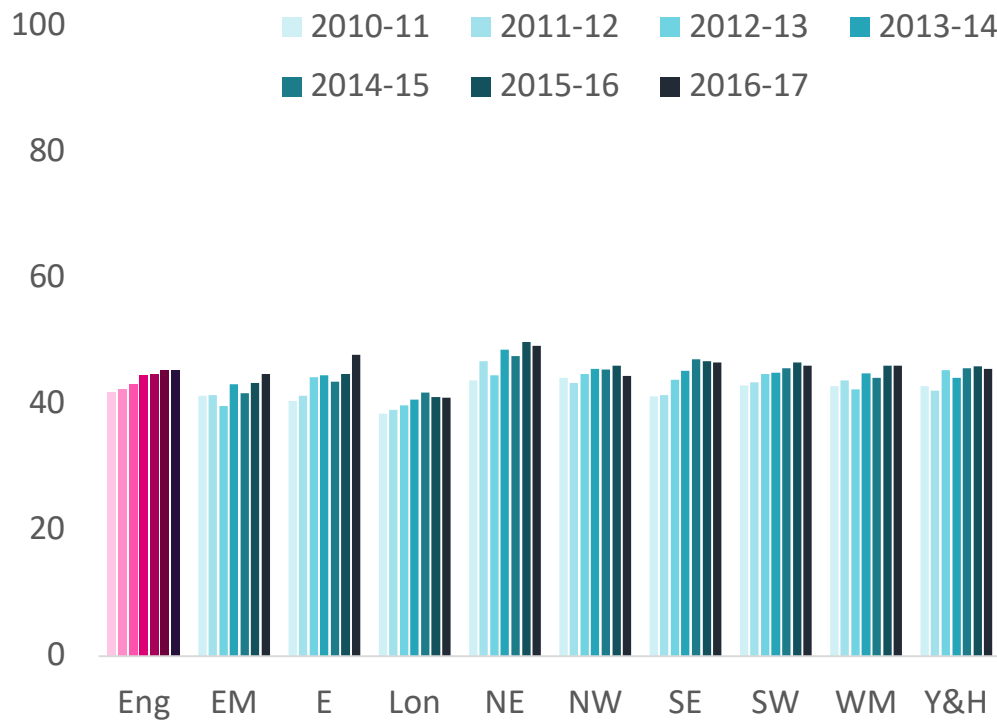
- Fewer than half of social care recipients have as much social contact as they would like, with London showing the poorest results at just 41% in 2016/17

- The proportion of social care users who have control over their daily life has seen a modest increase, of 3% up to 78%, between 2010/11 – 2016/17

SOURCE: NHS Digital; CF analysis 2018

Stroke 30-day mortality rates have decreased from 23% in 2005 to 21% in 2008 and 16% in 2015

Number of inpatients admitted as a result of stroke in '000, and mortality rate (England)
From 2005/06 to 2014/15

- There was a gradual increase in the number of patients admitted for stroke between 2007/08 and 2014/15, rising from 60,000 to 70,000

- The fall in stroke mortality is due to improvements in the quality of care. This can be attributed to a number of factors, such as more service users having access to brain scans within 24 hours and increasing use of thrombolysis

SOURCE: HES; CF analysis 2018

While nationwide improvement in stroke care can be seen, significant gaps remain and the uptake of proven models remains variable

Stroke patients who receive thrombolysis, % patients by CCG (England)
From April to Jul 2017

Average   London   20
                     Ambition   40

0
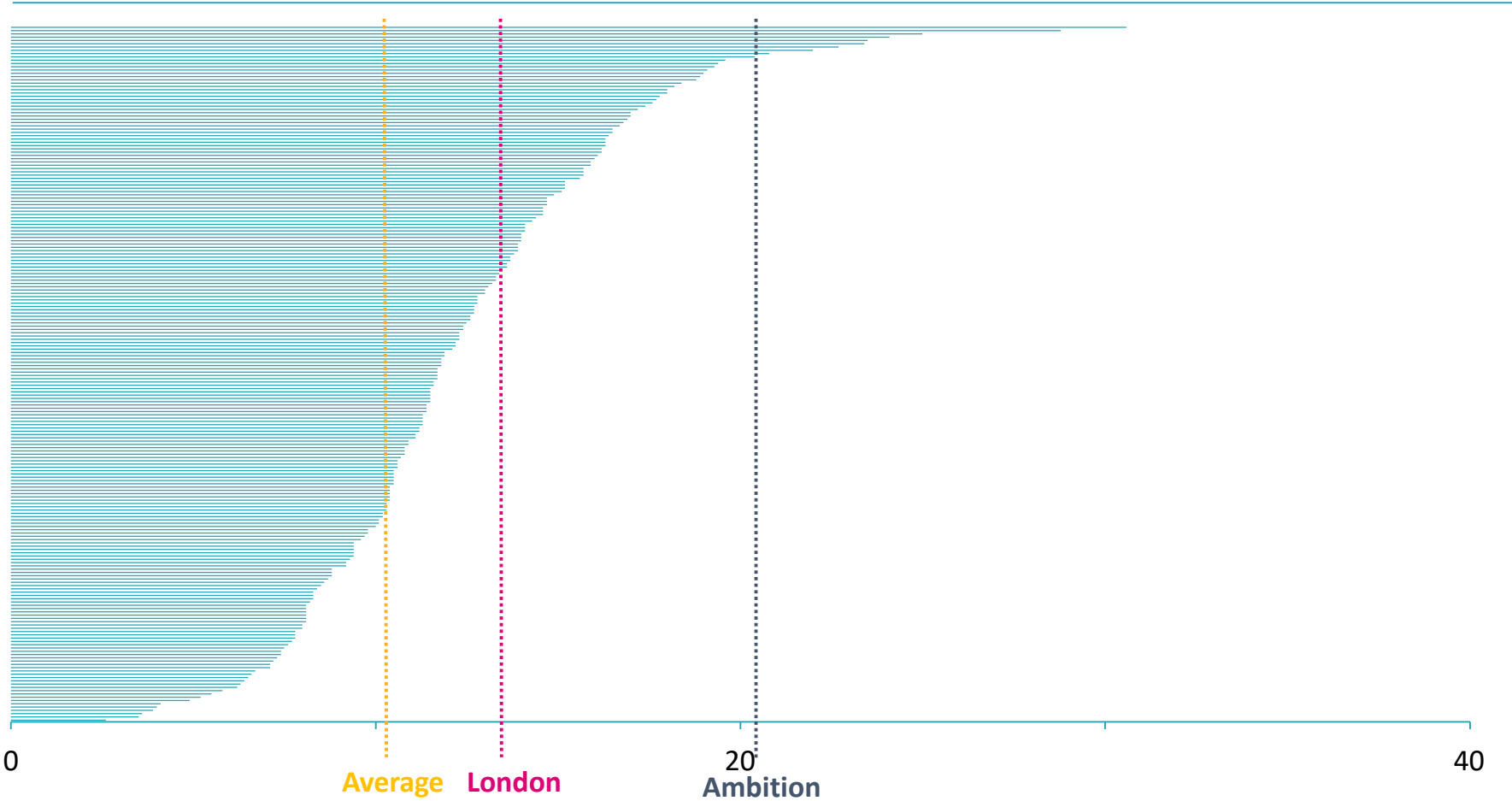
SOURCE: SSNAP2016-17 Annual Report, CF analysis 2018

In England, cancer survival rates have steadily improved, with the 1-year survival rate rising from 67% in 2008 to 72% in 2015

Cancer survival rates, % by 5 year cohort (England)
From 2000 to 2015

■ 1 year survival rates all conditions ■ 5 year survival rate all conditions

67.4

72.3
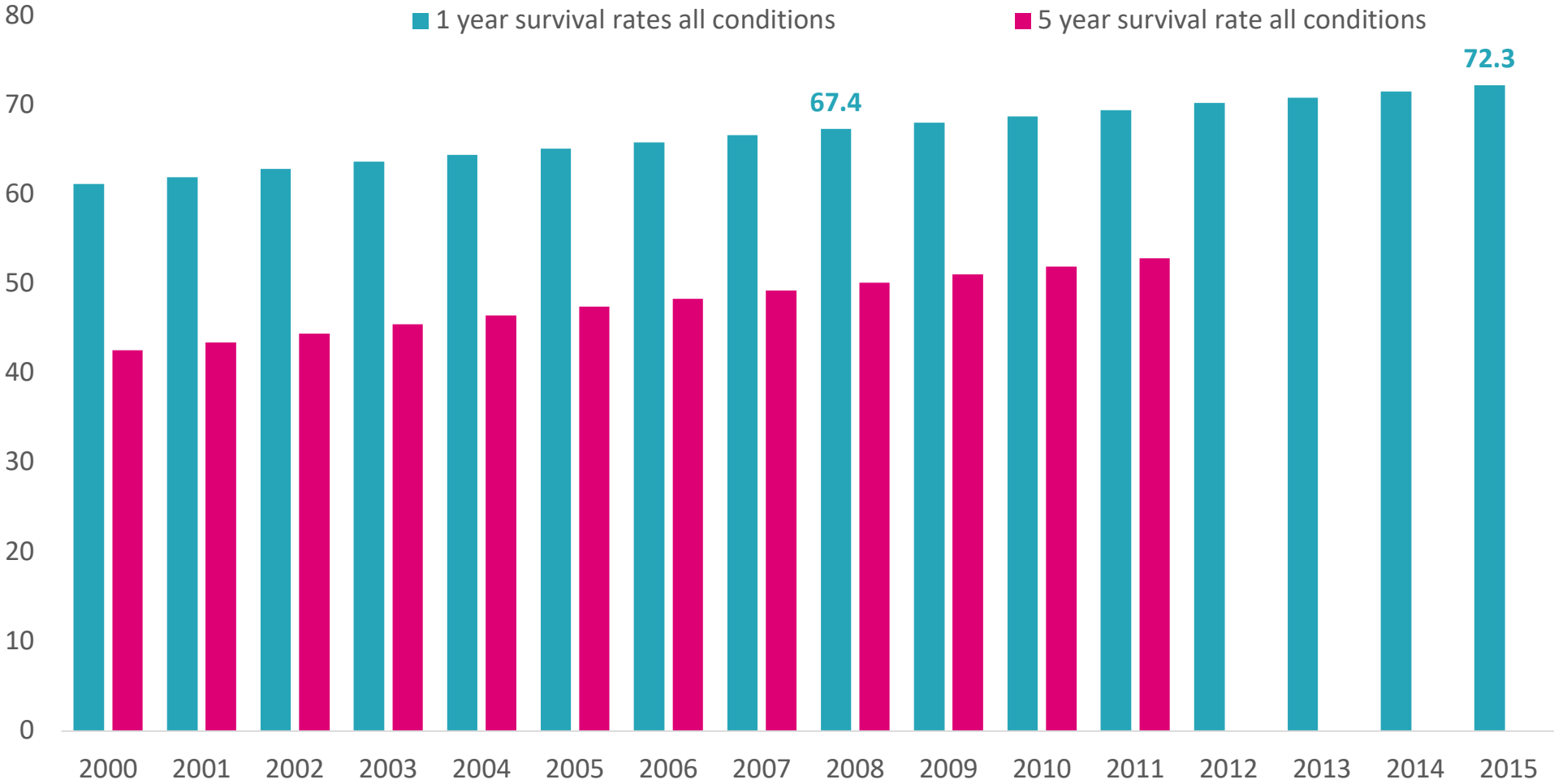
SOURCE: NHS England, Outcomes framework – Cancer survival statistics, England , CF analysis 2018

However, compared to other countries, the UK underperforms in five-year survival rates for most cancers (exception: childhood leukaemia)

Average five-year cancer survival rate by site for the UK and selected international comparators, %
2005 to 2009

UK survival rates
2005-2009

Legend: ■ United States ■ Canada ■ France ■ Germany ■ Italy ■ Japan ■ United Kingdom
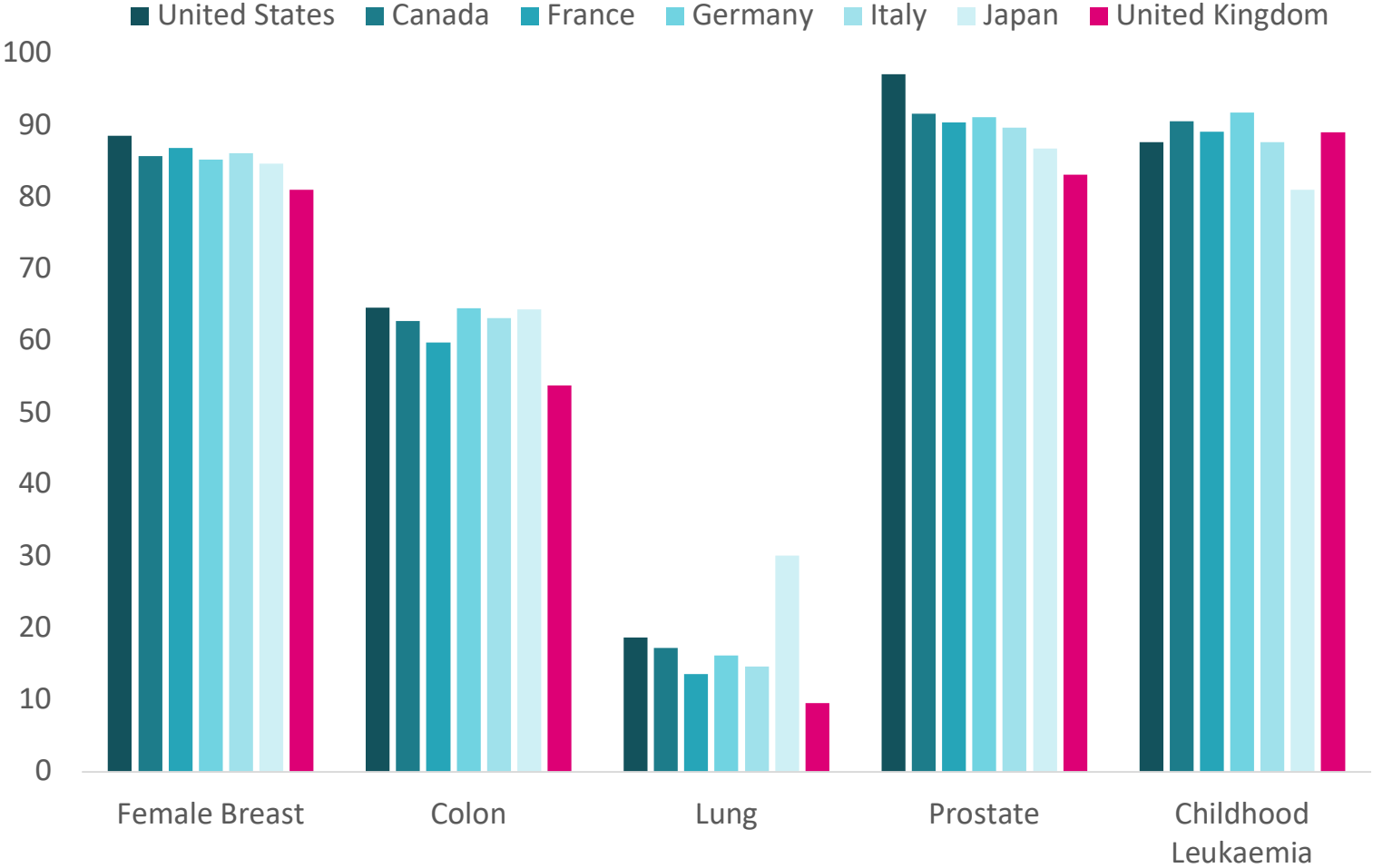
Female breast — 81.1%

Colon — 53.8%

Lung — 9.6%

Prostate — 83.2%

Childhood Leukaemia — 89.1%

Cardiac surgery mortality rates have dropped by 1% overall and 2.5% for complex procedures since 2006. Cardiac surgery case mix has become increasingly complex

Mortality by procedure complexity and overall mortality, %
**2006 to 2015**
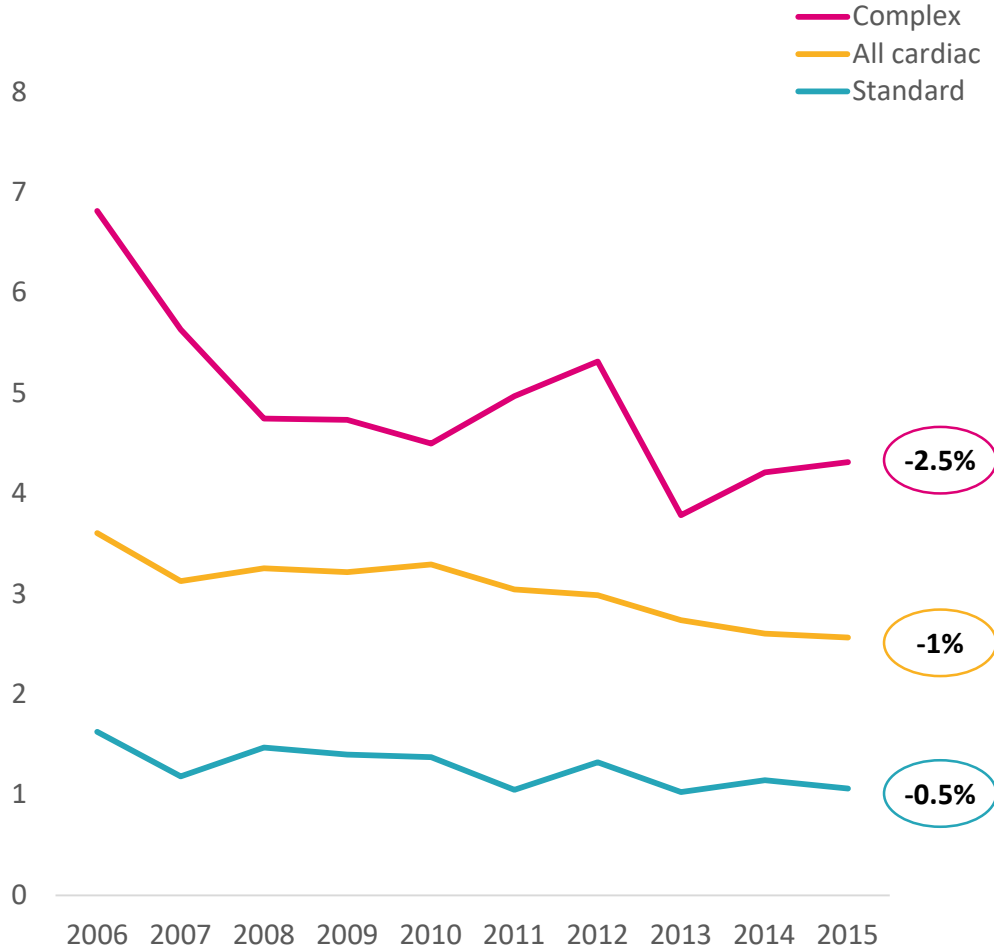
Cardiac surgery case mix in % of combined
2006 to 2015
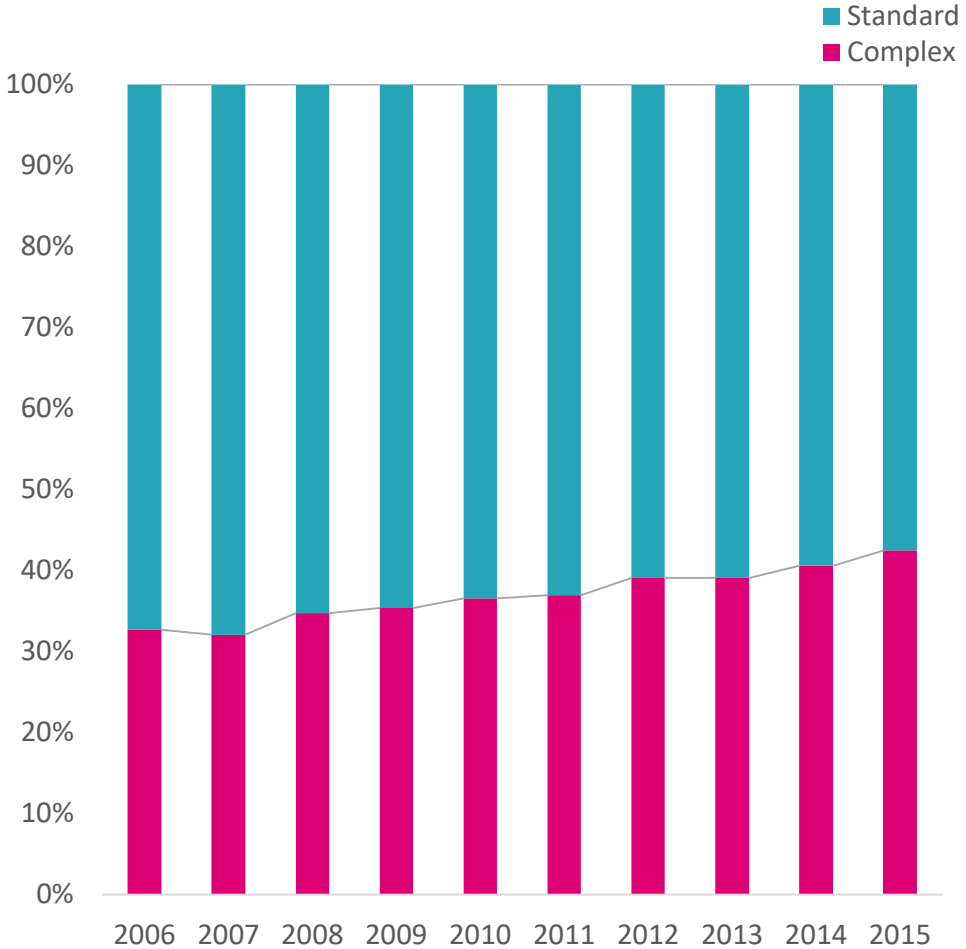
SOURCE: The Society for Cardiothoracic Surgery in Great Britain & Ireland, CF analysis 2018; NB: Complex procedures: AVR + CABG, isolated mitral procedures, mitral procedures + CABG, isolated mitral repairs, mitral repairs + CABG, isolated mitral replacements, mitral replacements + CABG; Standard procedures: isolated elective CABG, isolated AVR.

Maternity mortality rates have fallen from 6.9 to 4.5 deaths per 100,000 live births between 2008 and 2015

Maternal mortality, deaths by 100,000 live births (UK)
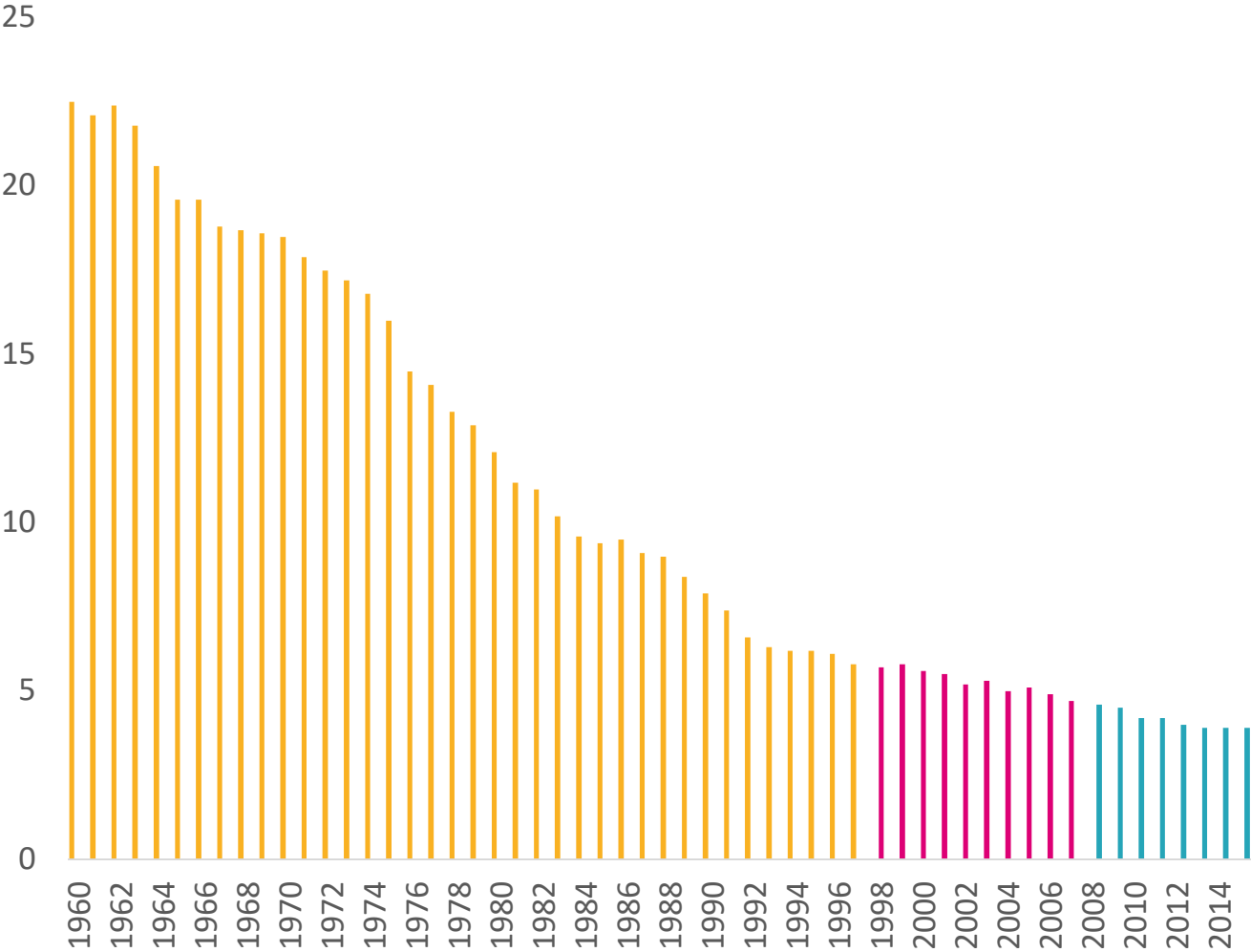**From 1960-2015**
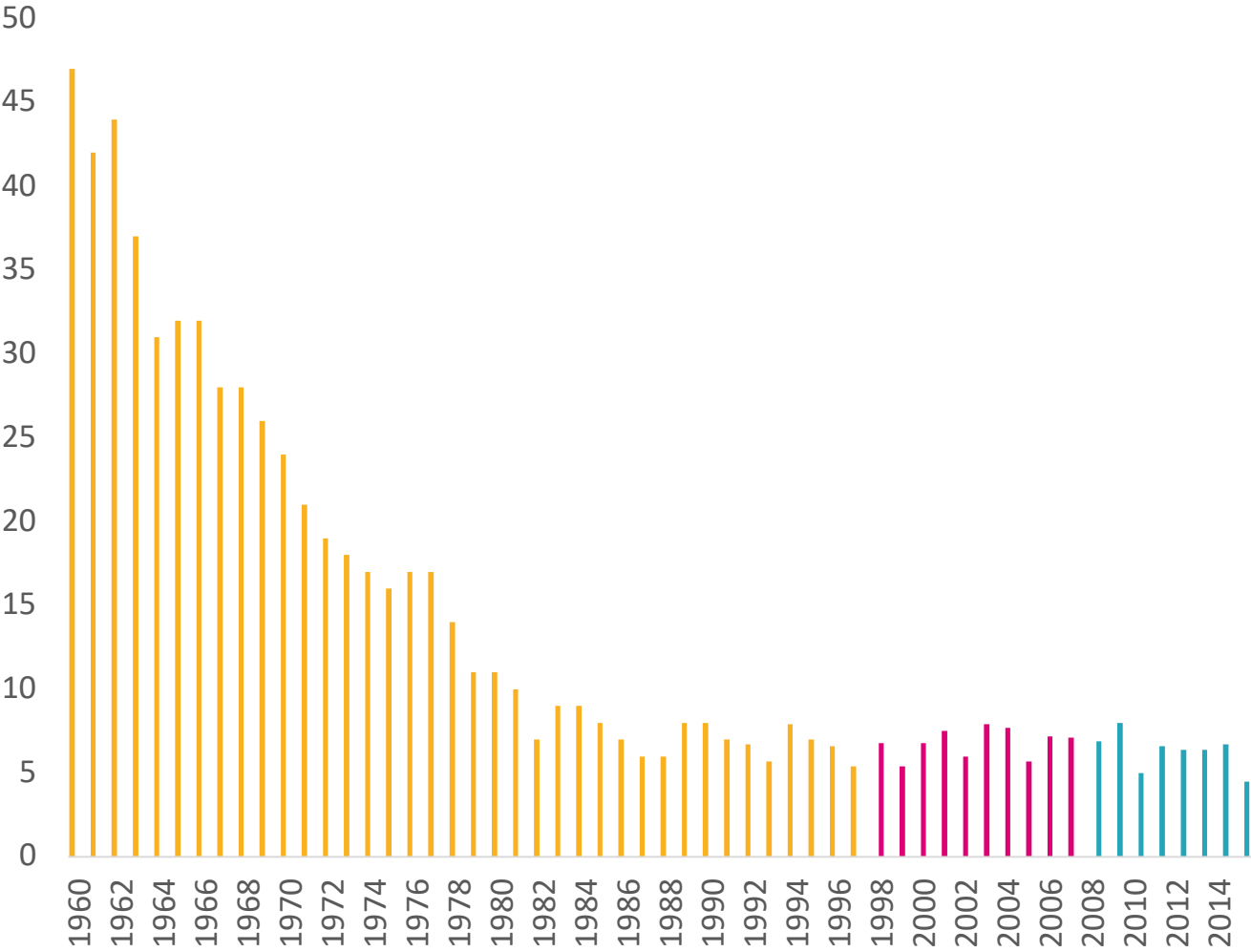
Date	Average	Compound annual growth rate
2008-2015	6.3	-5.2%
1998-2007	6.8	0.4%
Pre-1998	17.3	-5.7%

SOURCE: OECD Stats, CF analysis 2018

Infant mortality rates have fallen from 4.6 to 3.9 deaths per 100,000 live births between 2008 and 2015

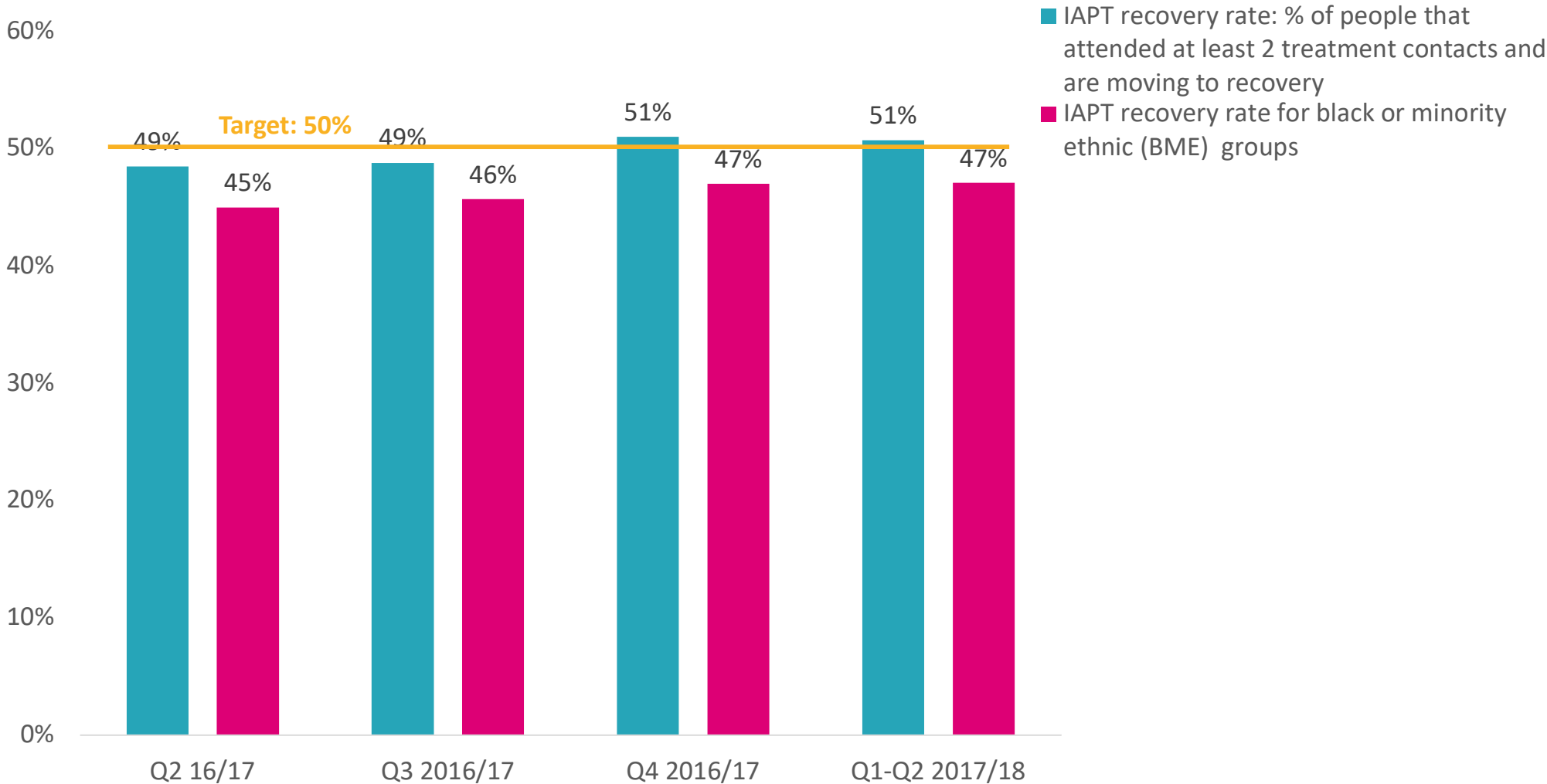**Infant mortality, deaths by 100,000 live births (UK)**
From 1960-2015

Date	Average	Compound annual growth rate
2008-2015	4.2	-2.0%
1998-2007	5.3	-1.9%
Pre-1998	13.6	-3.5%

SOURCE: OECD Stats, CF analysis 2018

IAPT recovery rates for adults with anxiety disorders and depression have been on target since Q4 16/17

**IAPT recovery rate performance, % (England)**
From Q2 16/17 to Q1-Q2 17/18

Legend:
- IAPT recovery rate: % of people that attended at least 2 treatment contacts and are moving to recovery
- IAPT recovery rate for black or minority ethnic (BME) groups

Target: 50%

Quarter	IAPT recovery rate	BME groups
Q2 16/17	49%	45%
Q3 2016/17	49%	46%
Q4 2016/17	51%	47%
Q1-Q2 2017/18	51%	47%

SOURCE: Mental Health Five Year Forward View Dashboard, CF analysis 2018
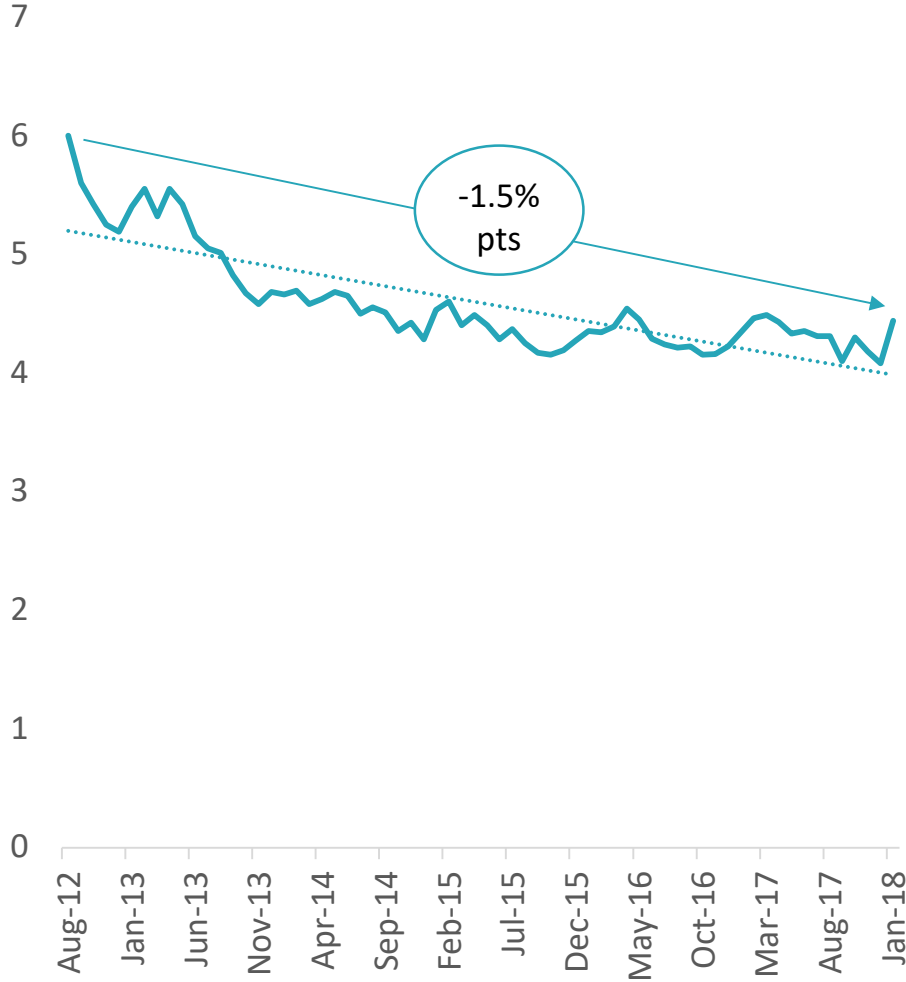
Patients receiving harm-free care has increased from 92% in 2012 to 94% in 2017. Proportion of patients with new pressure ulcers decreased by 1.5% pts

Patients receiving harm-free care, % (England)
2012 to 2017
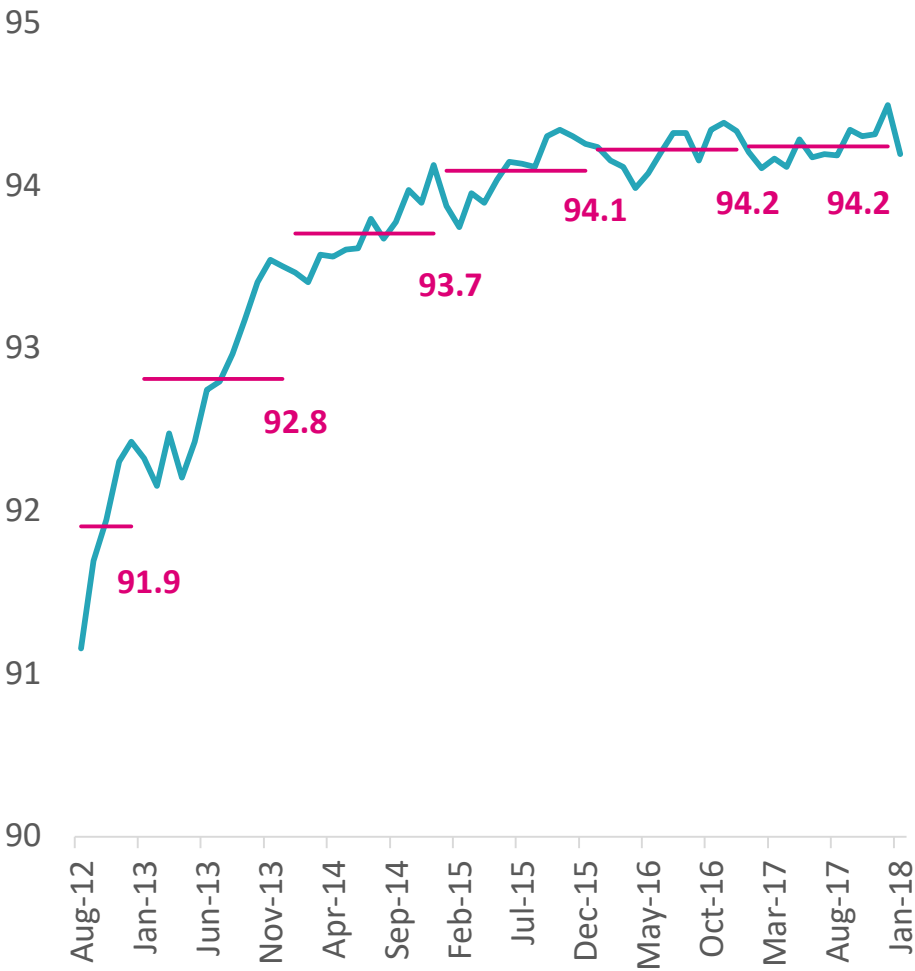
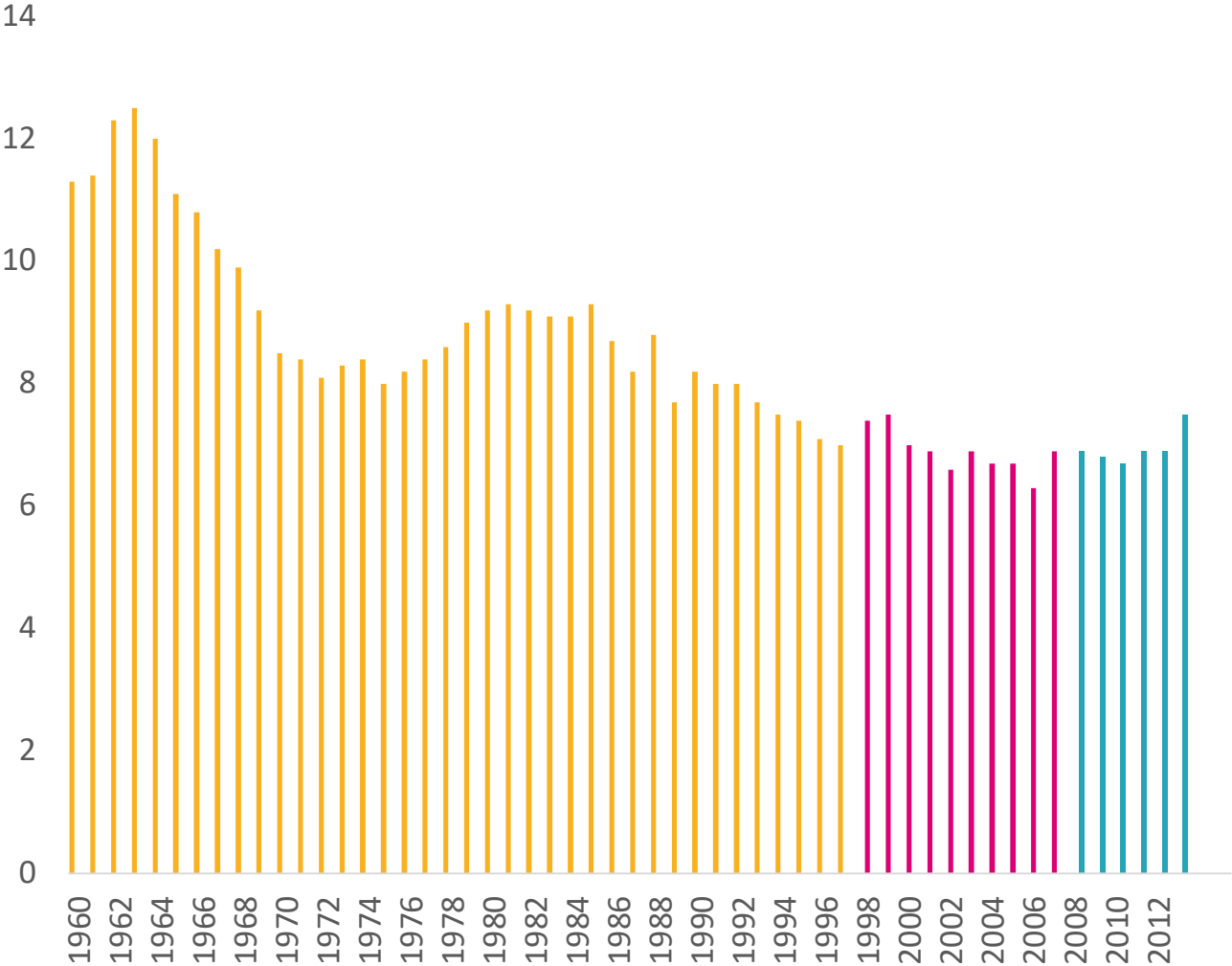**Patients with new pressure ulcers, % (England)**
From Aug 2012 to Dec 2017

91.9

92.8

93.7

94.1

94.2

94.2

-1.5% pts

SOURCE: NHS Safety Thermometer, CF analysis 2018

Deaths by suicide, a measure of mental health outcomes, increased from 6.9 deaths in 2008 to 7.5 in 2013 per 100,000 population

Suicide per 100,000 population (UK)
From 1960-2013

Date	Average	Compound annual growth rate
2008-2013	7.0	1.0%
1998-2007	6.9	-1.0%
Pre-1998	9.1	-1.0%

SOURCE: OECD Stats, CF analysis 2018

C. diff. and MRSA infections have fallen by 43k and 4k respectively since 2008; MSSA infections have increased

Healthcare Associated Infections, total case count in '000 (England)
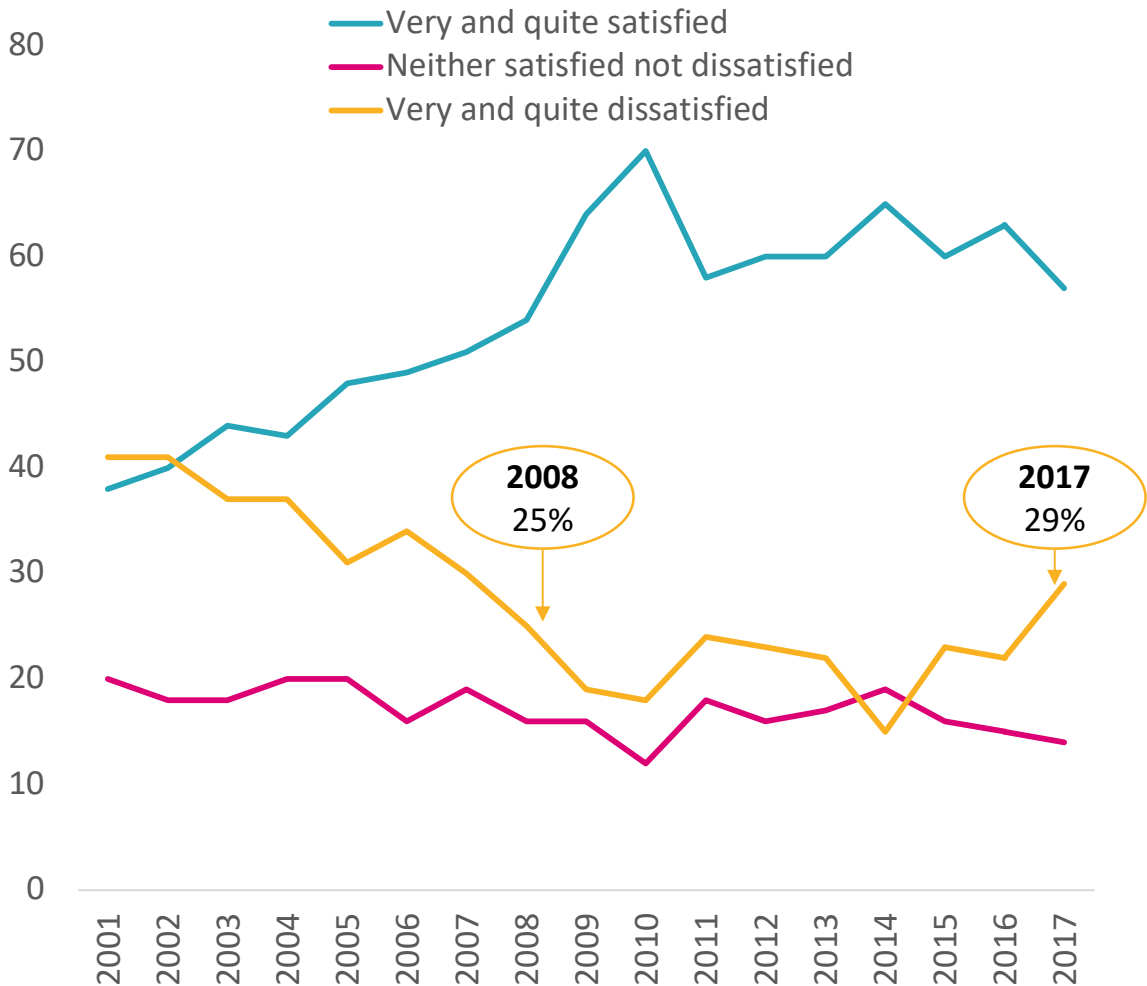**From 2007/08 to 2016/17**
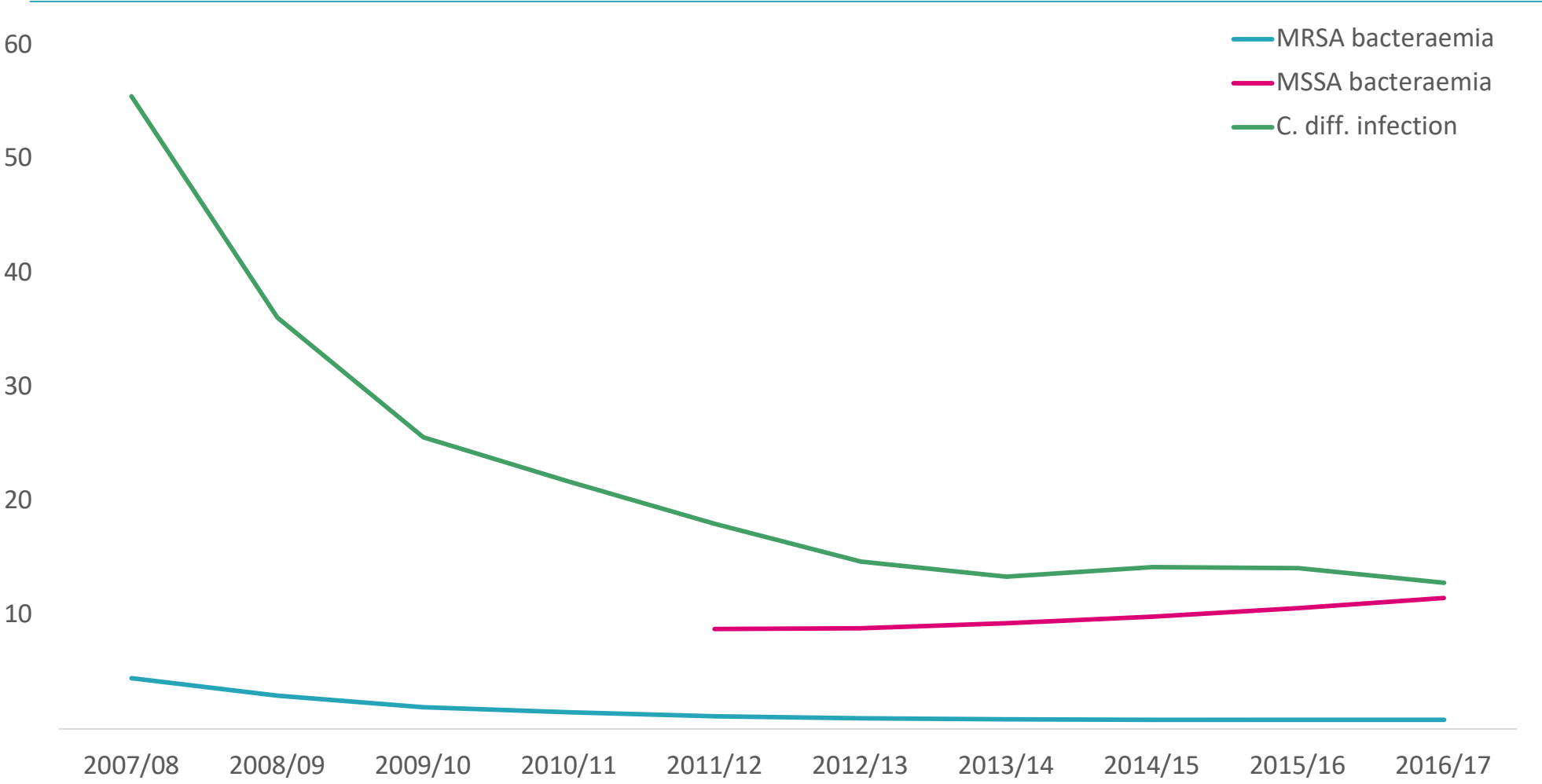
SOURCE: Public Health England, CF analysis 2018

Despite many improvements in quality of care, overall public satisfaction has dropped and dissatisfaction has increased from 25% in 2008 to 29% in 2017

**Public attitude towards the NHS, %**

From 2001 to 2017

Legend:
— Very and quite satisfied
— Neither satisfied not dissatisfied
— Very and quite dissatisfied

2008
25%

2017
29%

Public satisfaction with the NHS declines sharply

Social attitudes survey suggests Britons blame government underfunding
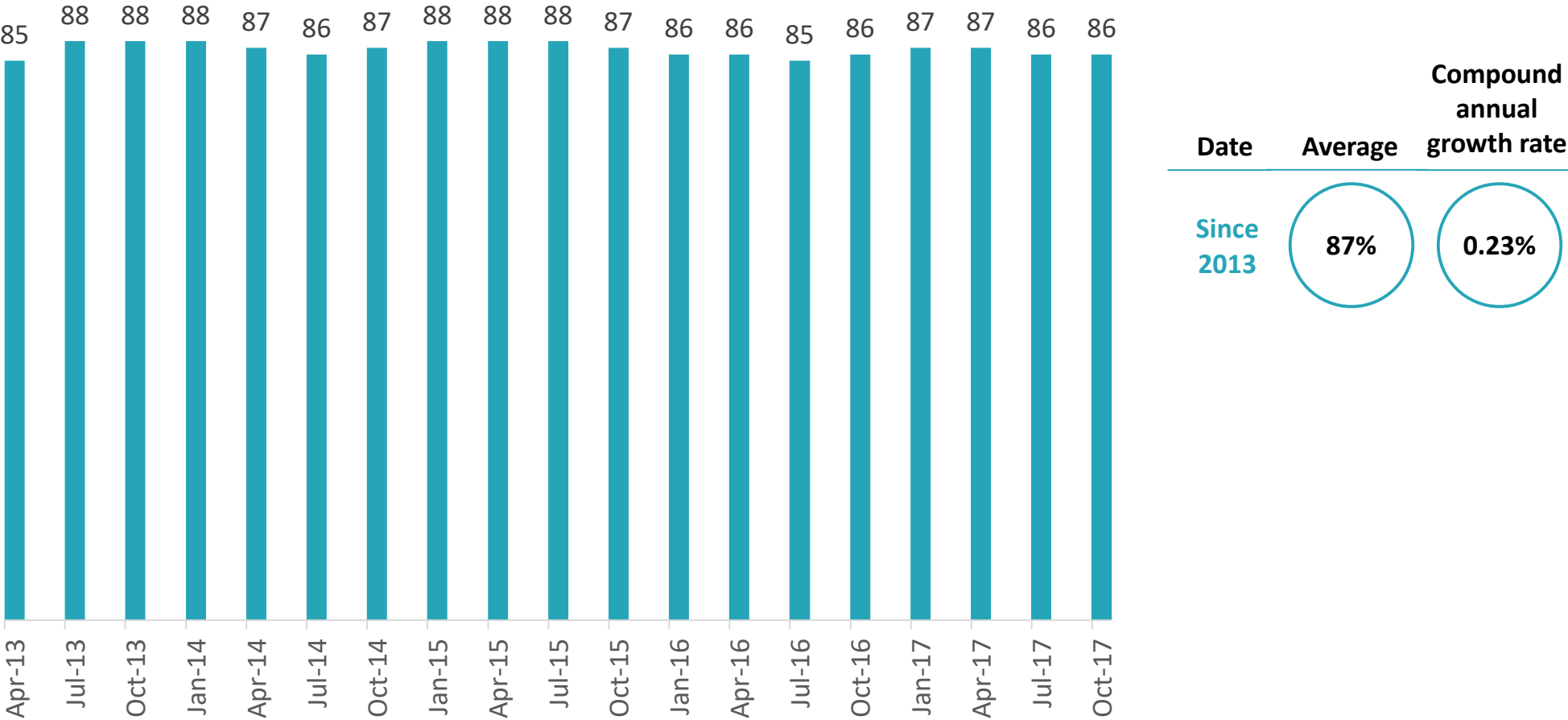
Accident & Emergency
Ambulance Entry Only

Those 'very' or 'quite' dissatisfied increased from 22% in 2016 to 29% in 2017 — the highest level in a decade © Getty

The King's Fund

Sharp drop in public satisfaction with the NHS, new analysis shows

Public opinion   Performance

SOURCE: King's Fund analysis of NatCen's British Social Attitudes survey data, CF analysis 2018
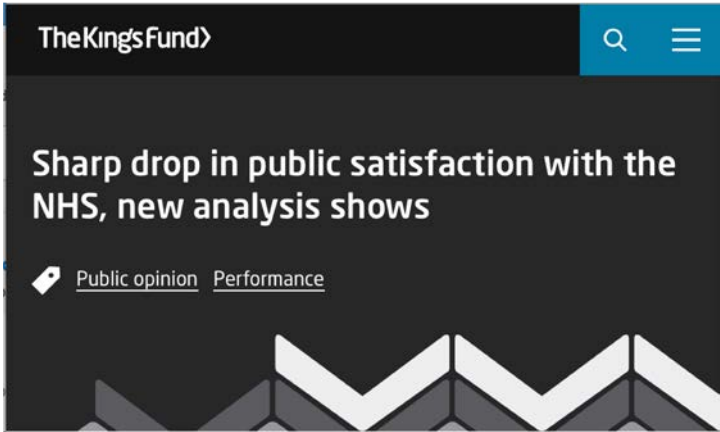
'Friends and family' test scores have remained stable since introduction, with an average of 87% A&E users saying they would recommend the service

Family and friends score for A&E, % of users that would recommend the service (England)
From April 2013 to October 2017

Date	Average	Compound annual growth rate
Since 2013	87%	0.23%

Bar chart values: 85, 88, 88, 88, 87, 86, 87, 88, 88, 88, 87, 86, 86, 85, 86, 87, 87, 86, 86

X-axis labels: Apr-13, Jul-13, Oct-13, Jan-14, Apr-14, Jul-14, Oct-14, Jan-15, Apr-15, Jul-15, Oct-15, Jan-16, Apr-16, Jul-16, Oct-16, Jan-17, Apr-17, Jul-17, Oct-17

Access

Executive summary: access

Access to care has significantly deteriorated since 2008:

Social care
- The number of people accessing publicly funded social care dropped by 5% a year from 2008 to 2016 as eligibility thresholds have been raised
- The need for care has been constant over last three years. Up to 23% of need from those aged 65+ is unmet, with the lowest income segment suffering most. Since 2008, the number of people receiving continuous informal care has remained consistent but the total informal care hours has increased by c.600m
- Access to reablement and rehab services for those aged 65+ following discharge decreased by 0.6% since 2013/14

Primary medical care
- Since 2008 the number of GPs has marginally increased both in absolute numbers and per 100,000 population
- The number of patients seen by a nurse or GP the same or following working day has fallen by 3% since 2012
- Screenings: the uptake of invitations to breast and cervical cancer screening in England has dropped since 2009, while uptake of bowel cancer screening has marginally increased. London performs worst for all three screens
- More positively, the proportion of diabetes patients meeting treatment targets has increased by 2.4% points for Type 1 and 2.4% points for Type 2 between 2011/12 and 2016/17

Acute
- Urgent and emergency care access has hit crisis levels: 5x more patients waiting more than 4 hours, 8x increase in trolley waits, and 3% rise in occupancy levels (steadily above the 85% target). The NHS has historically faced higher occupancy levels relative to other European health systems.
- Planned care access has similarly seen a significant deterioration, with completed pathways within 18 weeks dropping from 88% to 76% and Consultant Referral Time to Treatment increasing by 1.5 weeks.
- Despite this, the Two Week Wait From GP Urgent Cancer Referral to First Consultant Appointment target has consistently been achieved

Mental health
- New referrals for adults with anxiety disorders and depression to talking therapies have increased by 57% since 2012/2013; wait times are stable and have been above FYFV target since Q2 16/17
- Completed Early Intervention in Psychosis pathways has declined since March 2017, while the share of 12+ weeks waiting times increased
- Access for children and young people with eating disorders remains significantly below the FYFV target of 95%
- Liaison and diversion services access target of 68% has only been achieved in one quarter since Q2 16/17

The number of people accessing publicly funded social care dropped by 5% a year from 2008 to 2016 as eligibility thresholds have been raised

People receiving publicly funded social care, millions (England)
From 2005/06 to 2016/17
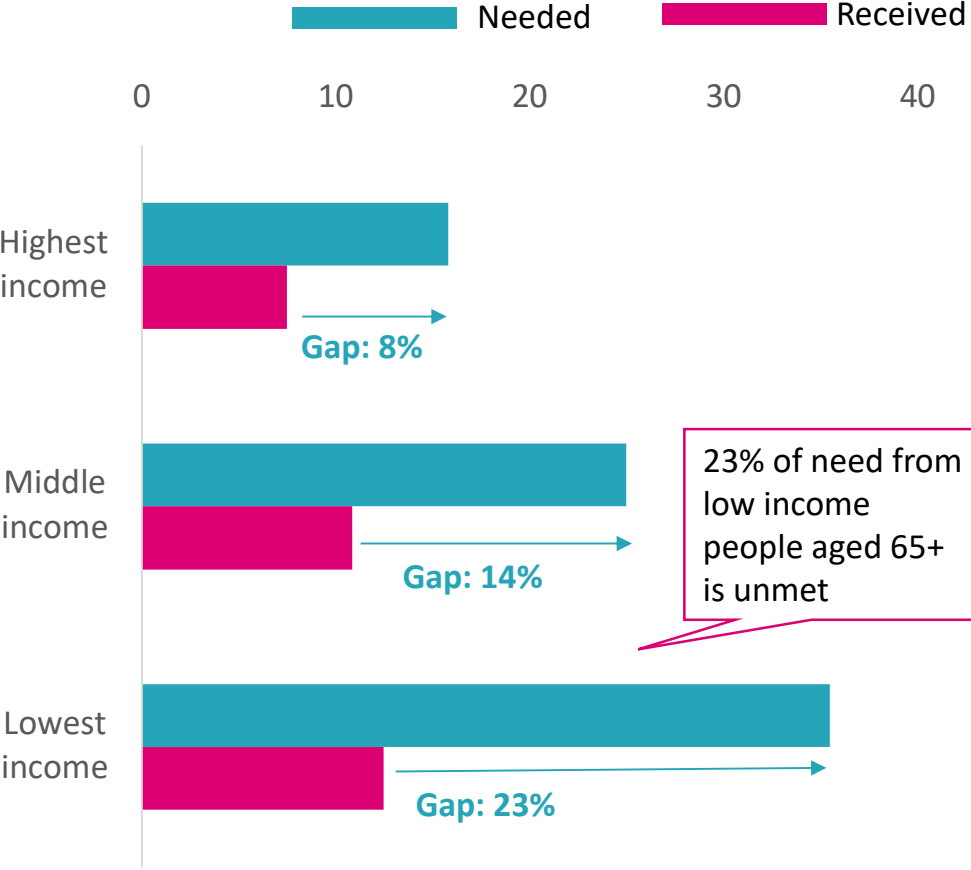

Pre 2008
CAGR

0.4%

2008-2016
CAGR

-5.0%
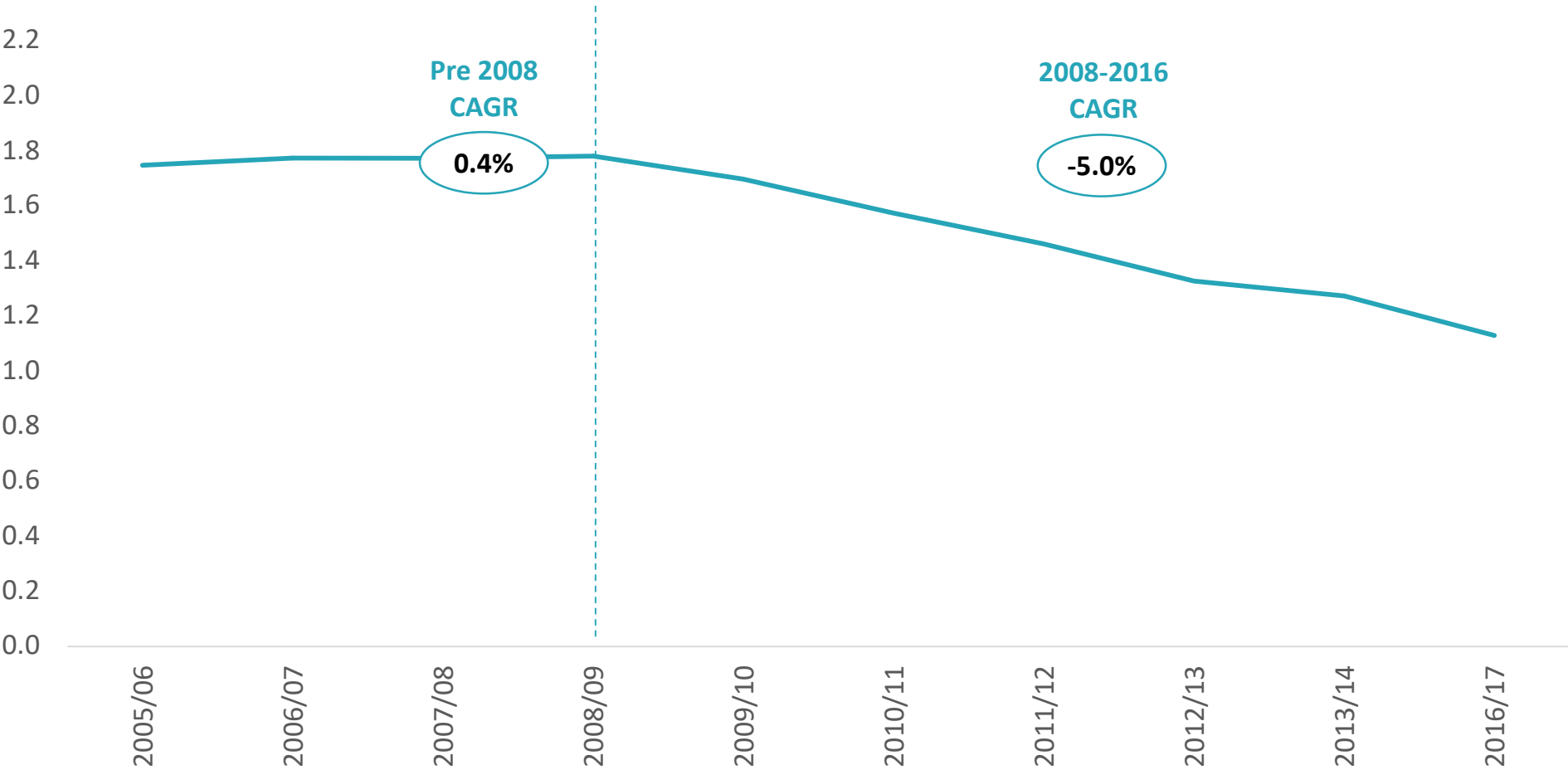
SOURCE: NHS digital; CF analysis 2018

Need for care has been constant over last three years. Up to 23% of need from those aged 65+ is unmet, with the lowest income segment suffering most

Number of requests for support received from new clients, millions (England)
2014/15 to 2016-17

■ 18 to 64 ■ 65 and over

Need for care among 65yr+ has been constant over past three years at 1.3m requests p.a.
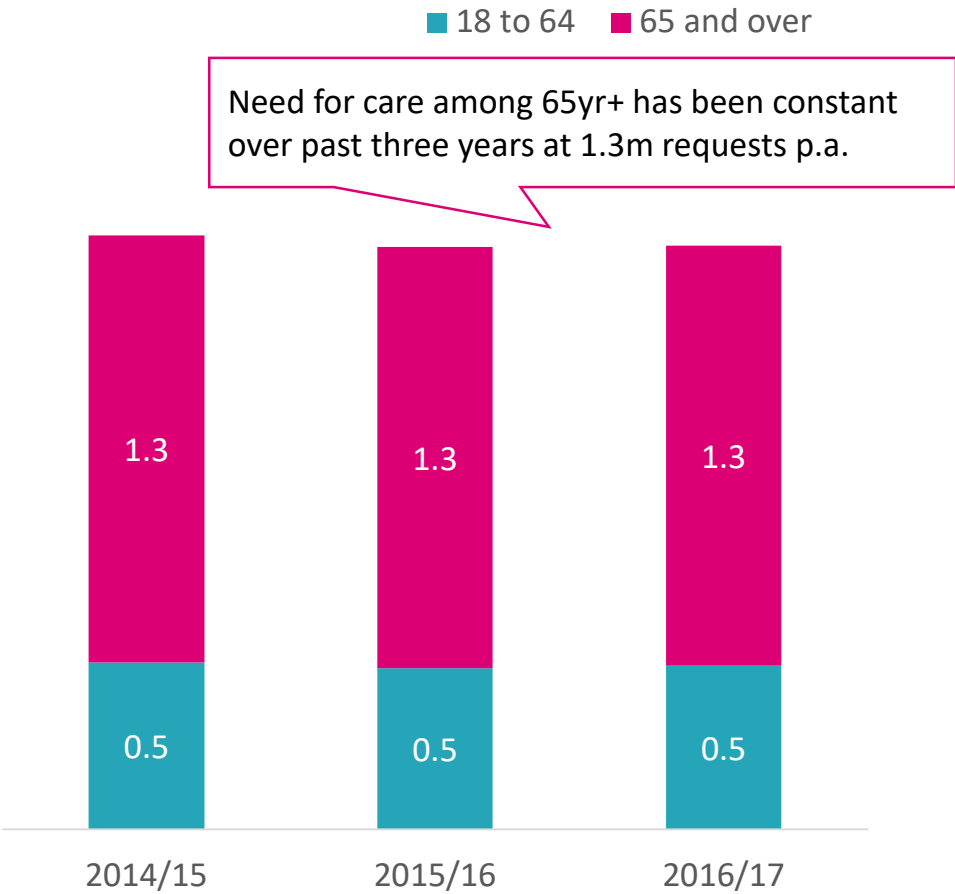
Unmet need within social care, % of people aged 65+ that need help with daily activities and those that receive help (England)
2016/17

■ Needed ■ Received

0   10   20   30   40

Highest income
Gap: 8%

Middle income
Gap: 14%

23% of need from low income people aged 65+ is unmet
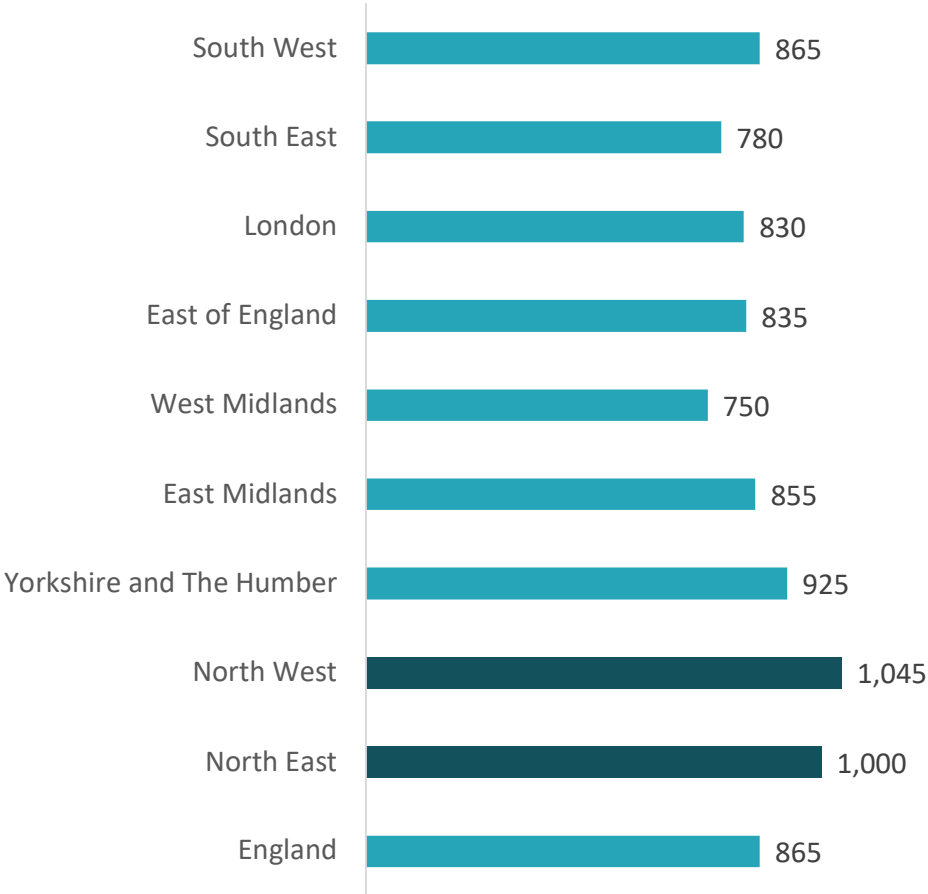
Lowest income
Gap: 23%

SOURCE: NHS digital; Health Survey for England; CF analysis 2018

North West and North East have most 18 to 64 year olds accessing long term social care support

Clients accessing Long Term support during the year by region, number of clients aged 18 to 64 per 100,000 adults (England)
**2016/17**

Region	Value
South West	865
South East	780
London	830
East of England	835
West Midlands	750
East Midlands	855
Yorkshire and The Humber	925
North West	1,045
North East	1,000
England	865

Clients accessing Long Term support during the year by region, number of clients aged 65 or over per 100,000 adults (England)
2016/17

| Region	Value
South West	4,920
South East	4,560
London	7,515
East of England	5,245
West Midlands	5,765
East Midlands	5,640
Yorkshire and The Humber	6,150
North West	6,895
North East	7,570
England	5,845

SOURCE: NHS Digital; CF analysis 2018

Since 2008, the number of people receiving continuous informal care has remained consistent but the total informal care hours has increased by c.600m

People receiving informal care, millions (England)
From 2008 to 2014

— Continuous (People, millions)
— Non continuous (People, millions)

Number of people receiving continuous informal care has remained constant at c.800k
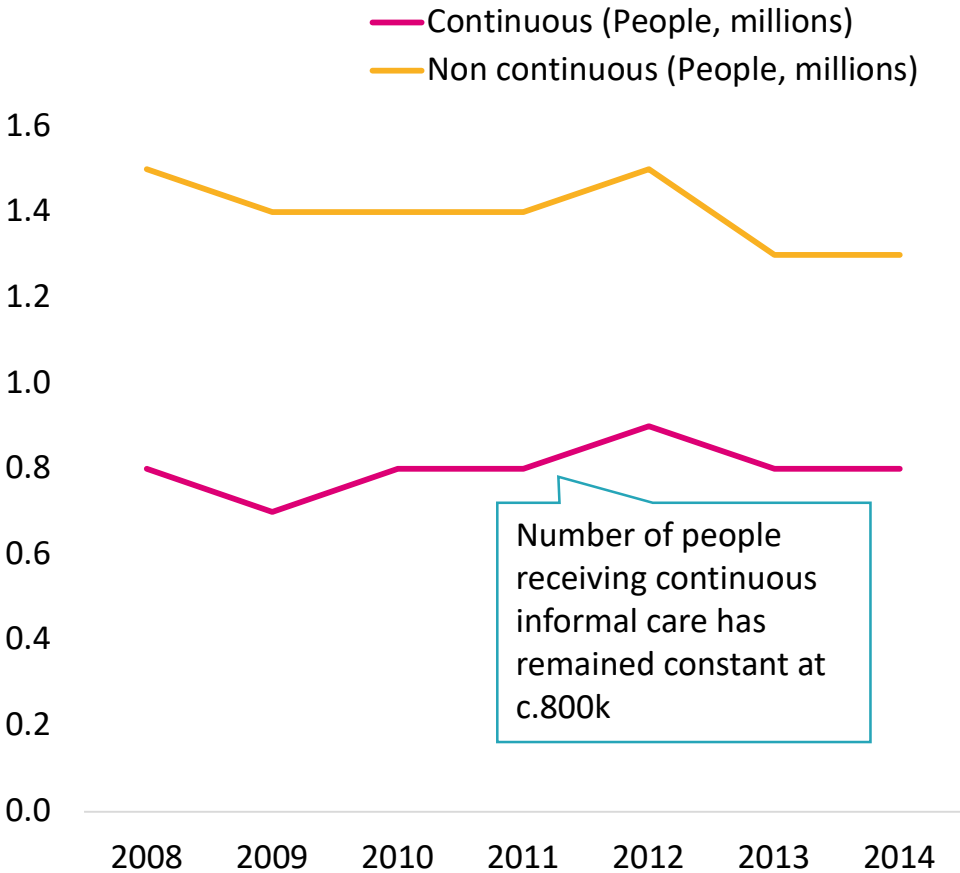
Total informal care hours, billions (England)
From 2008 to 2014

600m increase in total informal care hours since 2008
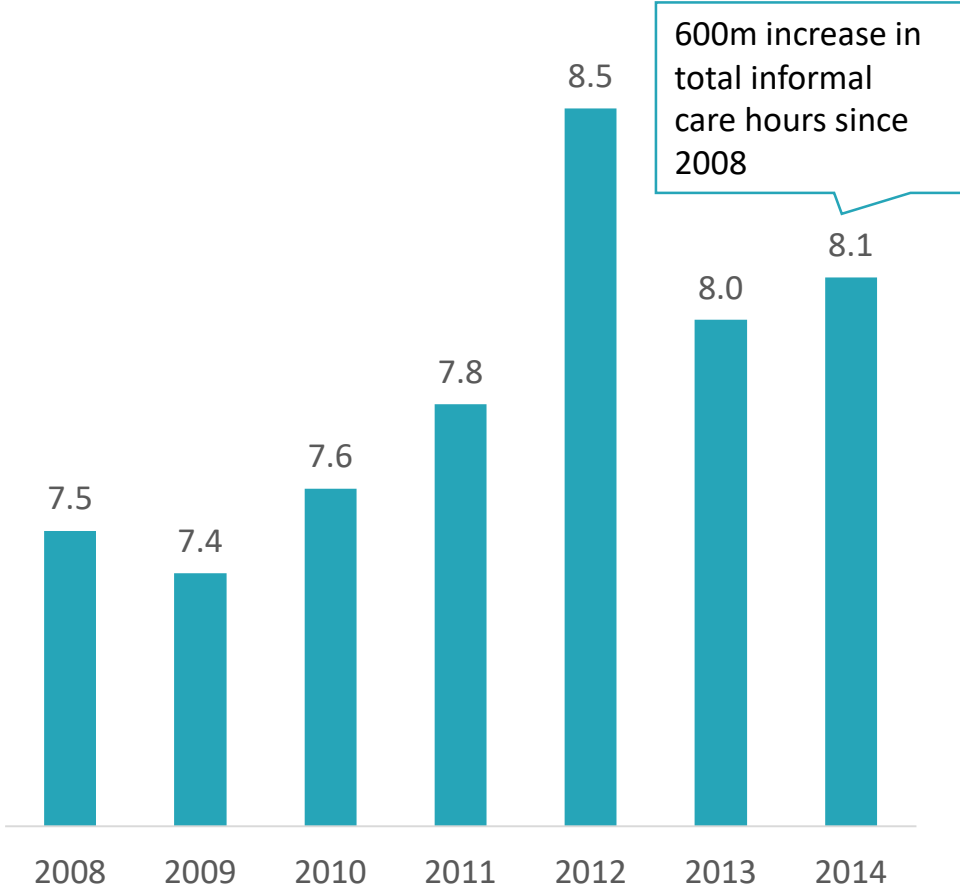
Note: Continuous care defined as 168 hours per week

Access to reablement and rehab services for those aged 65+ following discharge decreased by 0.6% since 2013/14

Proportion of people aged 65+ who received reablement / rehabilitation services after discharge from hospital, % (England)
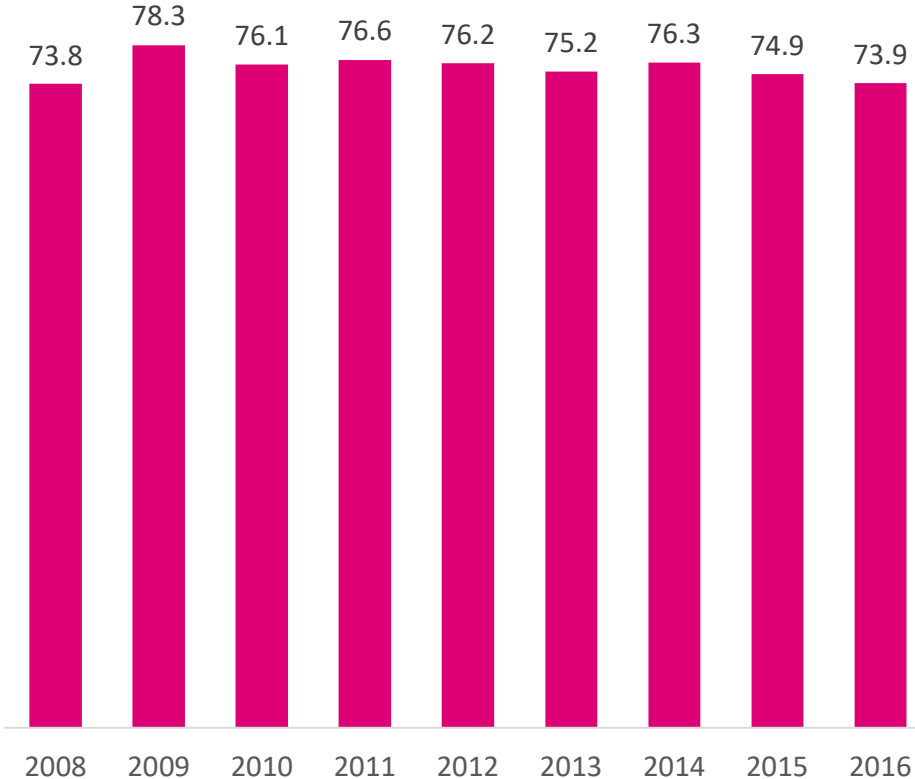**From 2010-11 to 2016-17**

-0.6%

Year	Value
2010-11	3.0
2011-12	3.2
2012-13	3.2
2013-14	3.3
2014-15	3.1
2015-16	2.9
2016-17	2.7
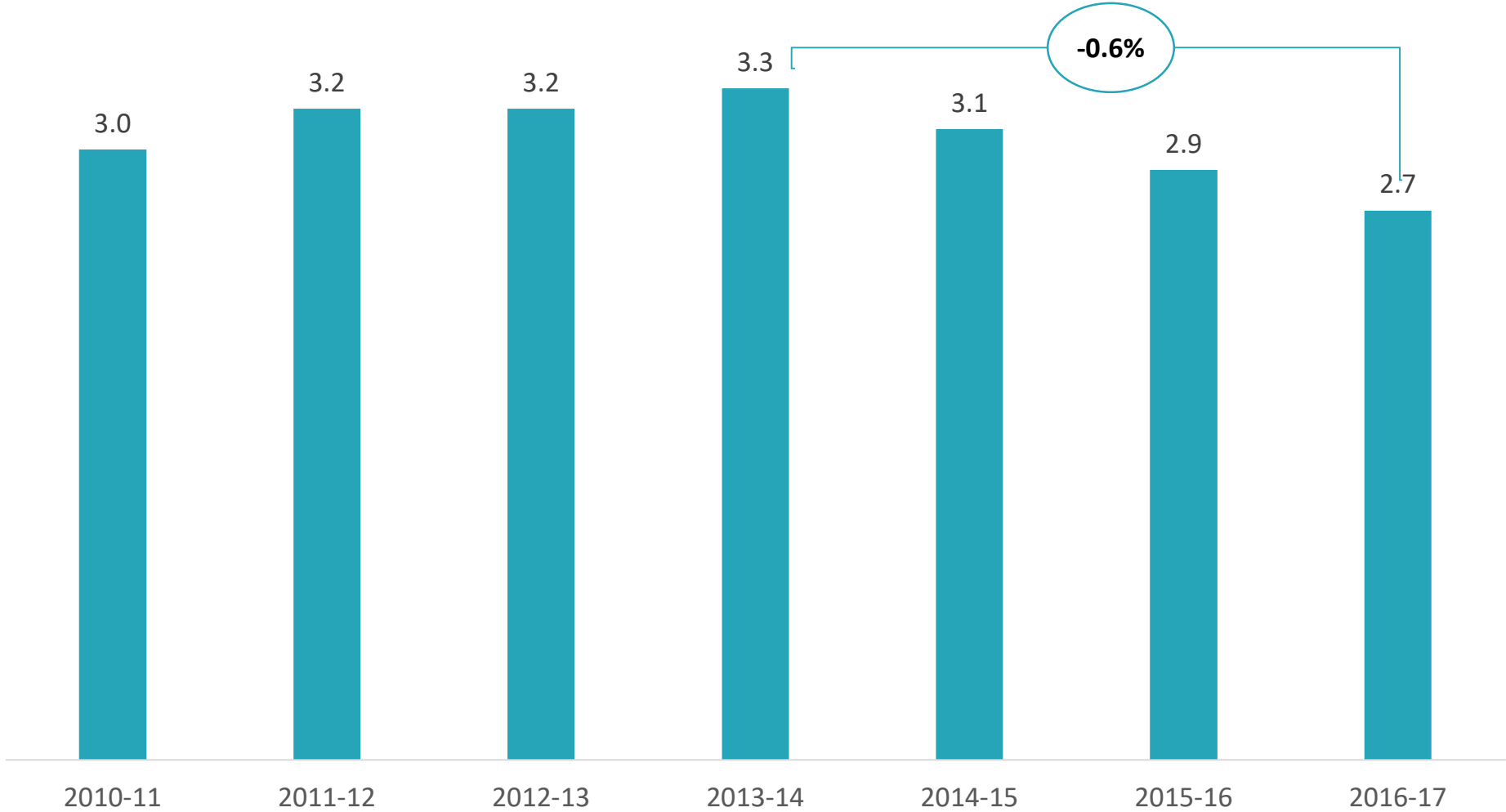
SOURCE: NHS Digital; CF analysis 2018

There was a 6% increase in GP numbers from 2008 to 2009 and a persistent decline thereafter until 2016

**Number of GPs per 100,000 population (England)**
From 2008 to 2016

Number of General Practitioners (excl. locums), Headcount (England)
From 2008 to 2017

CAGR: 0.5%

Year	GPs per 100,000	Headcount
2008	73.8	37,720
2009	78.3	40,269
2010	76.1	39,409
2011	76.6	40,008
2012	76.2	40,463
2013	75.2	40,236
2014	76.3	41,105
2015	74.9	40,697
2016	73.9	40,490
2017		39,843
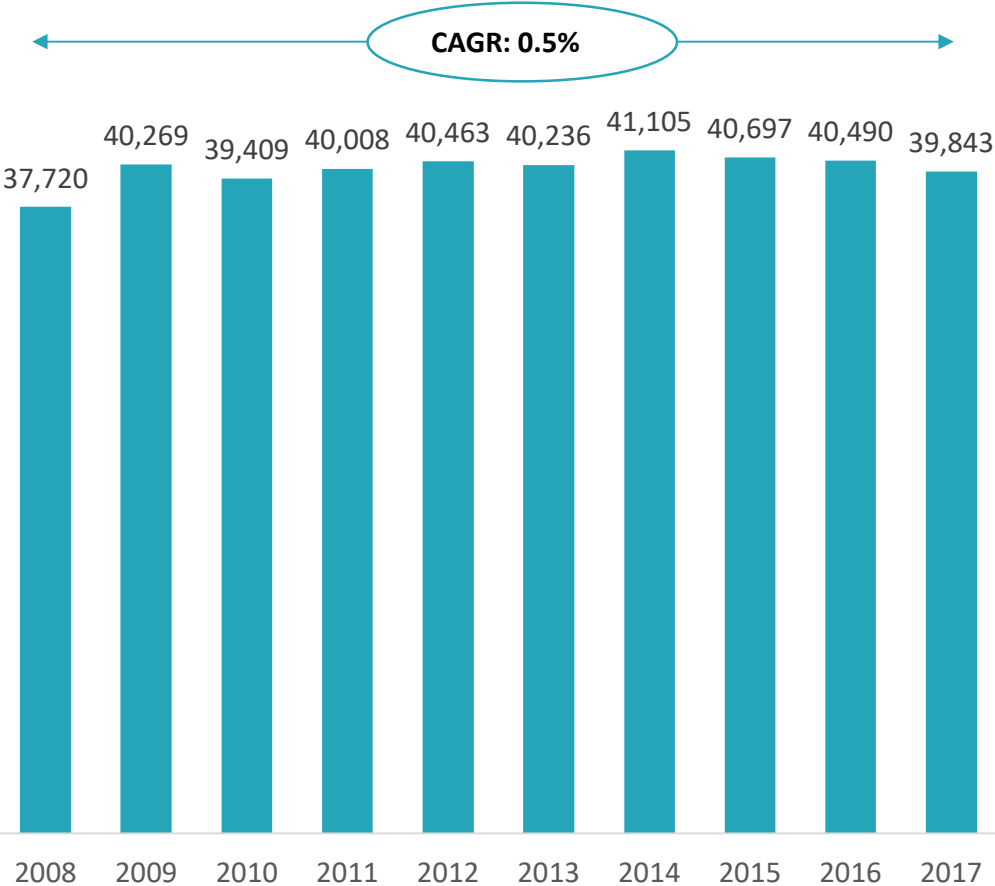
SOURCE: NHS Digital; CF analysis 2018

Since 2012, number of patients seen by a nurse or GP the same or the following working day after making contact has fallen by 3%

Patients seen by a nurse or GP the same or following working day after contacting the surgery, % survey respondents (UK)
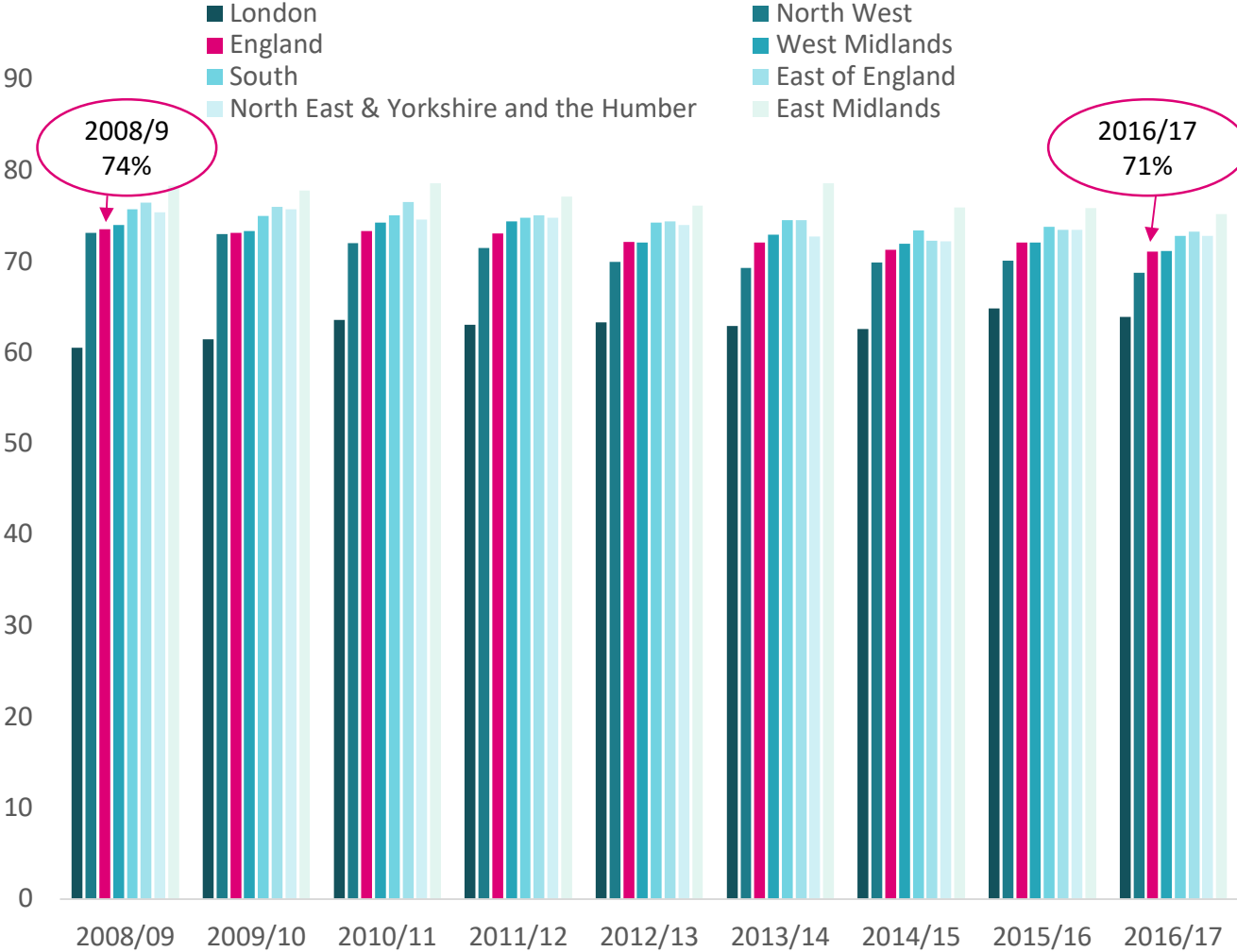**From 2012 to 2017**

-3%

51

48

| | on the next working day |
| | same working day |
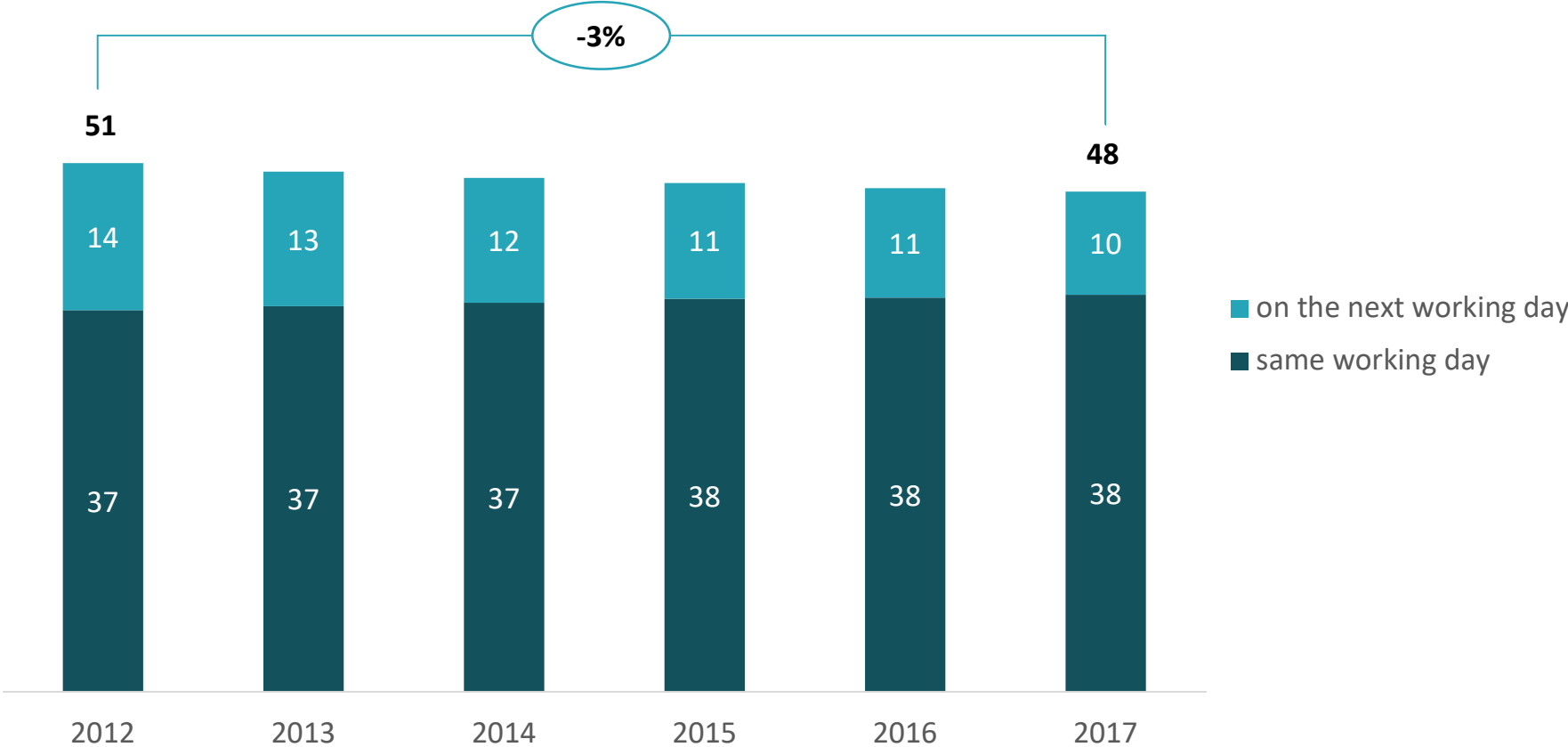
SOURCE: GP Patient Survey 2012-2017, CF analysis 2018

The uptake of invitations to breast screening in England has dropped from 74% in 2008/9 to 71% in 2016/17. Regional variation has reduced from 18% to 11%.

Uptake of invitation to attend breast screening, %
From 2008/09 to 2016/17

Worst and best performing regions 2008/09 and 2016/17

	2008/09	2016/17
Worst performing	London 60.6%	London 64.0%
Best performing	East Midlands 78.4%	East Midlands 75.2%
Range of values (inequality)	17.8%	11.2%
England average	73.6%	71.1%

SOURCE: NHS Digital, CF analysis 2018

Uptake of cervical cancer screenings has steadily dropped, across age groups and across all regions, since 2011

Uptake of invitation to attend cervical screening, by age group, %
**From 2011 to 2016**

Legend:
- 25-49
- 50-64
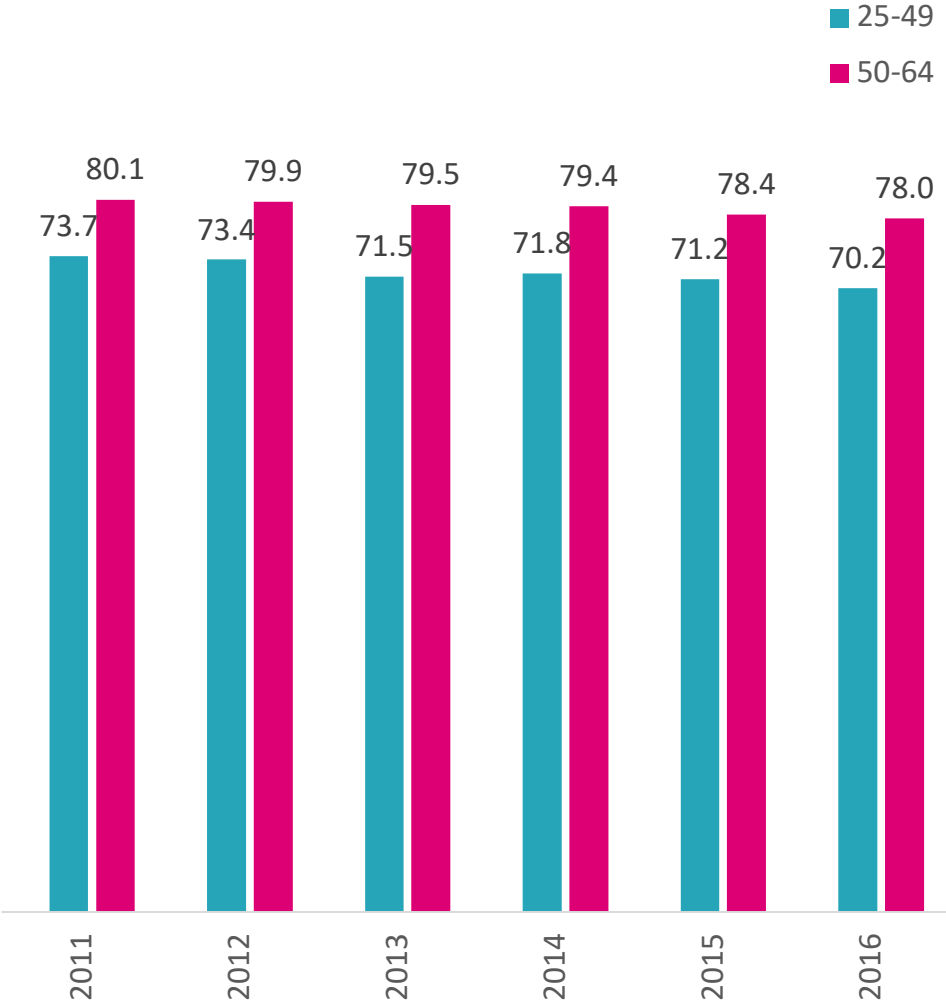
Regional variation of response to invitation for cervical cancer screening
2015/16 to 2016/17

Legend:
- London
- North West
- South West
- Yorkshire and the Humber
- West Midlands
- South East
- North East
- East Midlands

SOURCE: NHS Digita, CF analysis 2018 l

Uptake of bowel cancer screenings has marginally increased since 2009/10

Uptake of invitation to attend bowel cancer screening within 6 months
From 2009/10 to 2016/17
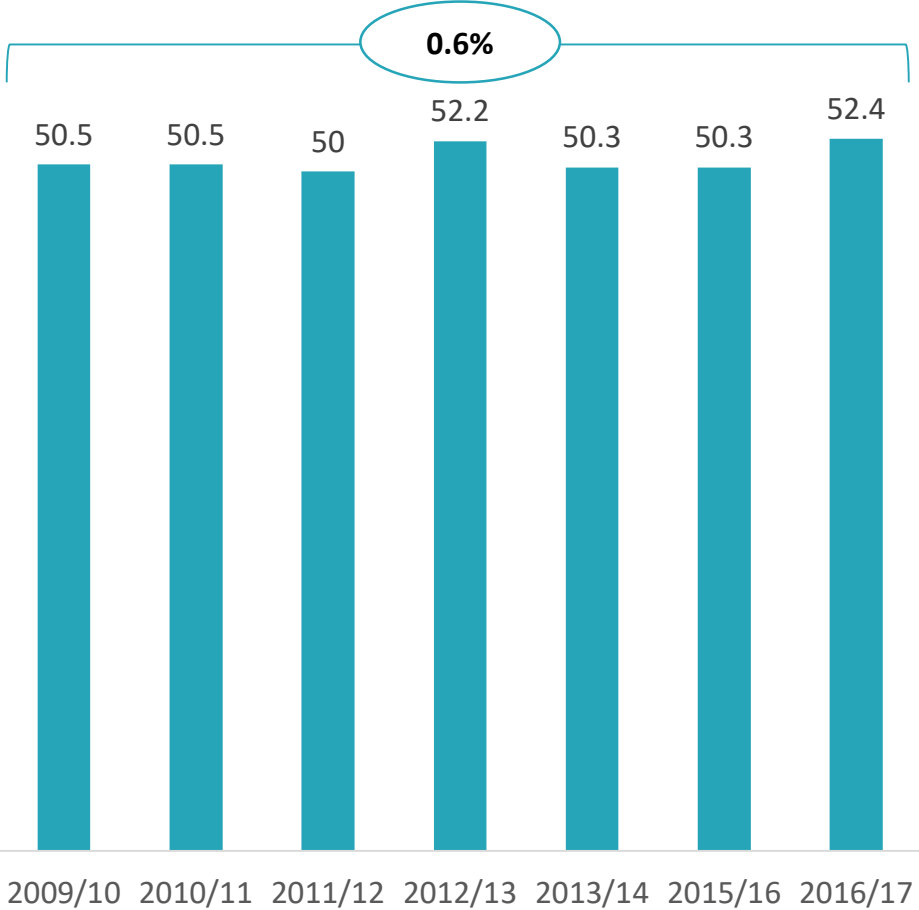
Regional variation of response to invitation for bowel cancer screening
**2016/17**
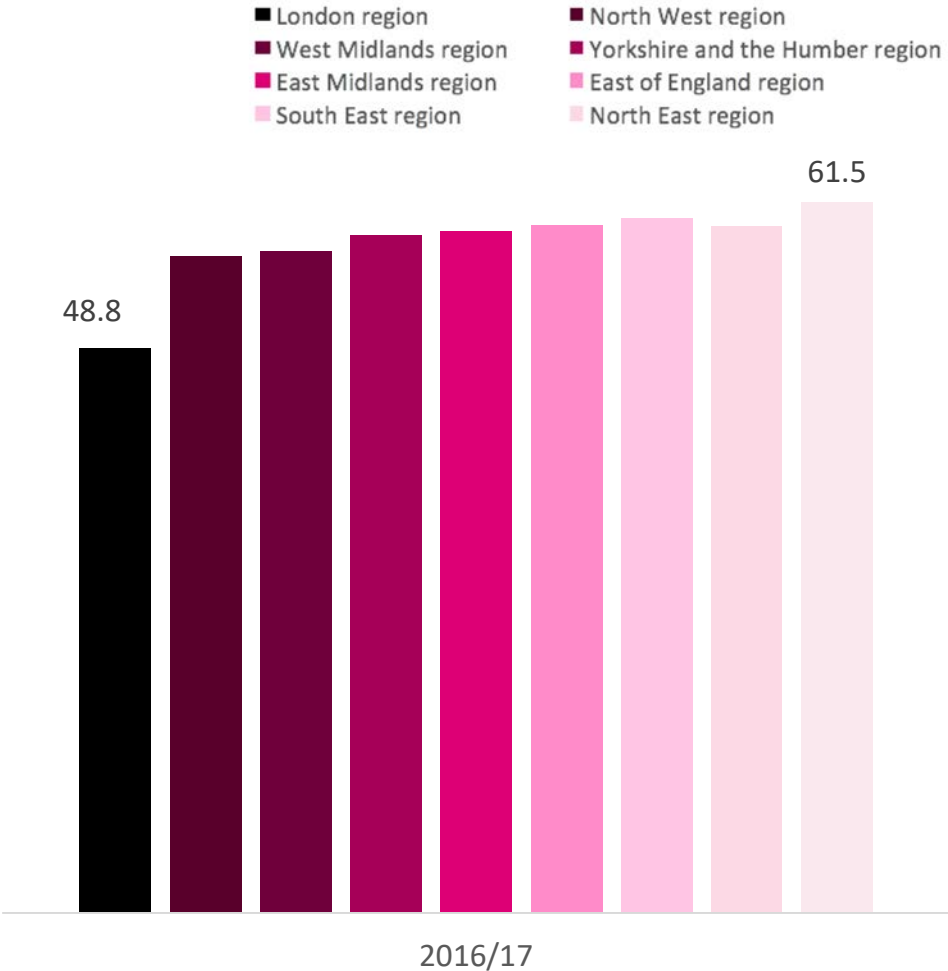
SOURCE: NHS Digital, Bowel Cancer Screening Programme, CF analysis 2018

The proportion of diabetes patients meeting treatment targets has increased by 2.4% points for Type 1 and 2.4% points for Type 2 between 2011/12 and 2016/17

Percentage of people with diabetes achieving their treatment targets by diabetes type and audit year, %
2011/12 to 2016/17

- Type 1 meeting all three treatment targets
- Type 2 meeting all three treatment targets
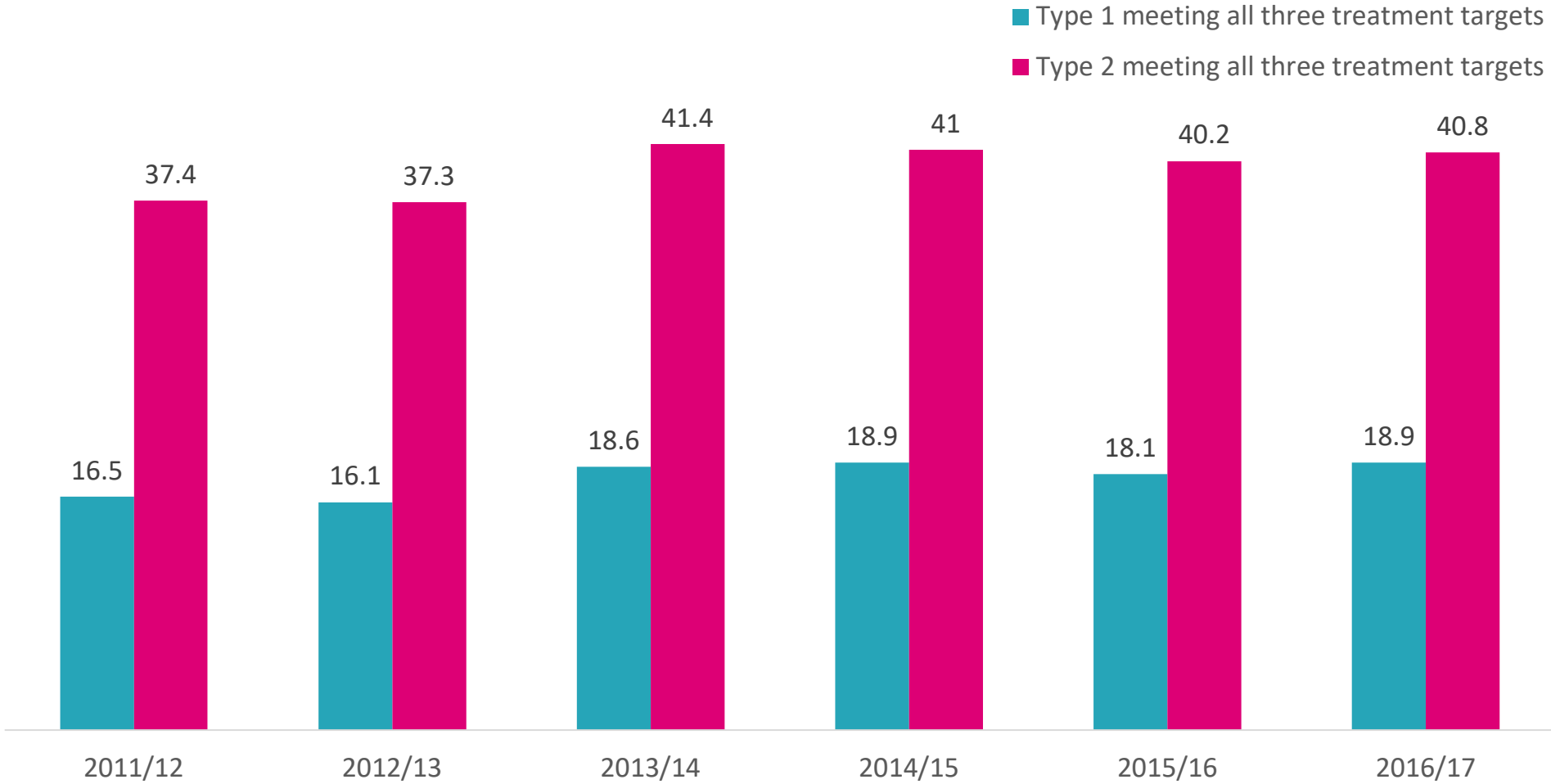
SOURCE: NHS Digital, CF analysis 2018

The proportion of patients waiting in A&E for four hours or more, has increased by 5x since 2008/09

A&E attendances in millions and percentage of patients waiting longer than 4 hours
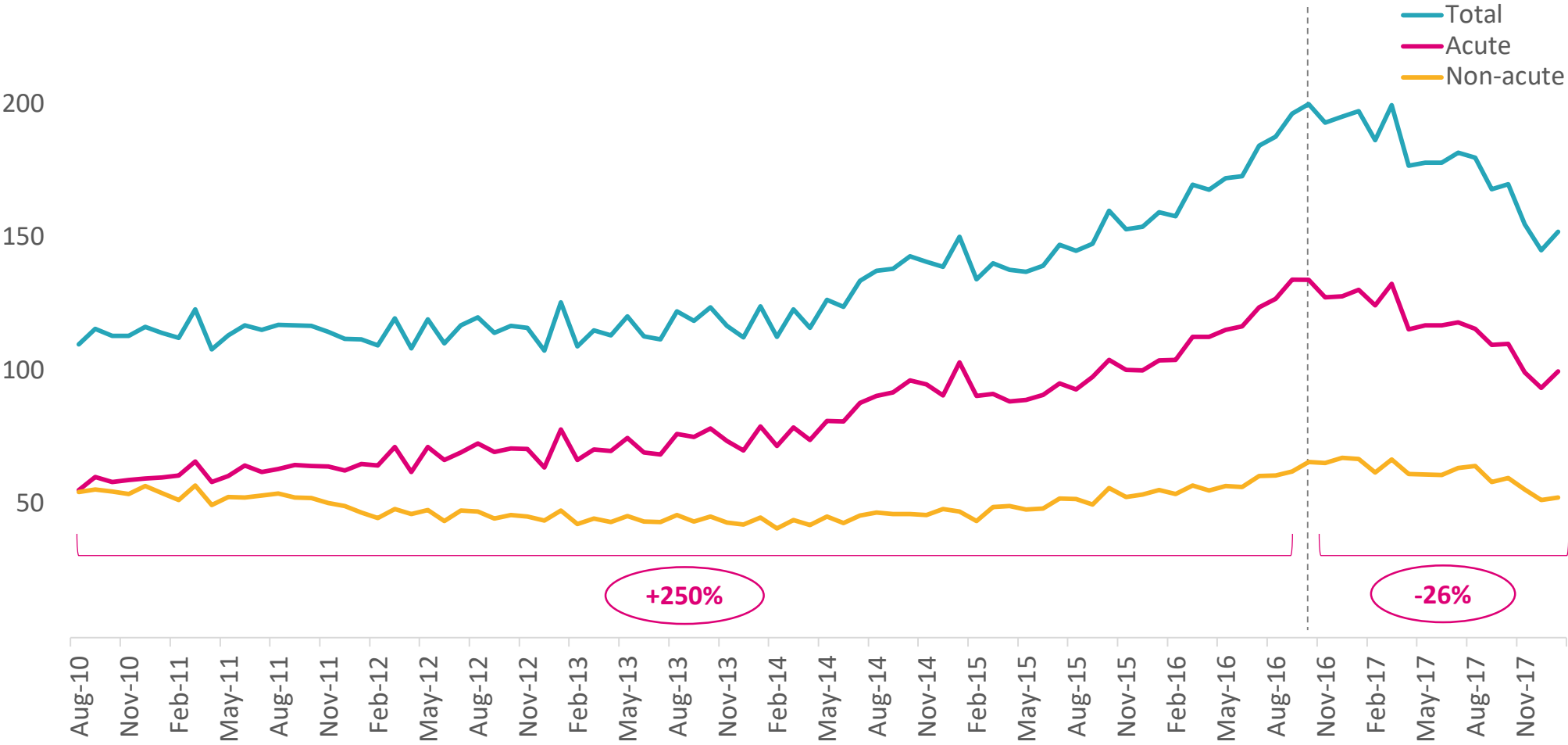**2008/09-2017/18**
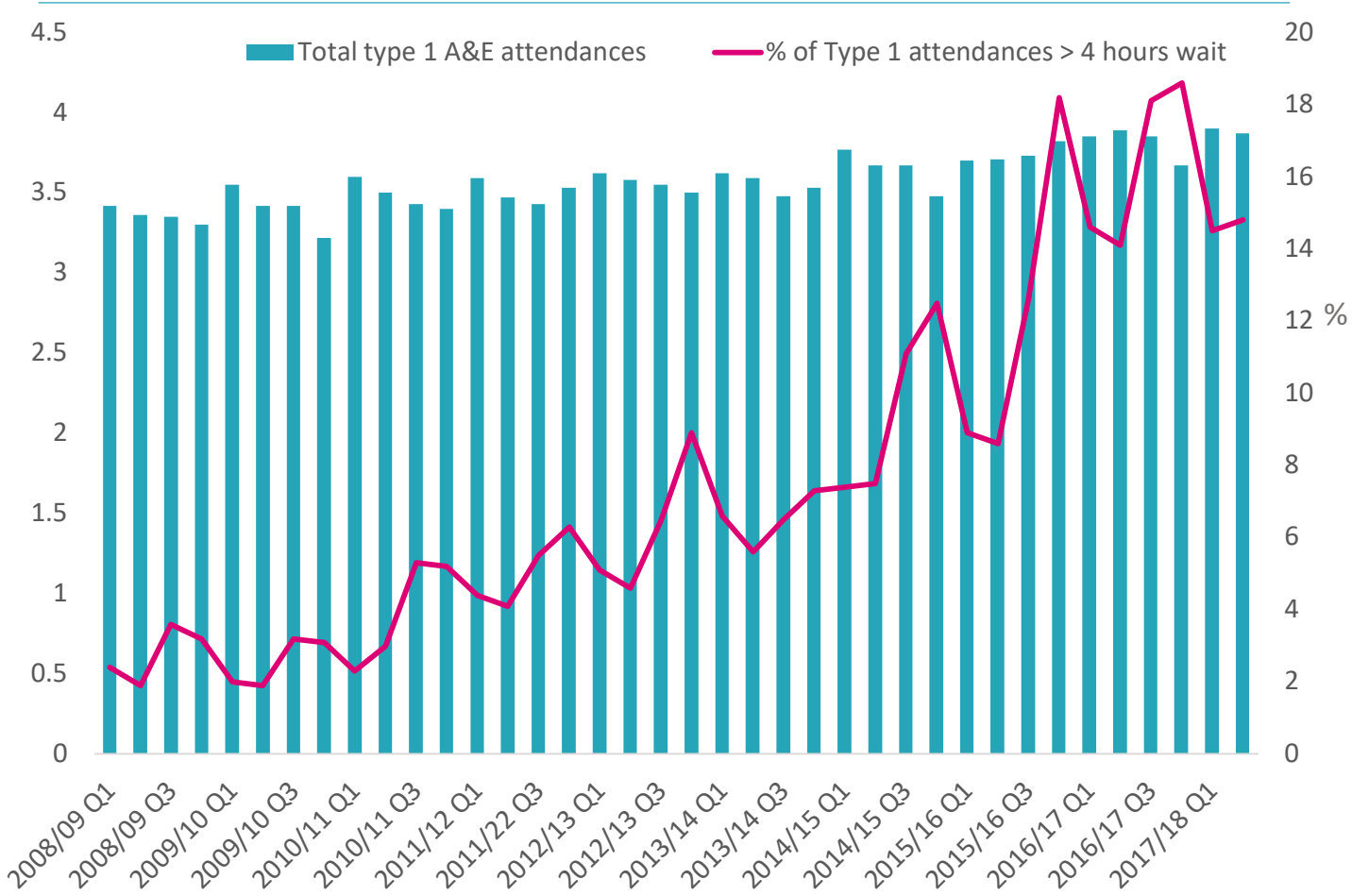
- Type 1 attendances at A&E have increased since 2008/09, increasing from 13.43 million to 15.26 million in 2016/17, an increase of 15%

- Since 2008, the proportion of patients waiting for 4 or more hours in A&E climbed from 3% to above 15% in 2016/17-2017/18

- This means that the number of patients waiting more than 4 hours has increased by more than 5x since 2008/9

SOURCE: NHS Digital, CF analysis 2018

Between August 2010 and October 2016, there has been a 2.5x increase in DToC beddays in the Acute, followed by a 26% reduction until November 2017

Total DToC beddays by acute and non acute in '000
**From August 2010 to January 2018**

SOURCE: NHS Digital, CF analysis 2018

There has been an 8x increase in the number of 'trolley waits' longer than four hours since 2008/09

Patients waiting to be admitted for >4 hours, after the decision to admit, in '000
2008/09 - 2017/18

Legend:
- Number of waits > 4 hours after the decision to admit
- Proportion of all admissions
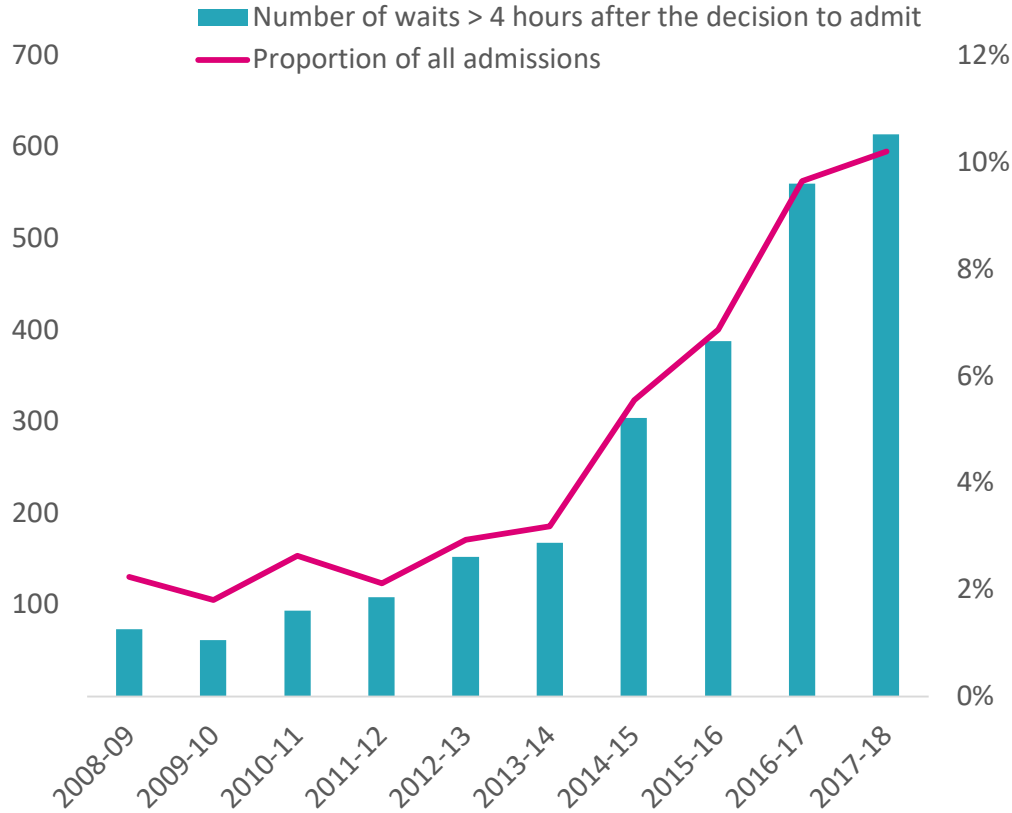
Patients waiting to be admitted for >12 hours, after the decision to admit
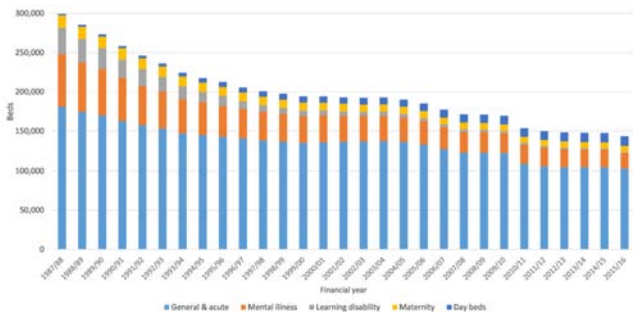**2011 - 2017**
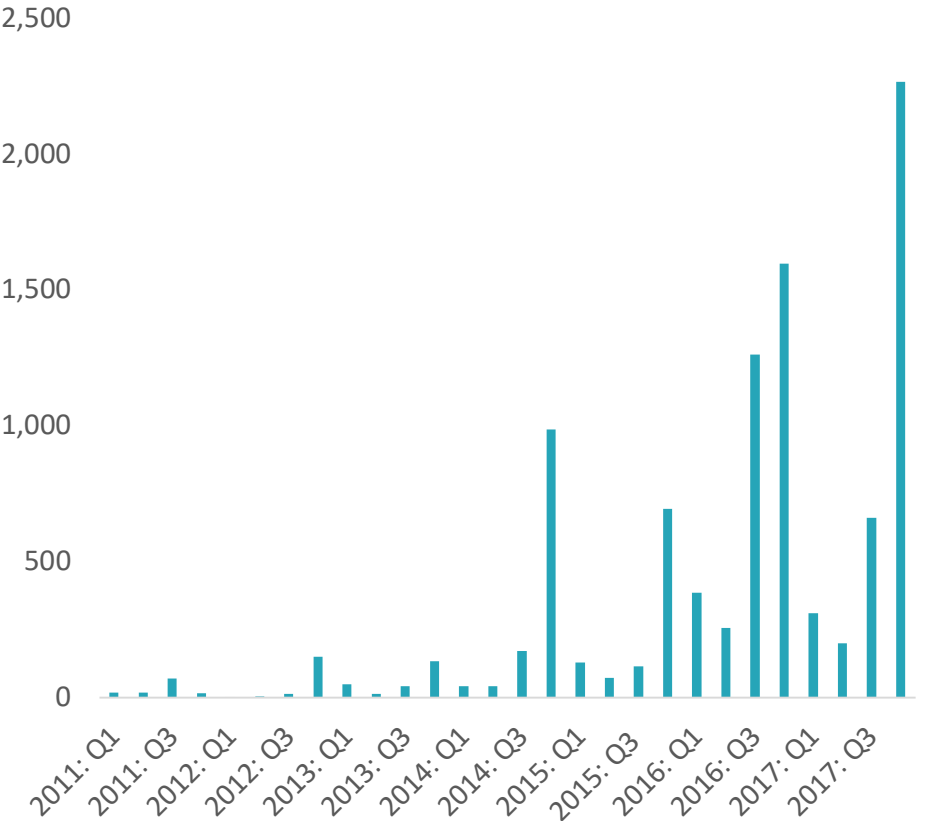
A **'trolley wait'** refers to the waiting time for an emergency admission via A&E. This is measured "from the time when the decision is made to admit, or when treatment in A&E is completed (whichever is later) to the time when the patient is admitted" (NHS England: Guidance notes for the completion of daily SITREP)

SOURCE: NHS Digital, CF analysis 2018

A rise in average bed occupancy has been driven by a reduction in the bed base, and increasing hospital admissions, offset by a reducing average length of stay
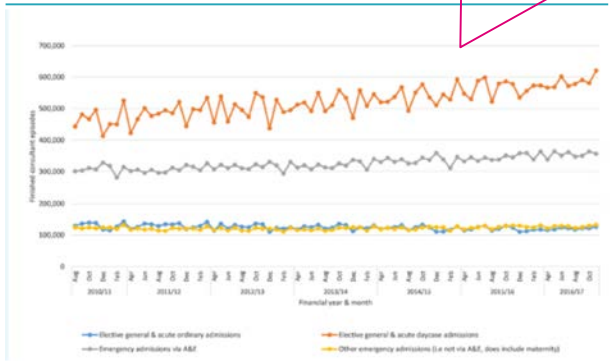
15% rise in hospital admissions since 2010

Hospital admissions

30% fall in beds since from 1987-2010; 20% fall since 2010

3% rise in occupancy levels since 2010, resolutely above 85% target

Number of beds
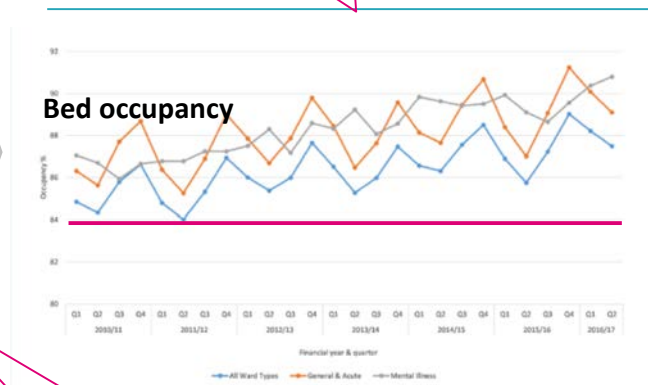
Bed occupancy

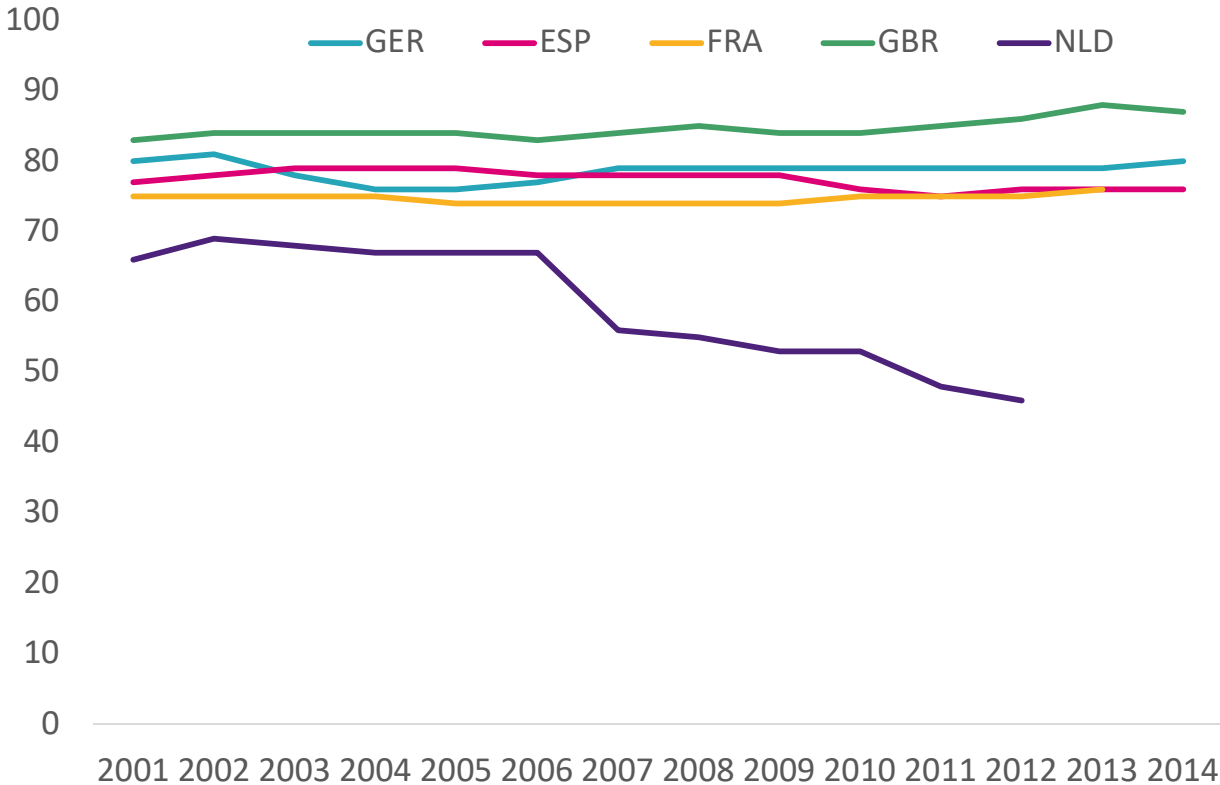**Length of stay year on year by age group**
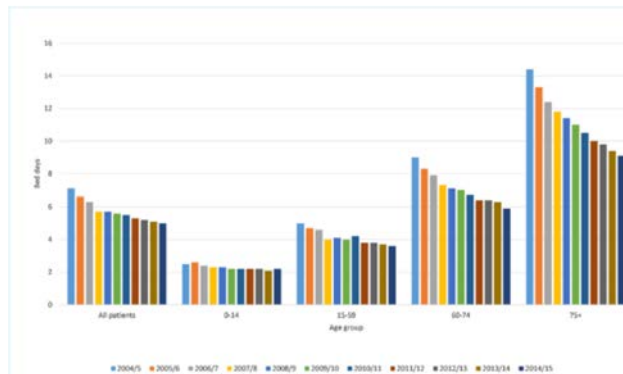
20% fall in length of stay since 2010

SOURCE: BMA, CF analysis 2018

The NHS has historically faced higher bed occupancy than other European health systems

Bed occupancy rate acute care hospitals only, % (international comparison)

2001 to 2014

Place	Average occupancy 2001- 2014
GBR	84.6%
GER	78.6%
ESP	77.4%
FRA	74.7%
NLD	59.6%

Evidence for occupancy:
- Acute hospitals which operate at bed occupancy levels of 90% or more face regular bed crises, with the associated risks to patients

- From: Baghust A, Place M & Posnett JW (1999) Dynamics of bed use in accommodating emergency as (referenced in: State of the health system Beds in the NHS: England; contains caveats)

SOURCE: Unify2 data collection; WHO European Data Warehouse; CF analysis 2018

Completed pathways within 18 weeks dropped from 88% to 76% and consultant referral times increased by 1.5 weeks

Consultant led referral time to treatment (RTT), % achieved (England)
From 2008/09 to 2017/18

Date	Average	CAGR
Median wait 2008/09 – 2017/18	9.1	1.64%
% pathways complete 18 weeks	85.3%	
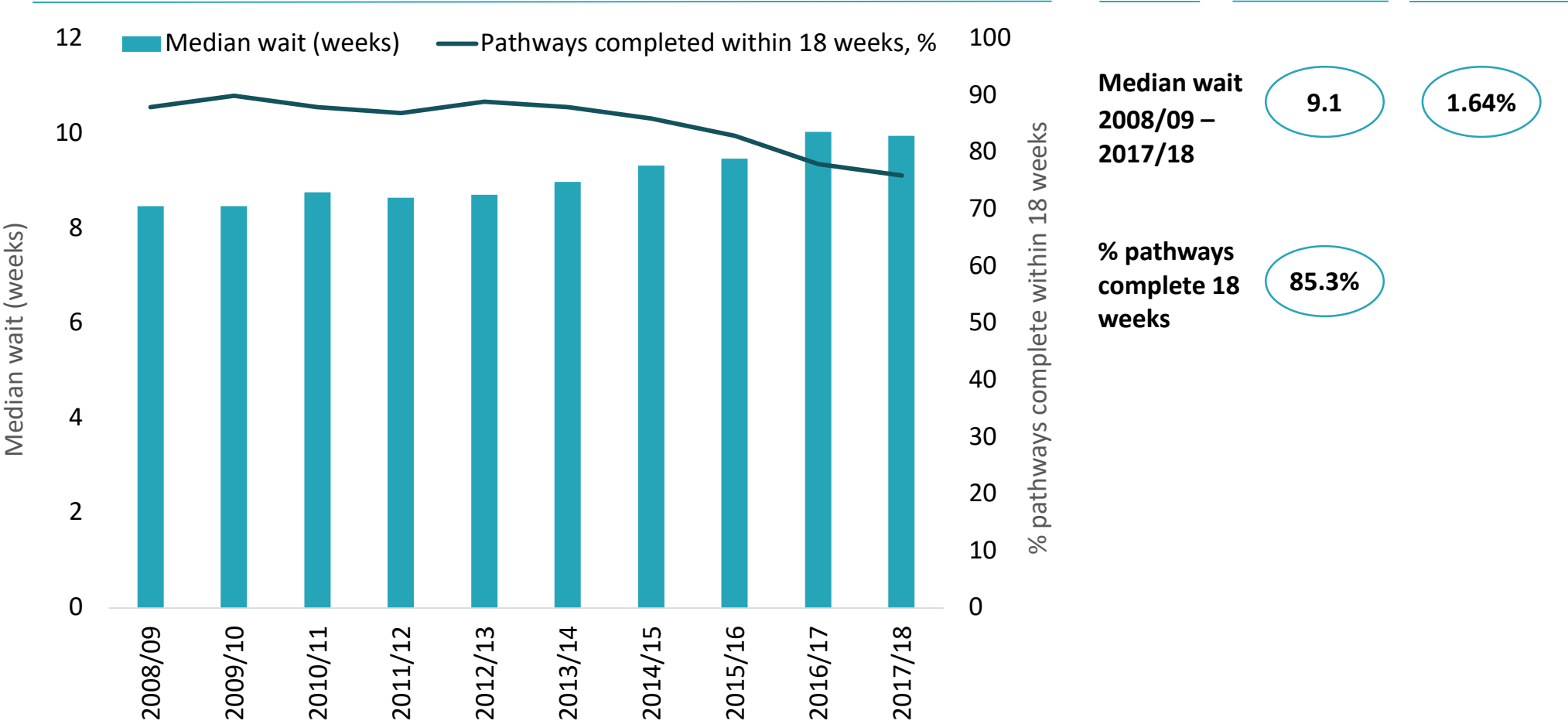
SOURCE: Unify2 data collection – RTT, CF analysis 2018

GP urgent referral targets have been met since 2009

Two Week Wait From GP Urgent Referral to First Consultant Appointment, % achieved (England)
From 2009/10 to 2017/18

Date | Average

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
% achieved	96	95	96	96	95	94	94	94	94

93%

2009/10 – 2017/18 | 95.0%
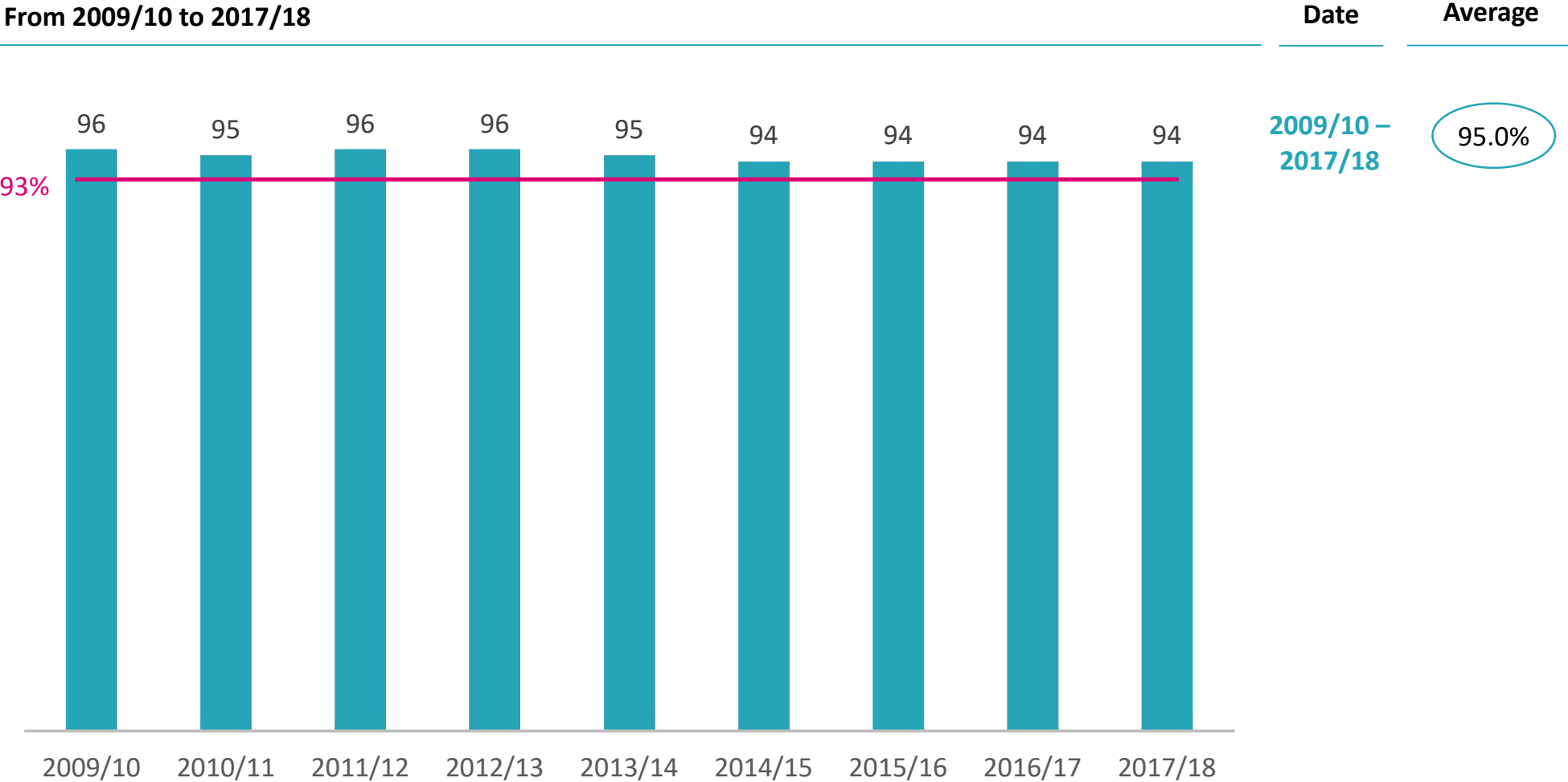
SOURCE: Cancer Waiting Times Database (CWT-db), CF analysis 2018

New referrals for adults with anxiety disorders and depression to talking therapies have increased by 57% since 2012/2013

New referrals, referrals in treatment, and referrals finishing a course of treatment through IAPT, Service users (England)
From 2012/2013 to 2016/2017
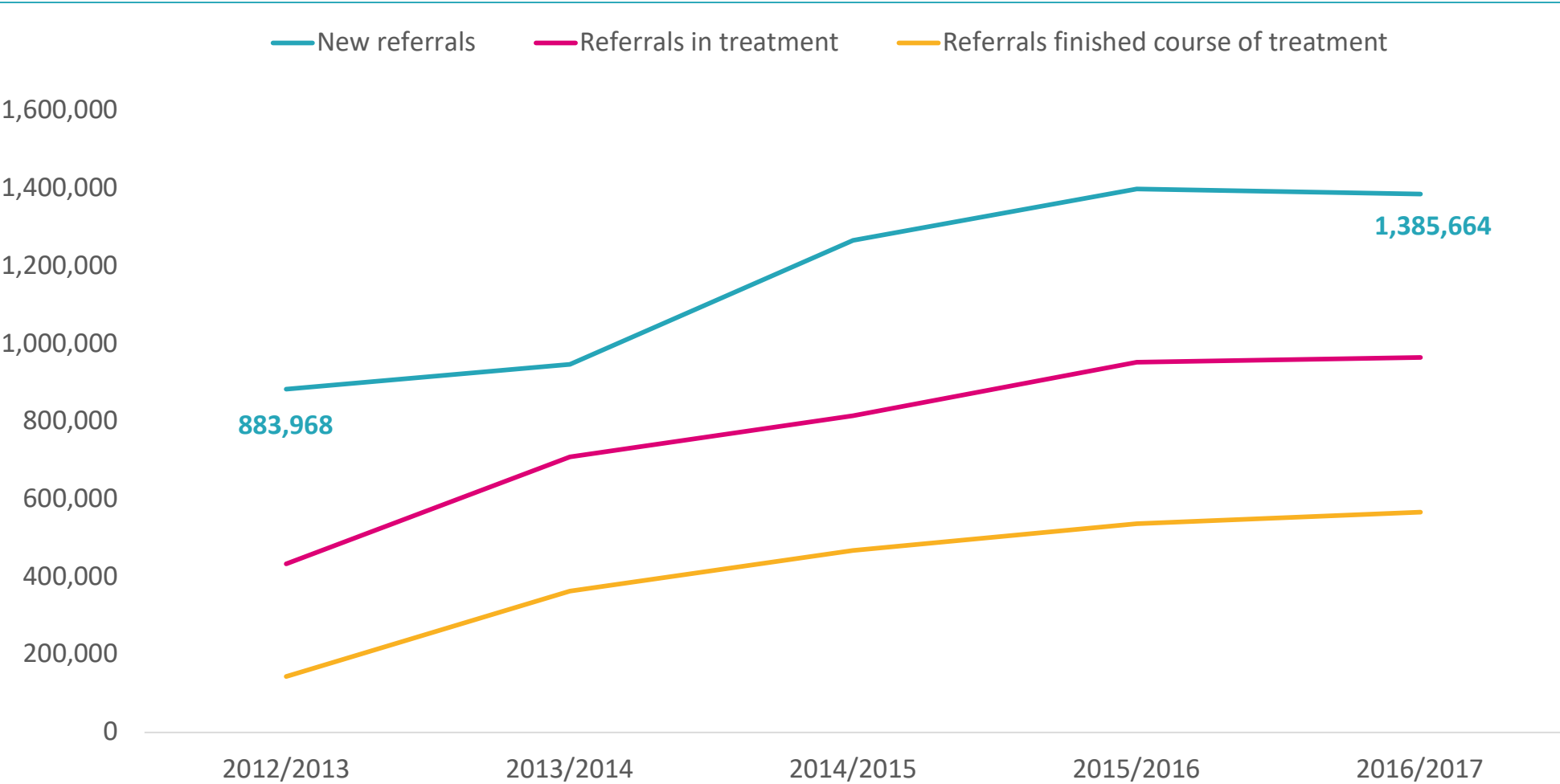
SOURCE: Improving Access to Psychological Therapies, Executive Summaries: 2012/2013 to 2016/2017, CF analysis 2018

Wait times for adults with anxiety disorders and depression are stable and have been above FYFV target since Q2 16/17

IAPT (Improving Access to Psychological Therapies) adults receiving first treatment appointment within 6 weeks of referral, % (England)
From Q2 16/17 to Q2 17/18
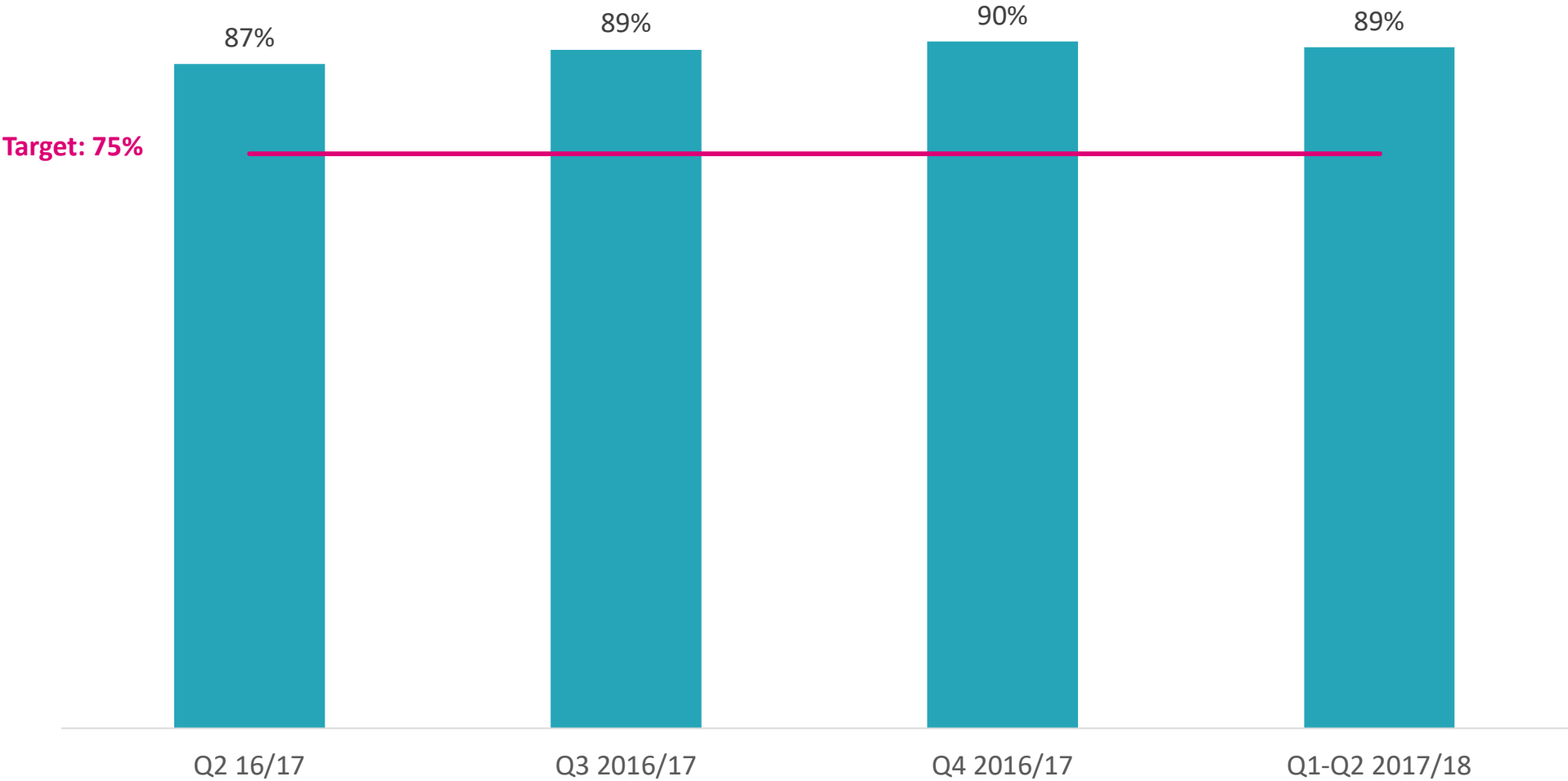
SOURCE: Mental Health Five Year Forward View Dashboard, CF analysis 2018

Completed Early Intervention in Psychosis pathways has declined since March 2017, while the share of 12+ weeks waiting times has increased

Completed Early Intervention in Psychosis pathways, service users
From Dec 2015 to Jan 2018
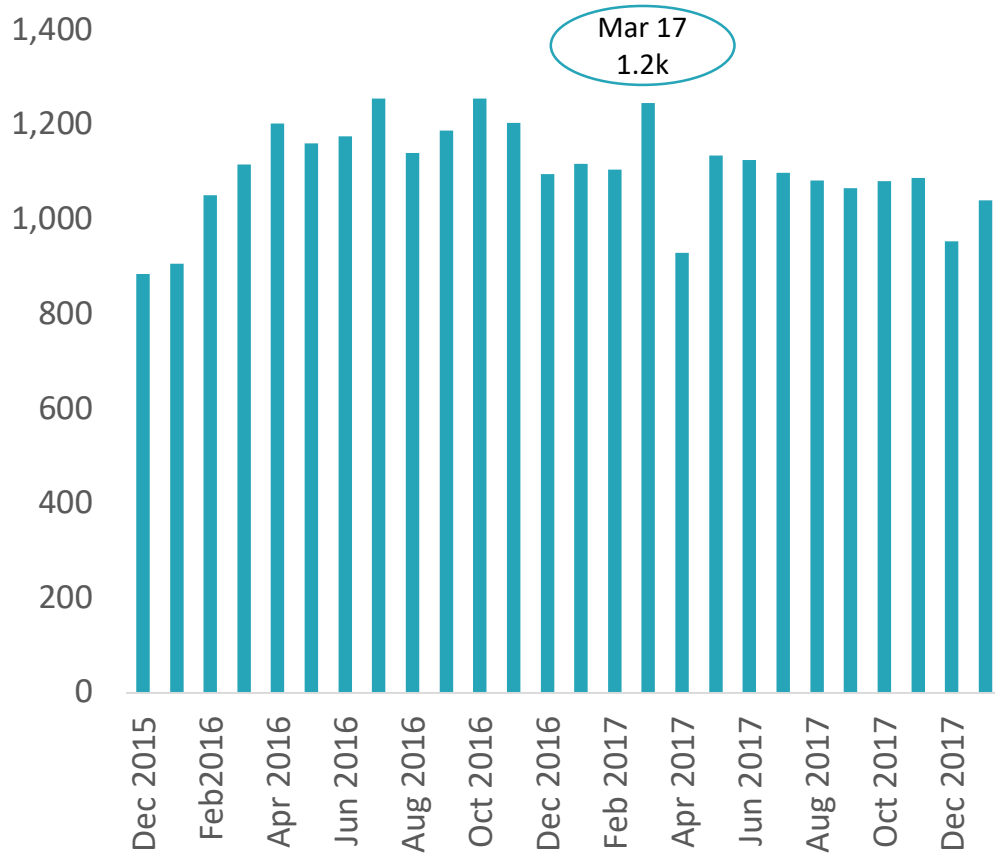
Incomplete Early Intervention in Psychosis pathways, wait times
From Dec 2015 to Jan 2018

Mar 17
1.2k

■ 12+ weeks ■ >6-12 weeks ■ >2-6 weeks ■ >0-2 weeks
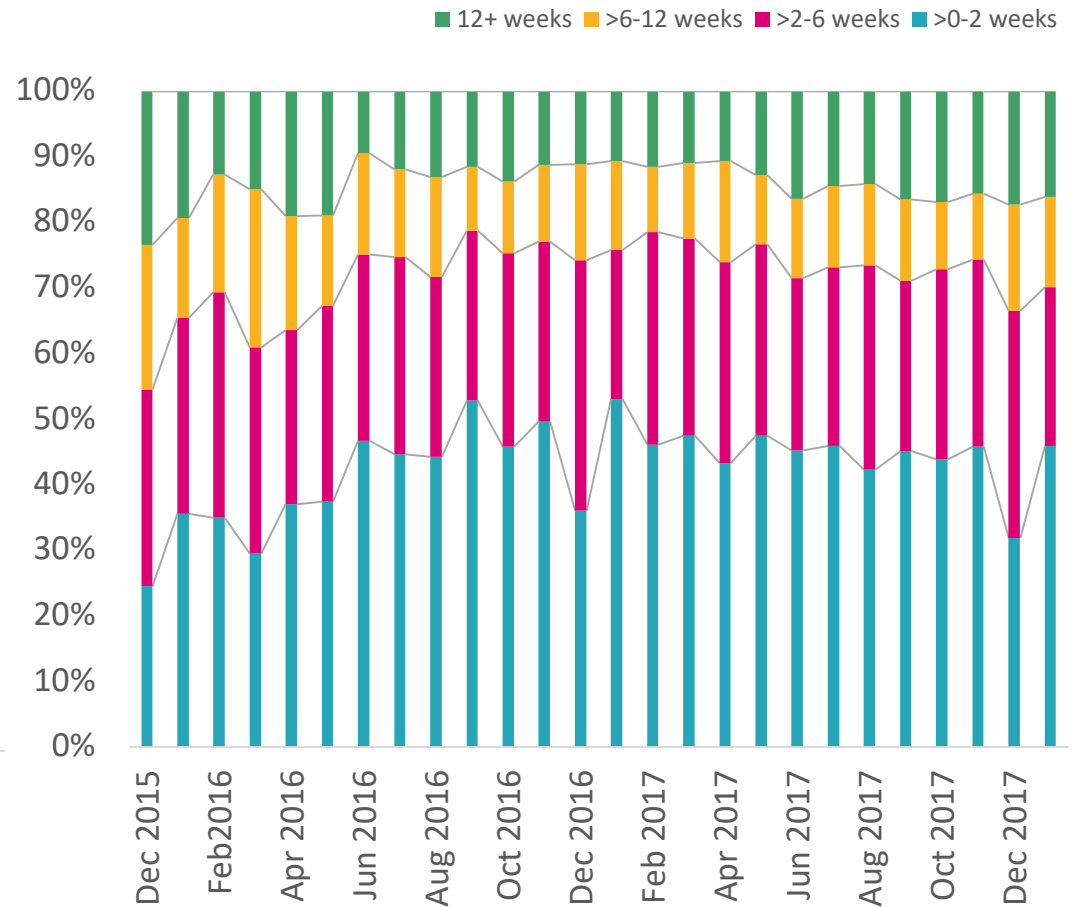
SOURCE: Unify2 data collection, NHS digital, CF analysis 2018

Access for children and young people with eating disorders remains significantly below the Five Year Forward View target of 95% from 20/21

CYP with eating disorders, access performance against target, % (England)
From Q3 16/17 t0 Q2 17/18

- ■ % of CYP with eating disorders seen within 1 week (urgent)
- ■ % of CYP with eating disorders seen within 4 weeks (routine)

Target: 95%

67% 79% Q3 2016/17
69% 79% Q4 2016/17
72% 81% Q1-Q2 2017/18
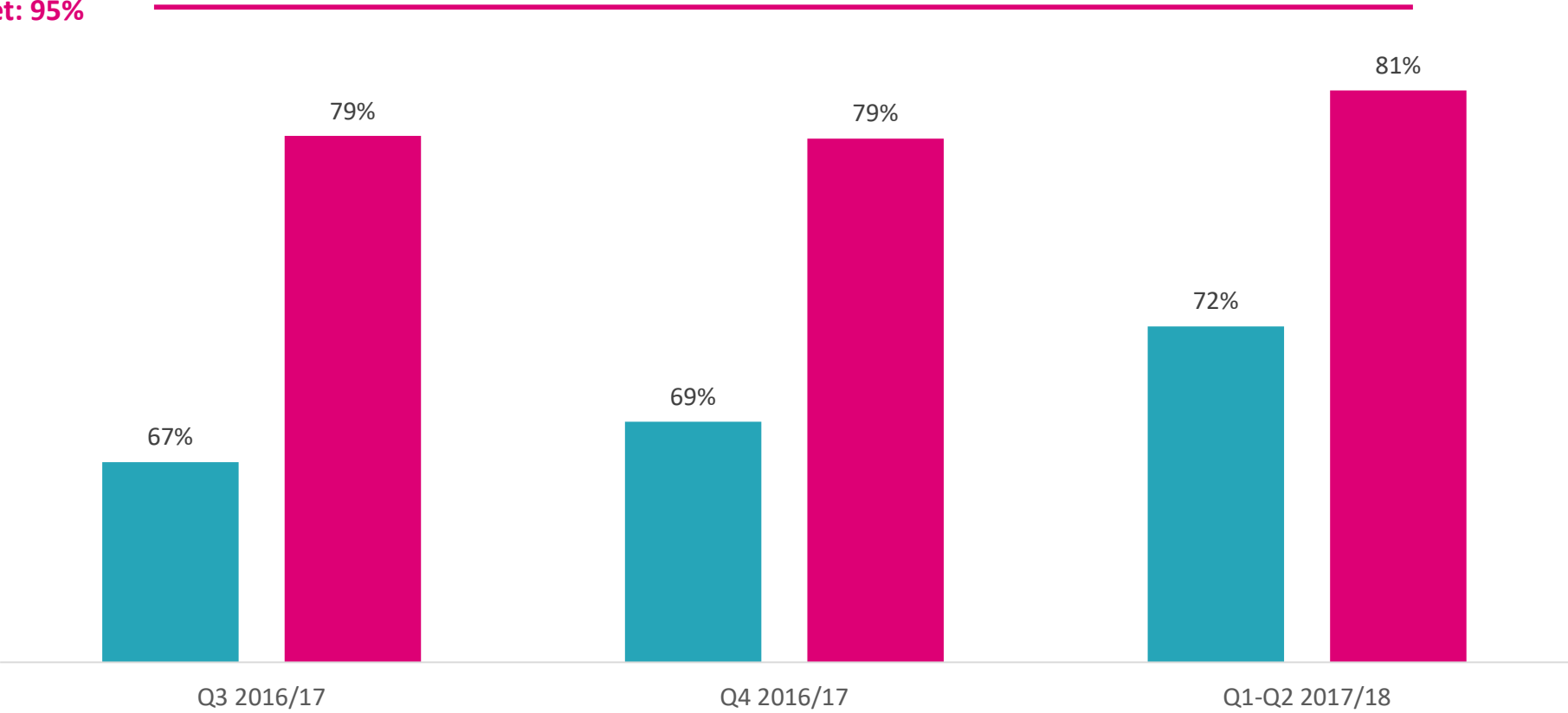
SOURCE: Mental Health Five Year Forward View Dashboard, CF analysis 2018

The liaison and diversion services access target of 68% has only been achieved in one quarter since Q2 16/17

Population access to liaison and diversion services, % (England)
For Q2 16/17 to Q2 17/18

Target: 68%

68%

60%

53%

36%

| Q2 16/17 | Q3 2016/17 | Q4 2016/17 | Q1-Q2 2017/18 |
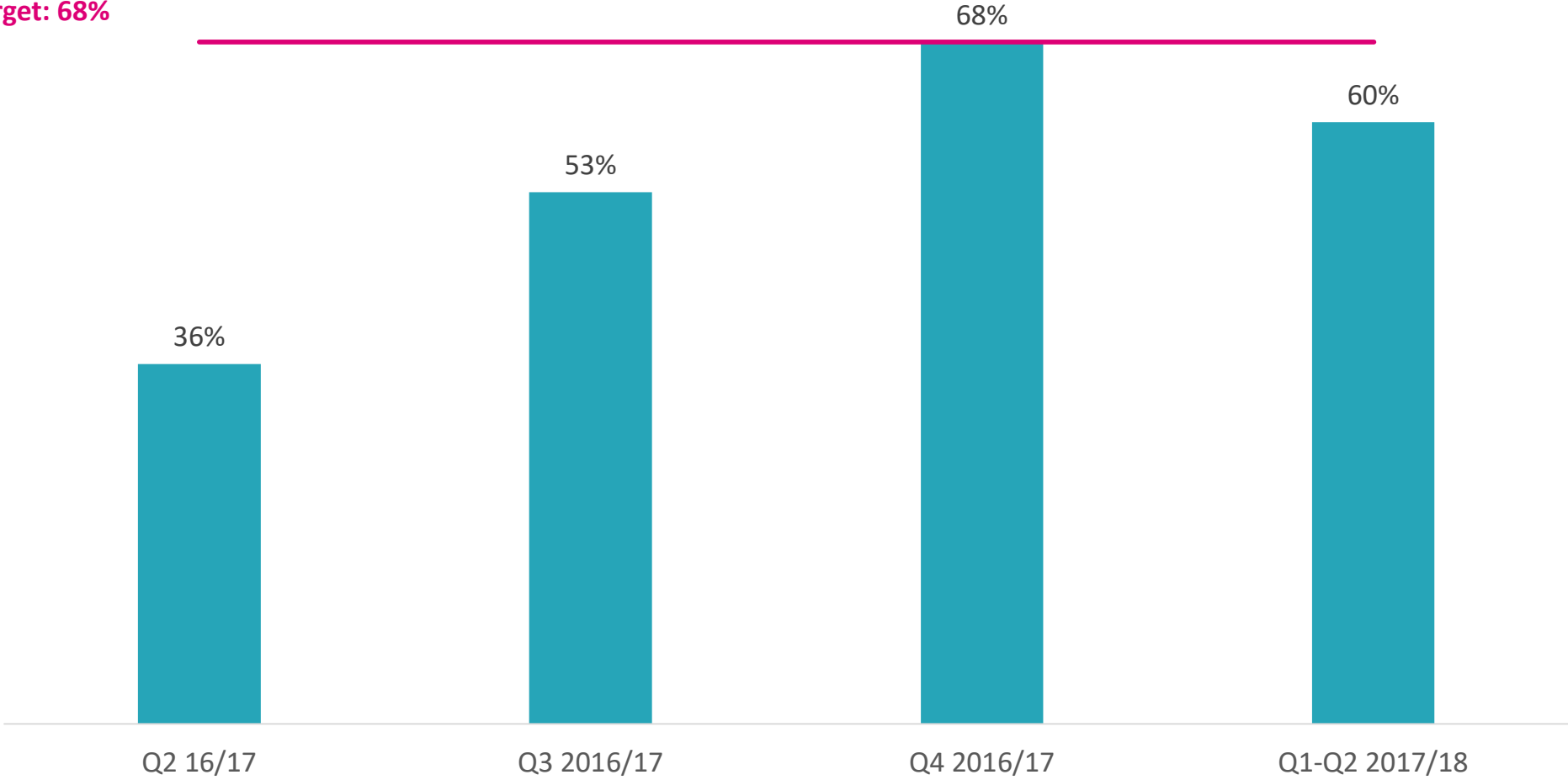
SOURCE: Mental Health Five Year Forward View Dashboard, CF analysis 2018
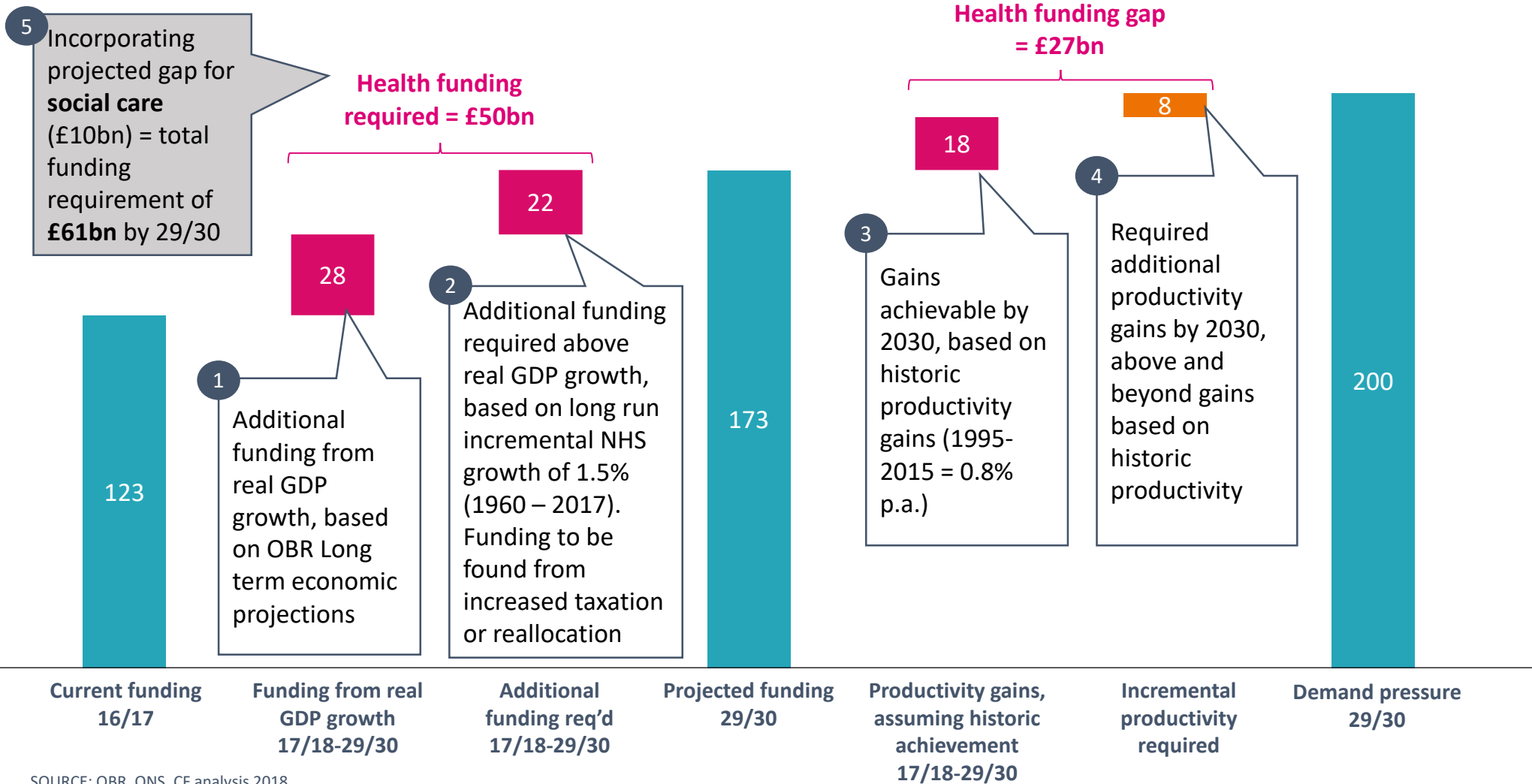
Funding

Executive Summary

1. **Health demand pressure** in England, the Department of Health spend requirement, is projected to grow from £122.5bn to **£199.6bn** by 2029/2030 on a real basis.

   - We have analysed demographic pressures (more and older people), non-demographic pressures (including technology and assuming continuity with previous periods), and provider cost inflation (based on OBR forecasts and extrapolation of past trends)

2. **Health funding** in England is projected to grow from £122.5bn to **£172.9bn** by 2030 on a real basis, assuming historic (1960 to 2017) growth rates of GDP + 1.5%

   - This implies an extra **£50.4bn** funding must be found for health funding by 2030

     - £28.1bn of which is projected to be driven by real GDP growth, based on OBR long term projections

     - £22.3bn of which is additional funding required above real GDP growth, based on long run incremental NHS growth of 1.5% (1960 – 2017). This funding may be found from increased taxation or reallocation

3. To bridge the projected **gap between health demand and funding** of **£26.7bn** by 2030, the level of required productivity gain is approximately one and a half times that achieved historically

   - £18.5bn of gap can be addressed by productivity gains assuming historic levels of achievement (1995-2015= 0.8% p.a.)

   - £8.2bn of additional productivity gains must be found to bridge gap

4. The Health Foundation have projected a **£9.6bn social care funding gap** by 29/30. Adding this figure to the extra funding requirement £50.4bn for health gives a **combined funding requirement for health and social care of £61bn** by 2030.

SOURCE: CF analysis 2018

In an optimistic funding scenario, a health demand and funding gap of £27bn is projected by 29/30. Of this gap, £18bn can be addressed by productivity gains based on historic achievement, leaving an additional requirement of £8bn

Health funding, demand and productivity overview, £bn

5 Incorporating projected gap for **social care** (£10bn) = total funding requirement of **£61bn** by 29/30

Health funding required = £50bn

Health funding gap = £27bn

28

22

18

8

173

123

200

1 Additional funding from real GDP growth, based on OBR Long term economic projections

2 Additional funding required above real GDP growth, based on long run incremental NHS growth of 1.5% (1960 – 2017). Funding to be found from increased taxation or reallocation

3 Gains achievable by 2030, based on historic productivity gains (1995-2015 = 0.8% p.a.)

4 Required additional productivity gains by 2030, above and beyond gains based on historic productivity

| Current funding 16/17 | Funding from real GDP growth 17/18-29/30 | Additional funding req'd 17/18-29/30 | Projected funding 29/30 | Productivity gains, assuming historic achievement 17/18-29/30 | Incremental productivity required | Demand pressure 29/30 |

Context

Health spending as a share of GDP in the UK lags behind many European peers; data reclassification has taken UK ahead of Spain and Italy

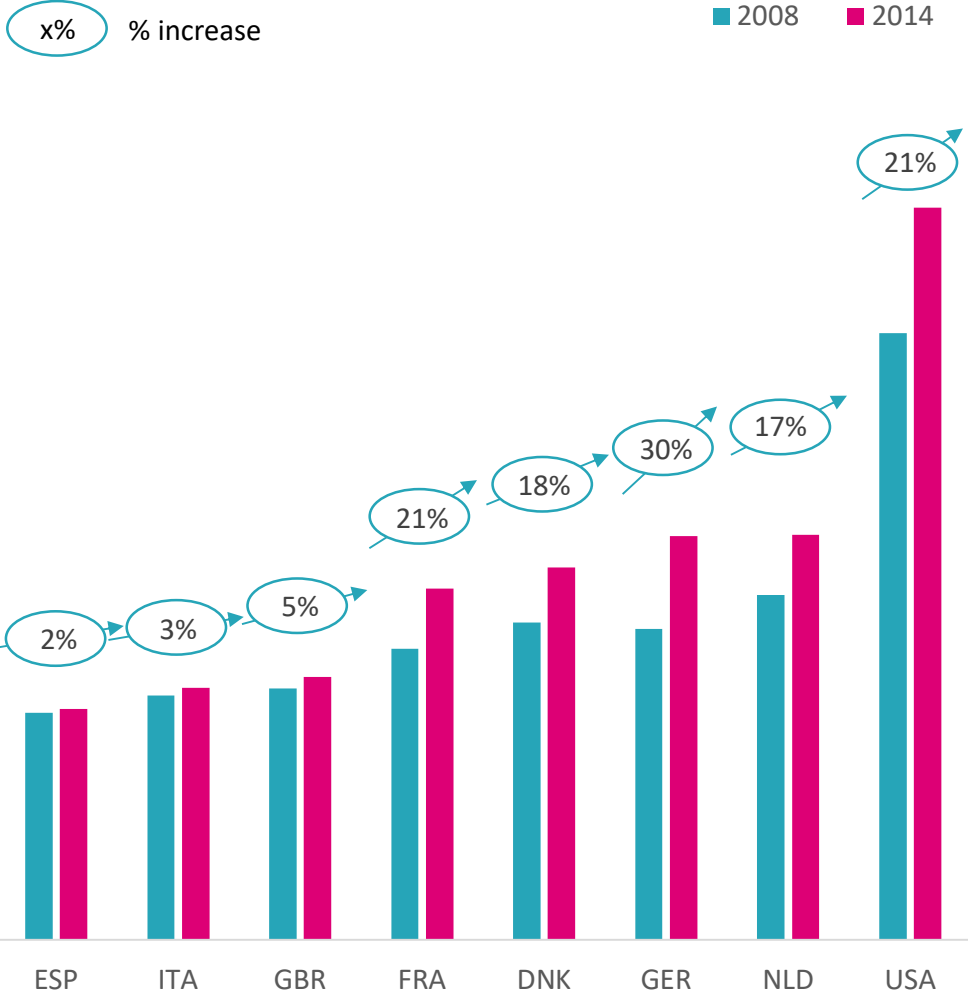**Healthcare spend as % of GDP**
From 1995 to 2016

Legend: UK, FRA, DEU, ESP, ITA, DNK, NLD, USA
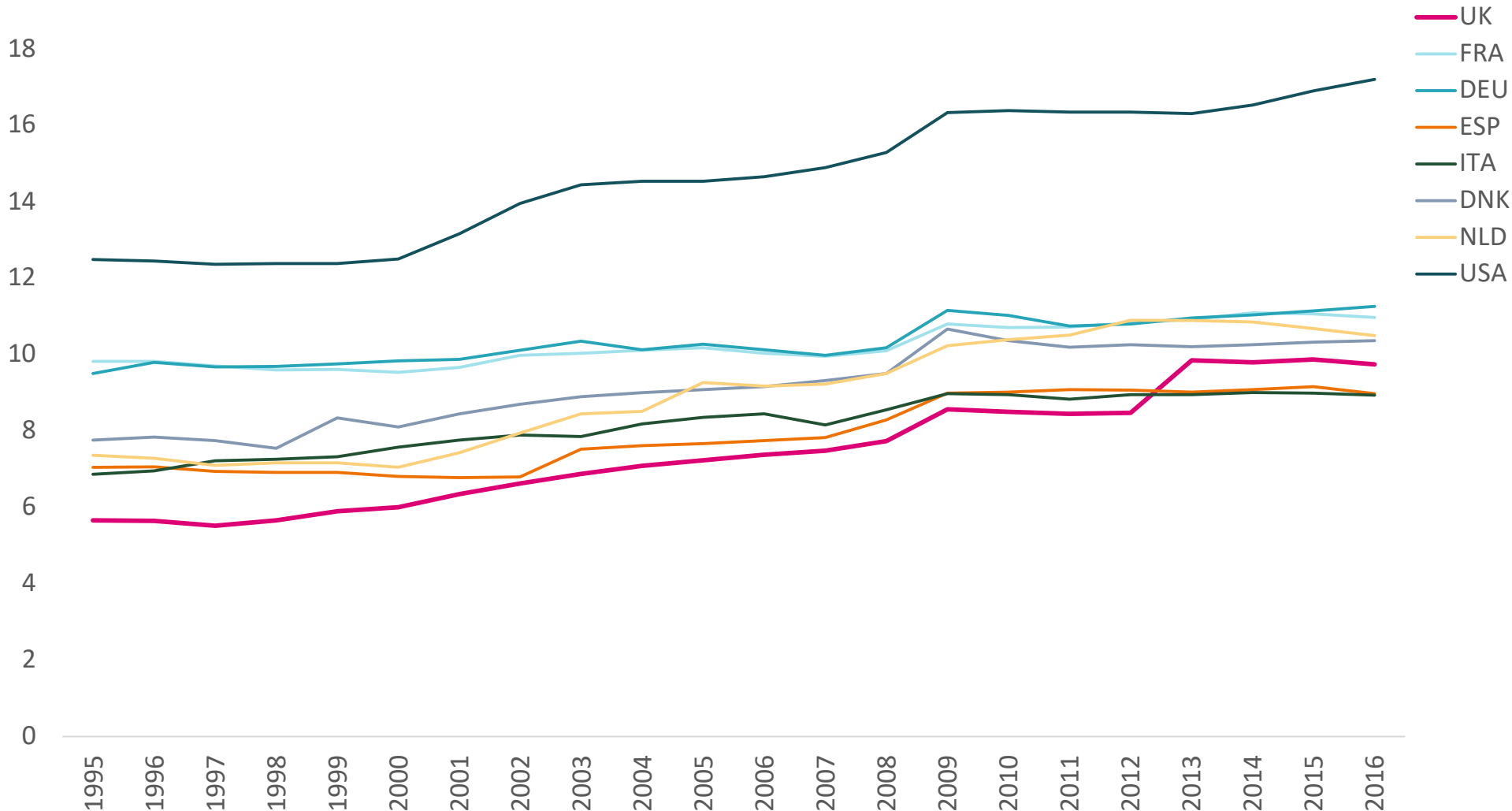
Health spending per capita is significantly lower in the UK than comparable countries and increased by just 5% between 2008 and 2014

**Health expenditure per capita, PPP (constant 2011 international $)**
2008 and 2014

x% — % increase

■ 2008 ■ 2014

2% — 3% — 5% — 21% — 18% — 30% — 17% — 21%

ESP   ITA   GBR   FRA   DNK   GER   NLD   USA

Health expenditure per capita, PPP (constant 2011 international $)
2008 and 2014

| Country	2008	2014	% increase
ESP	2,912	2,966	2%
ITA	3,136	3,239	3%
UK	3,229	3,377	5%
NLD	4,427	5,202	17%
DNK	4,070	4,782	18%
FRA	3,736	4,508	21%
USA	7,786	9,403	21%
GER	3,990	5,182	30%

SOURCE: OECD databank (2018), Worldbank databank (2018), CF analysis 2018

Between 2002 and 2010, NHS funding grew 5% in real terms; since then it has grown at 1% a year

Real NHS funding since 1995, £bn
From 1995-96 to 2014-15
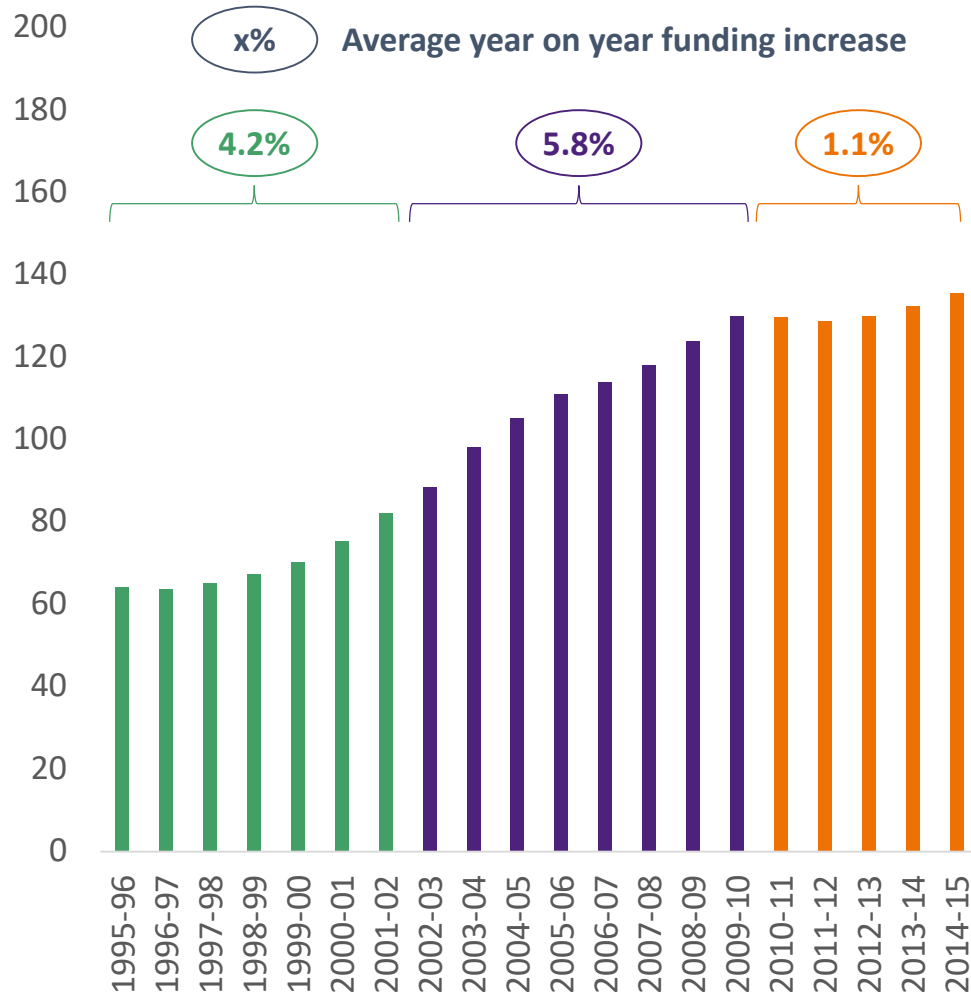
Average NHS funding year on year growth by decade, %
From 1950s to 2010s; 1995 to 2001, 2002 to 2010, 2011 to 2015
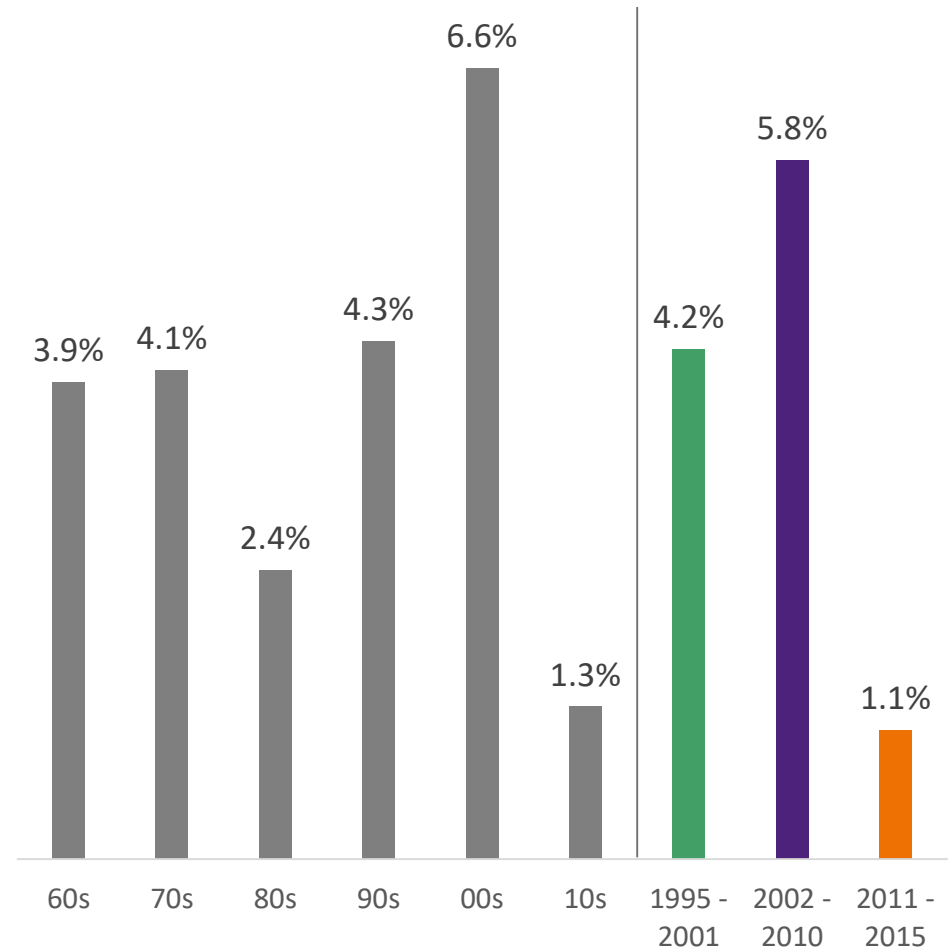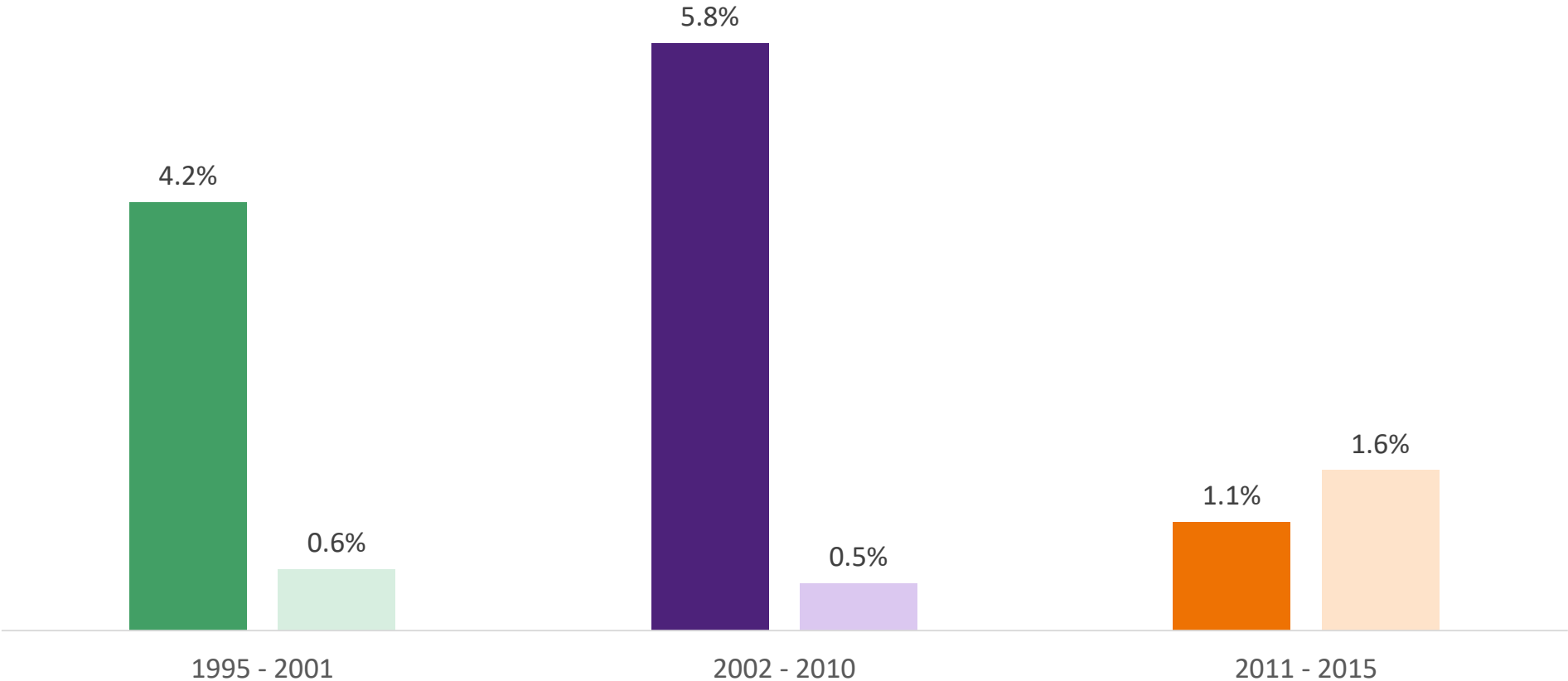

SOURCE: IFS, Office for National Statistics, CF analysis 2018

Periods of high NHS funding growth demonstrate low productivity growth; low NHS funding growth (2011-15) is matched with high productivity growth

Average year on year NHS funding growth versus average year on year productivity growth, %
1995 to 2001, 2002 to 2010, 2011 to 2015

Funding
Productivity

4.2%

0.6%

5.8%

0.5%

1.1%

1.6%

1995 - 2001

2002 - 2010

2011 - 2015
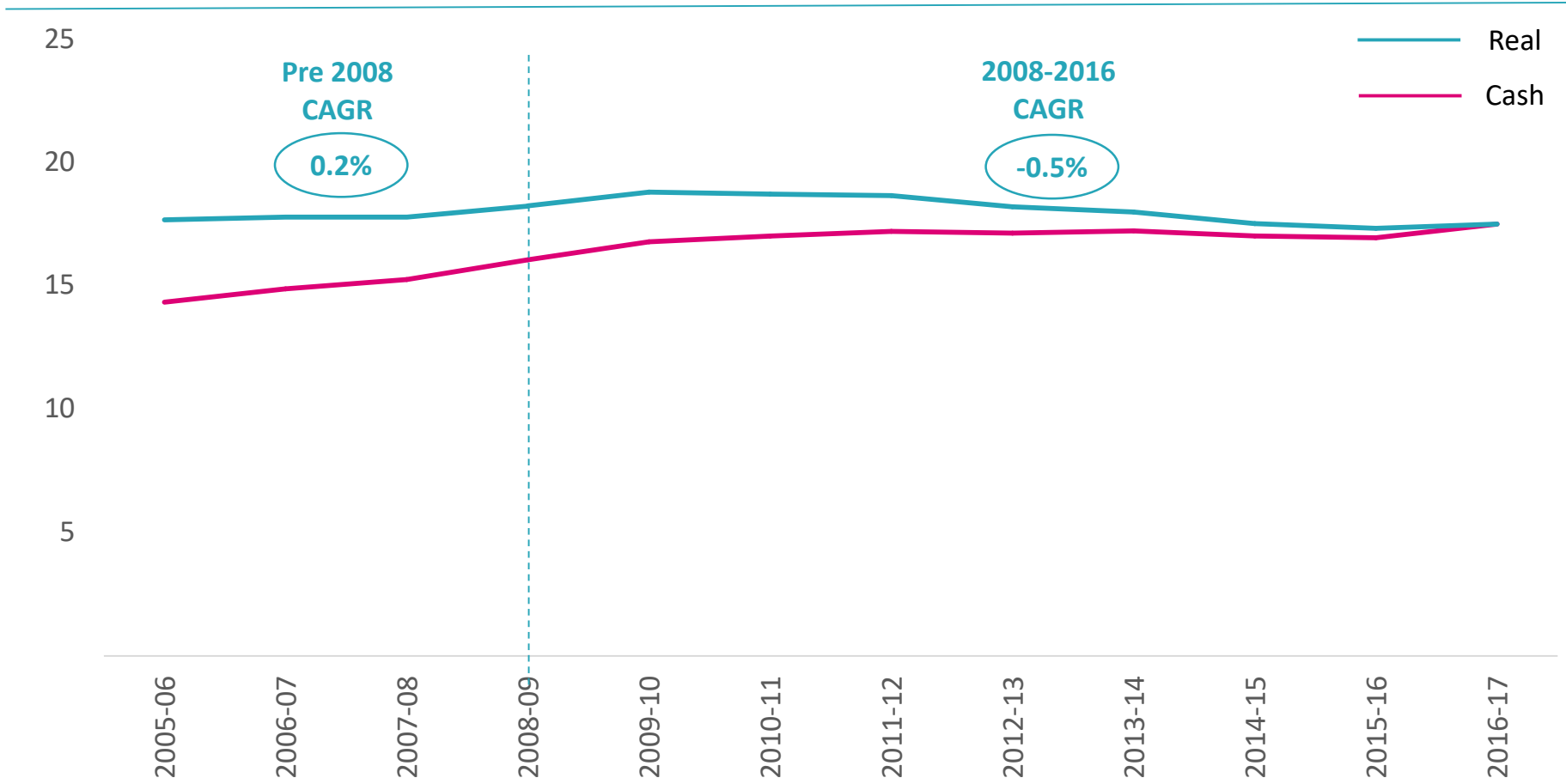
SOURCE: IFS, Office for National Statistics, CF analysis 2018

From 2008 to 2016, public expenditure on social care fell by 0.5% a year in real terms

Gross current expenditure in cash and real terms on social care, £bn (England)
From 2005/06 to 2016/17

SOURCE: NHS digital; CF analysis 2018

Additional funding requirements

Overview of methodology

1 **Projecting health demand pressure**
- Capture 2016/17 baseline for Total Department of Health Expenditure Limit (TDEL)
- Project NHS acute spend to 2029/30, using demographic, non-demographic, and provider cost inflation factors
- Apply forecast acute spend growth rates to rest of spend

2 **Projecting health funding**
- Assume 2016/17 Department of Health funding income = 2016/17 TDEL
- Project funding income to 2029/30:
  - GDP real growth only
  - GDP real growth + 1.3 per cent (2007-2017)
  - GDP real growth + 1.5 per cent (1960-2017)

3 **Calculating health funding gap**
- Subtract (2) from (1) for all four scenarios to project health funding gap to 2029/30

4 **Calculating implied productivity gains required**
- Calculate implied productivity gains for each scenario on an annual and cumulative level to balance system by 2029/30
- Compare implied productivity gains to historic achievement

5 **Integrating social care and health funding gaps**
- Integrate social care projected funding gaps to get combined funding gap for health and social care in England to 2029/30

Headlines from our three health funding scenarios

		Scenario 1	Scenario 2	Scenario 3	Calculation steps
Health demand	Health demand pressure by 29/30	£199.6m	£199.6m	£199.6m	①
Health funding	Health funding in 16/17	£122.5m	£122.5m	£122.5m	②
	Annual funding growth assumption	**Real GDP only**	**Real GDP + 1.5%** *Long run incremental NHS growth of 1.5% (1960 - 2017)*	**Real GDP + 1.3%** *Incremental NHS growth of 1.3% (2007 - 17)*	
	Health funding by 29/30	£150.6bn	£172.9bn	£169.5bn	② x ③ = ④
	Required additional funding by 29/30	£28.1bn	£50.3bn	£47.0bn	④ - ② = ⑤
Health funding gap	Funding gap by 29/30	£49.0bn	£26.7bn	£30.0bn	① - ④ = ⑥
	Cumulative productivity gains required to fill gap by 29/30	32.5%	15.5%	17.7%	⑥ / ④ = ⑦
	Annual productivity gains required to fill gap by 29/30	2.2%	1.1%	1.3%	⑦ *Annualised*
	Multiple of historic productivity gains (0.8% p.a.)	2.8x	1.4x	1.6x	
Health and social care combined gap	Social care funding gap by 29/30	£9.6bn	£9.6bn	£9.6bn	⑧
	Combined health and social care funding gap by 29/30	£58.7bn	£36.4bn	£39.8bn	⑥ + ⑧ = ⑨

Headlines from our three health funding scenarios

	Scenario 1	Scenario 2	Scenario 3	Calculation steps
Funding growth p.a.	**Real GDP only**	**Real GDP + 1.5%** *Long run incremental NHS growth of 1.5% (1960 - 2017)*	**Real GDP + 1.3%** *Incremental NHS growth of 1.3% (2007 - 2017)*	
Health funding p.a. 16/17	**£123m**	**£123m**	**£123m**	(1)
Req'd funding p.a. by 29/30	**£28bn**	**£50bn**	**£47bn**	(2)
Gains @ real GDP	£28bn	£28bn	£28bn	
tax, reallocation	£0	£22bn	£19bn	
Health funding p.a. 29/30	**£151bn**	**£173bn**	**£169bn**	(1) + (2) = (3)
Funding gap p.a. by 29/30	**£49bn**	**£27bn**	**£31bn**	(7) - (3) = (4)
Gains @historic productivity	£18bn	£18bn	£18bn	(5)
Remaining funding gap	£31bn	£8bn	£12bn	(4) - (5) = (6)
Health demand p.a. 29/30	**£200bn**	**£200bn**	**£200bn**	(7)

Projected funding gap: £27bn by 29/30, under the most optimistic funding scenario

Demand pressure and funding in £bn, real (2017/2018 prices)
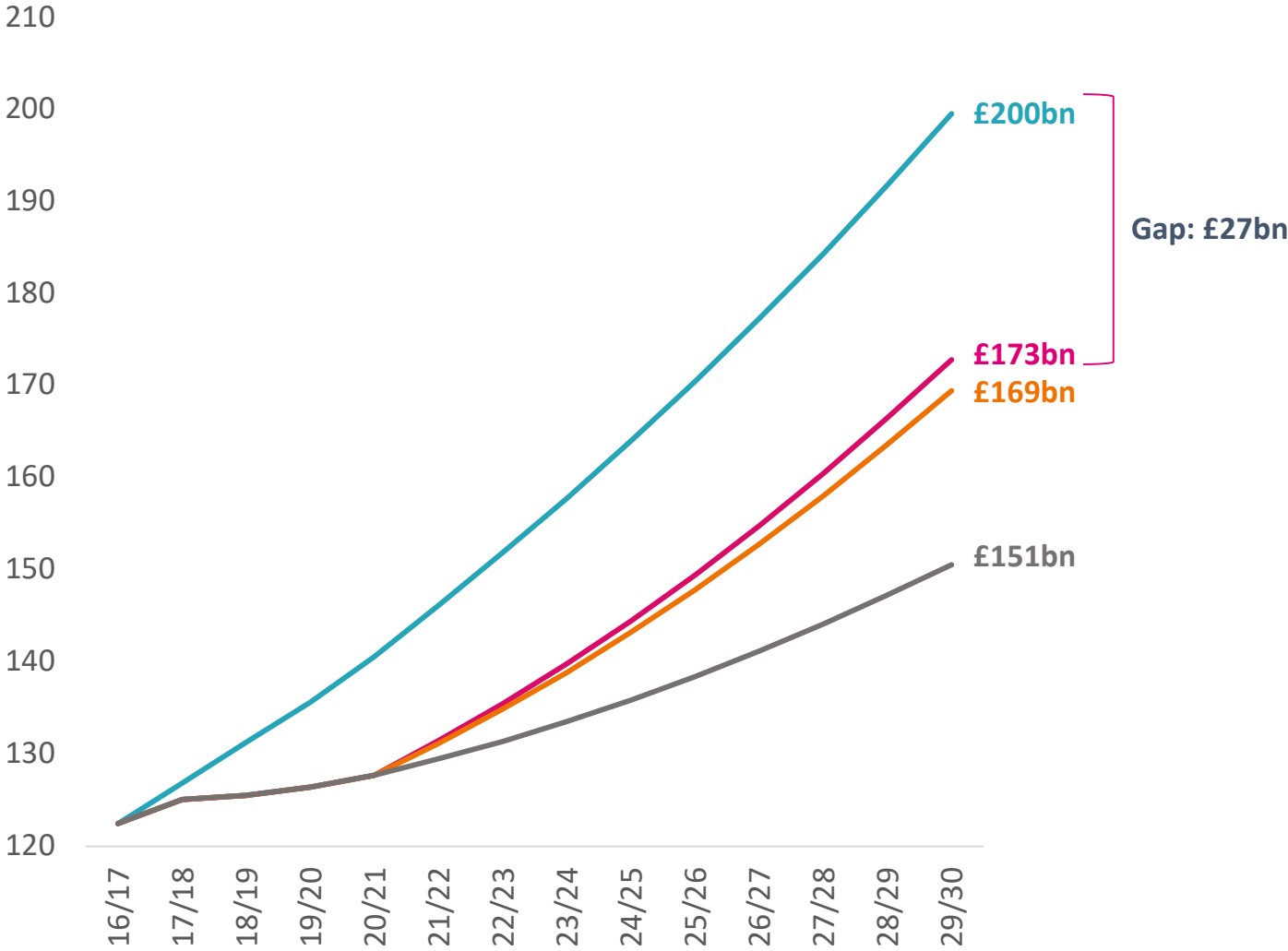
Demand pressure:
- Applying demographic, non-demographic, and provider cost inflation pressures

Funding scenario 2:
- Projected funding using historic (1960 to 2017) funding growth rate of Real GDP+1.5%

Funding scenario 3:
- Projected funding using historic (2007 to 2017) funding growth rate of Real GDP+1.3%
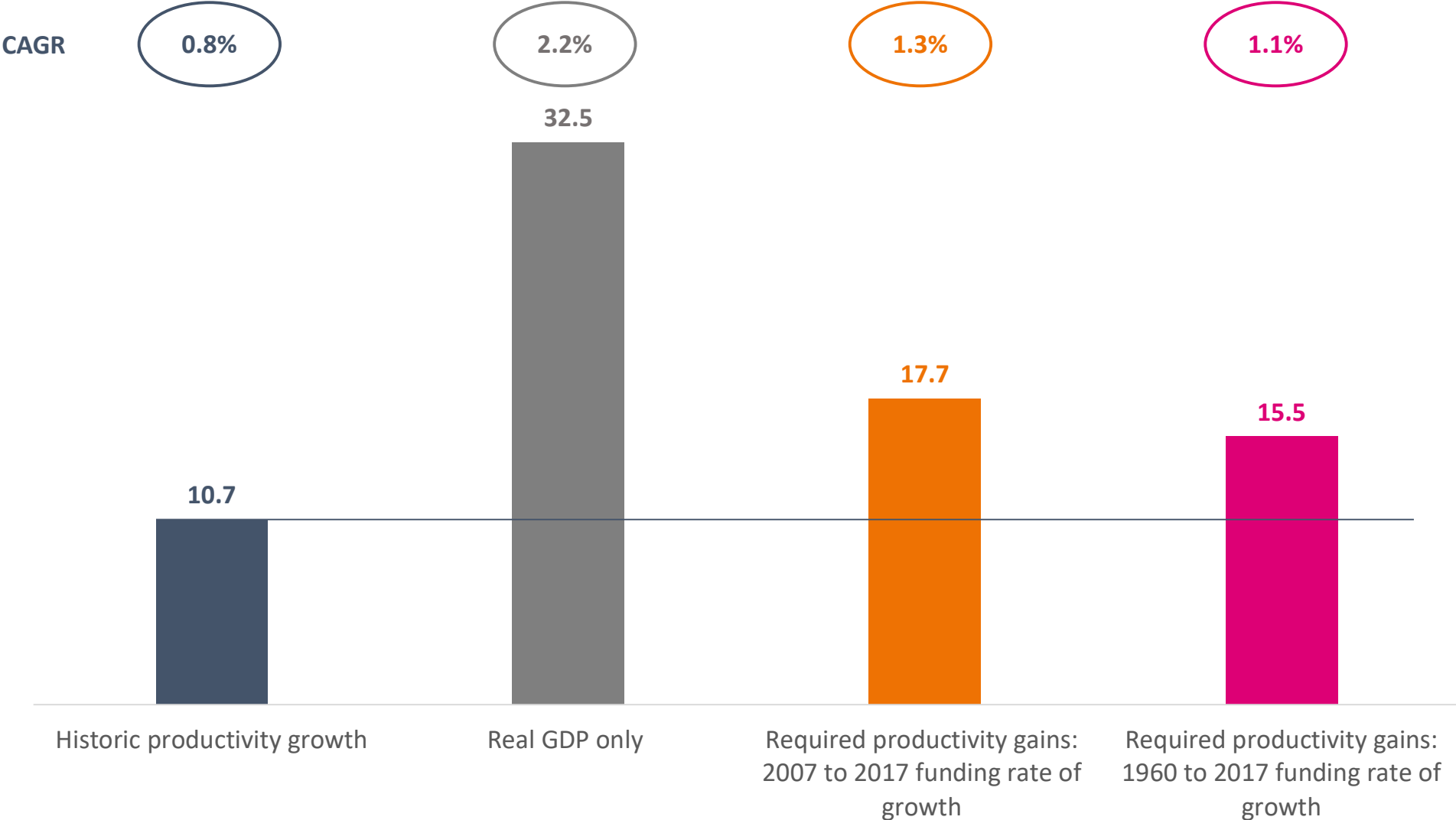
Funding scenario 1:
- Forecasted funding until 29/30 using Real GDP growth only

SOURCE: CF analysis 2018
1 Historic productivity growth is at 0.8%: Growth rate and index for public service healthcare productivity for current and previous publication, 1995 to 2015. SOURCE: ONS
2 Total Department of Health Expenditure Limit (TDEL)

To close the projected health funding gap by 29/30, cumulative productivity gains of 16% (or 1.1% p.a.) are required. This is 1.4x level of historic growth

Cumulative required productivity gains in different funding scenarios, %

CAGR
- 0.8%
- 2.2%
- 1.3%
- 1.1%

| 10.7	32.5	17.7	15.5
Historic productivity growth	Real GDP only	Required productivity gains: 2007 to 2017 funding rate of growth	Required productivity gains: 1960 to 2017 funding rate of growth

SOURCE: CF analysis 2018

Integrating projected social care funding gap results in a £36bn combined health and social care gap by 29/30, under the most optimistic funding scenario

**NHS and social care projected gaps, £bn, real (2017/2018 prices), without productivity gains**
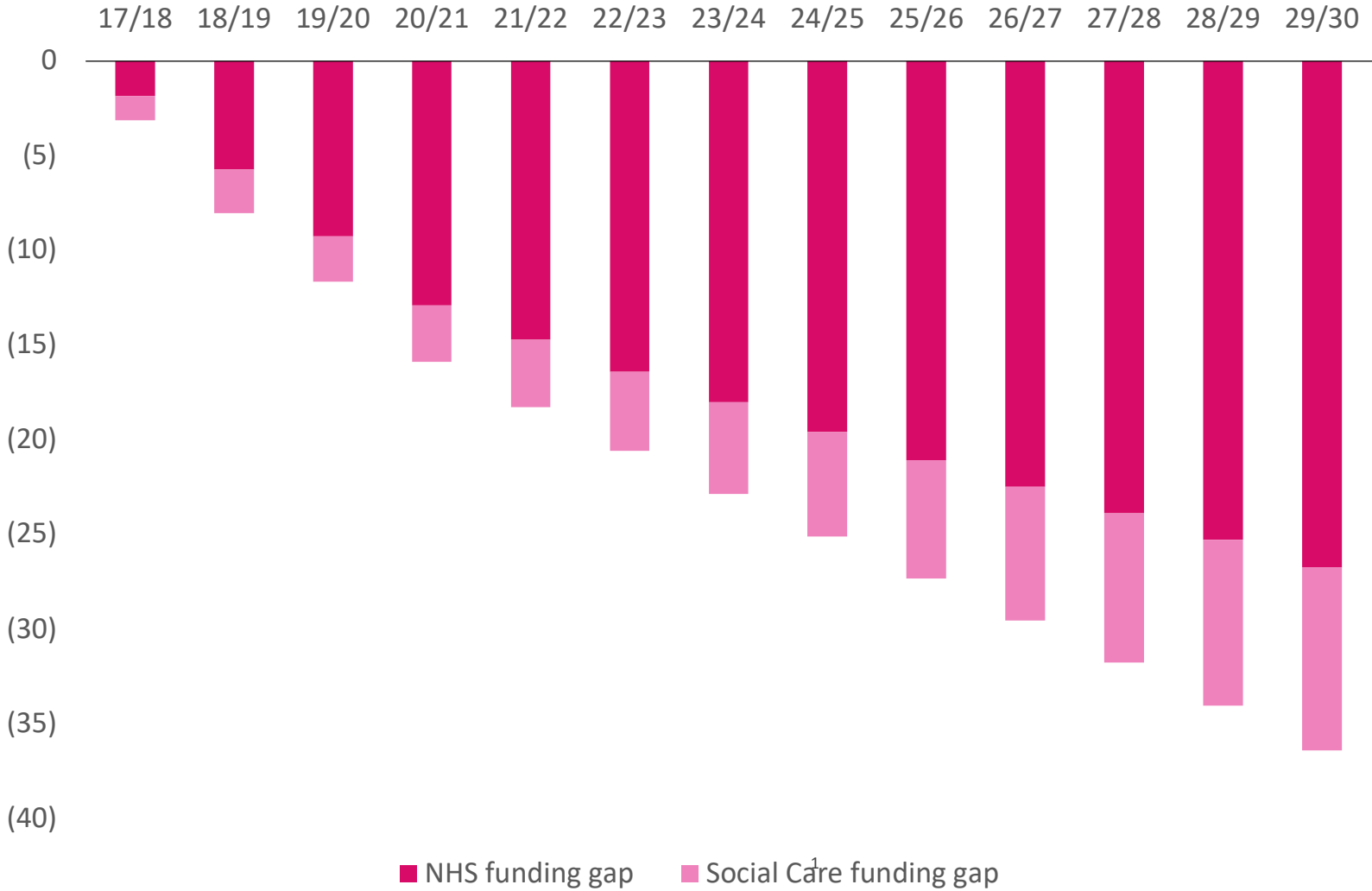
- Heath funding gap based on projected health funding less health demand by CF

- Social funding gap based on projection from The Health Foundation

■ NHS funding gap   ■ Social Care funding gap

SOURCE: CF analysis 2018, Health foundation, OBR, ONS,HES
1 Based on funding levels increasing using 1960 to 2017 growth rate

In the most generous health funding scenario, an additional £60bn of funding must be allocated to health and social care by 29/30, accounting for 2.4% of GDP by 29/30

Additional funding requirements relative to today in most generous scenario, £bn, real (2017/2018 prices), without productivity gains

■ Additional health care funding required
■ Additional social care funding required

Combined health and social care additional funding requirements as % of GDP

2.4%

0.2%
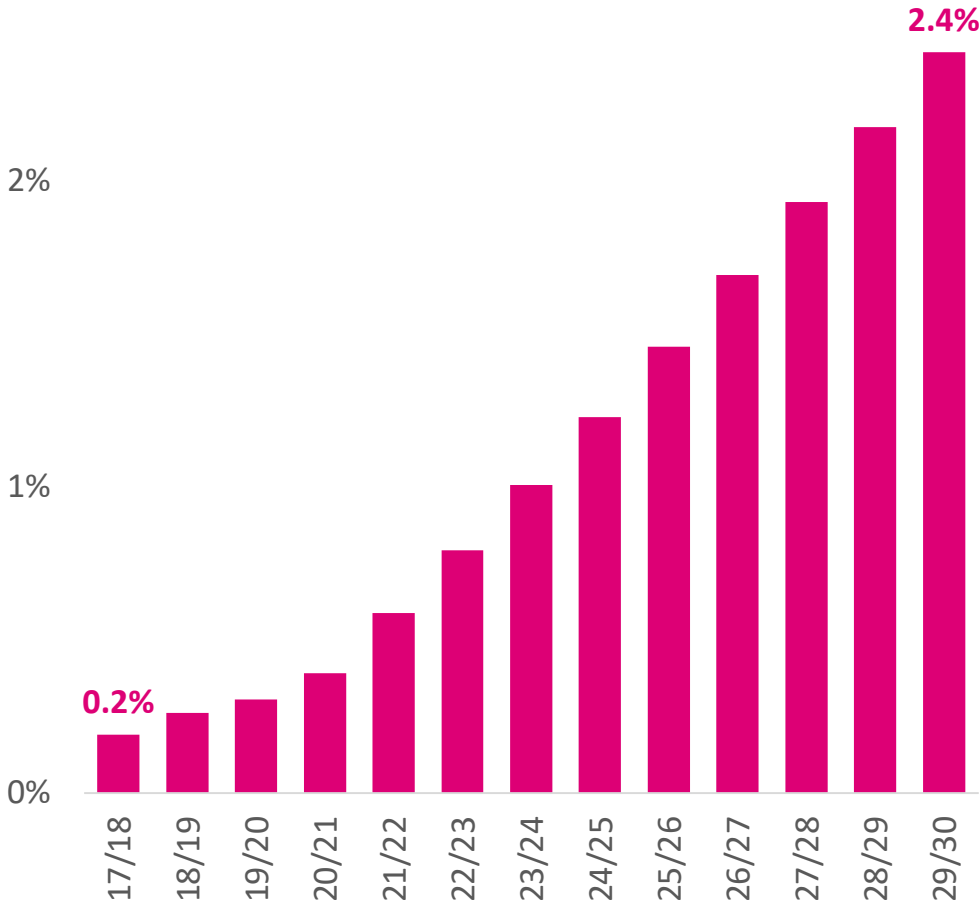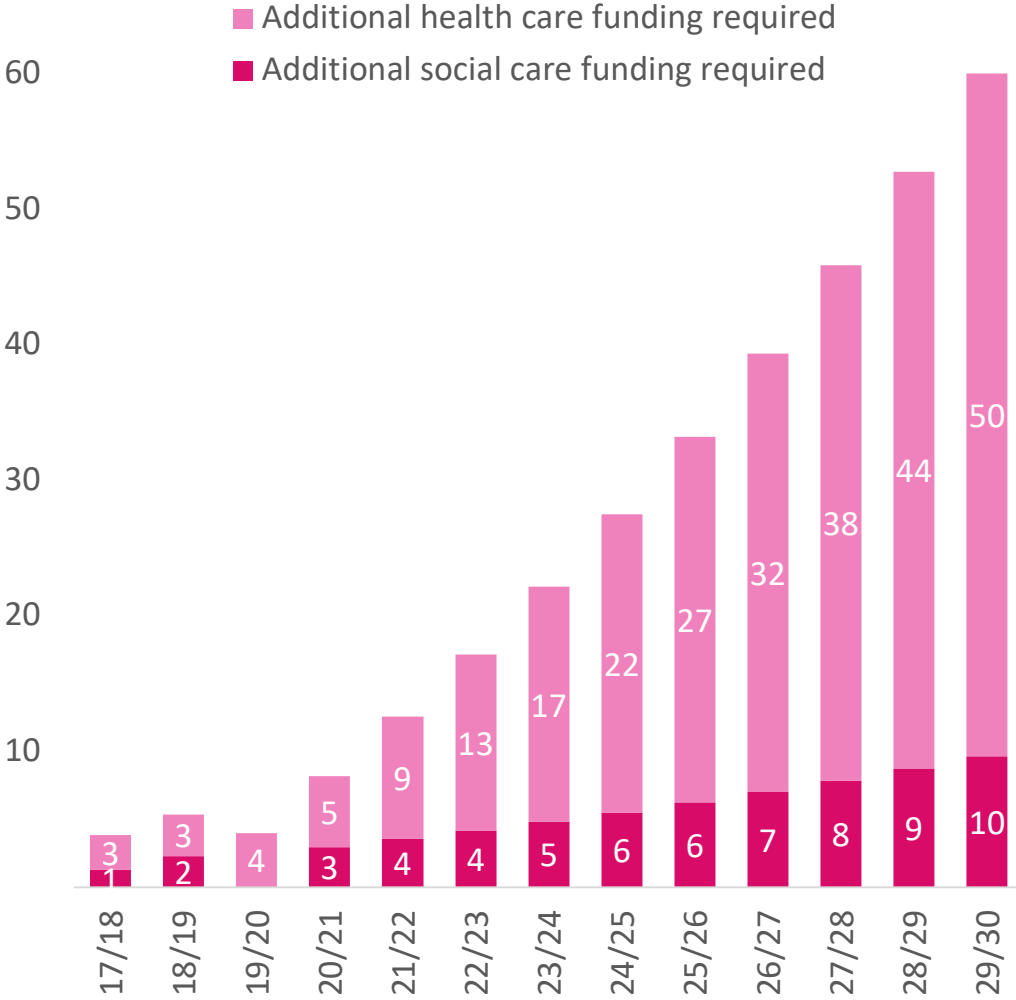
SOURCE: CF analysis 2018 , OBR, ONS, HES

Funding overview for London and Greater Manchester

Regional funding development under different scenarios for London and Greater Manchester, in £m
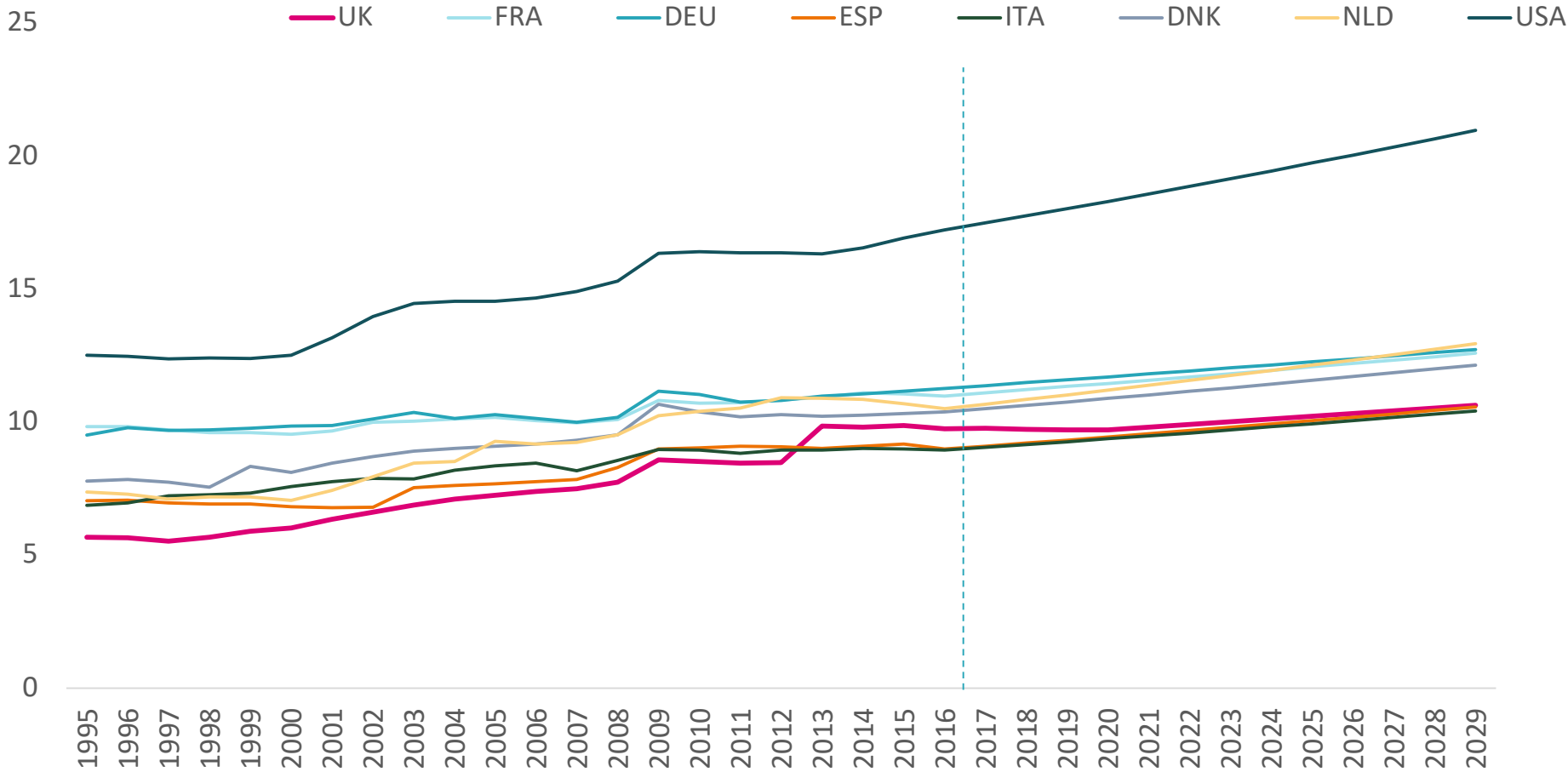
		Health care			Social care	Combined
	Scenario	Funding required 16/17	Funding required 29/30	Additional funding required by 29/30	Additional funding required by 29/30	Additional funding required by 29/30
London	**Scenario 1: GDP growth only from 21/22**	15,107	18,571	3,464	1,493	4,957
	Scenario 2: Applying 1960 - 2017 Growth	15,107	21,317	6,210	1,493	7,703
	Scenario 3: Applying 2007 - 2017 Growth	15,107	20,902	5,795	1,493	7,288

		Health care			Social care	Combined
	Scenario	Funding required 16/17	Funding required 29/30	Additional funding required by 29/30	Additional funding required by 29/30	Additional funding required by 29/30
Greater Manchester	**Scenario 1: GDP growth only from 21/22**	5,153	6,334	1,181	429	1,610
	Scenario 2: Applying 1960 - 2017 Growth	5,153	7,271	2,118	429	2,547
	Scenario 3: Applying 2007 - 2017 Growth	5,153	7,129	1,977	429	2,406

SOURCE: CF analysis 2018 , NHS Digital

Projected health spend as % of GDP

Healthcare spend as % of GDP
From 1995 to 2029P

Legend: UK — FRA — DEU — ESP — ITA — DNK — NLD — USA

SOURCE: OECD databank (2018), Worldbank databank (2018), CF analysis 2018

Sources (1/2)

	Components	Sources
1. Baseline 16/17 Department of Health Spend	• Department of Health Expenditure Limit (TDEL) • NHS breakdown: • CCG spend by POD: Acute, Primary Care, MH, Community, Continuing Care • Specialised commissioning by POD • Directly commissioned Primary Care • NHSE Running & Programme Costs •	• 'Autumn Budget: Joint Statement on health and social care' – Nuffield Trust, The Health Foundation, The Kings Fund (Nov 17) • 'CCG Breakdown of Programme Costs' 2015/16 – NHSE • 'The commissioning of specialised services in the NHS' – National Audit Office (Apr 16) • NHSE Business Plan 2016/17

2. Project NHS Acute Spend 17/18 - 29/30	• Demographic growth factors
	  • population growth
	  • ageing impact
	• Non demographic growth factors
	• total less demo growth (12/13- 16/17)
	• Provider cost inflation factors
	  • Pay & pensions
	  • Drugs
	  • Capital costs
	  • Clinical negligence
	  • Other operating costs
		• ONS Projections (2016-based projections) & HES: activity by age segment for EL, NEL, OP
		• 'Economic Assumptions for Providers 16/17- 20/21 - NHS Improvement
		• NHS Digital: Drugs spend
		• OBR: Economic and fiscal outlook (Mar 18)
		• OBR: Long term economic determinants (Jan 17)
		• OBR: Public service pension payments (Jan 18)

3. Apply NHS acute spend growth across Rest Of DOH spend		Calculation

SOURCE: CF analysis 2018

Sources (2/2)

	Components	Sources
4. Project DOH Funding	• Assume 16/17 DOH funding income = 16/17 DOH spend (TDEL) • Project funding income to 29/30 : I. GDP real growth only II. GDP real growth + 1.3% (2007-2017) III. GDP real growth + 1.5% (1960-2017)	• 'Forecasts for the UK economy: a comparison of independent forecasts (2017-2021)' – HM Treasury (Nov 17) • 'The Financial Sustainability of Health Systems A Case for Change' – World Economic Forum (2012) • OBR: Economic and fiscal outlook (Mar 18) • OBR: Long term economic determinants (Jan 17) • 'Autumn Budget: Joint Statement on health and social care' – Nuffield Trust, The Health Foundation, The Kings Fund (Nov 17) • House of Commons Briefing Paper: NHS Funding and Expenditure, 13 April 2018
5. Calculate Health Funding Gap	• 1. Subtract (2) from (1) for all four scenarios to project funding gaps to 29/30	• Calculation
6. Calculate Implied Productivity Requirements	• 1. Calculate implied productivity gains for each scenario on annual and cumulative level to 29/30 • 2. Compare implied productivity gains to historic achievement	• Calculation • 'Growth rate and index for public service healthcare productivity, 1995 to 2015', ONS
7. Integrate social care projected funding gap	• Integrate social care projected funding gap to get combined funding gap for health and social care in England to 29/30	• 'Autumn Budget: Joint Statement on health and social care' – Nuffield Trust, The Health Foundation, The Kings Fund (Nov 17) • 'Health and Social Care Funding Explained' – Health Foundation (2016)

SOURCE: CF analysis 2018

About the authors

Who we are

CF is a rapidly growing management consultancy dedicated to improving health, care and public services. It is led by experienced senior leaders from healthcare, public sector and consultancy backgrounds.

We pride ourselves on being able to meet client needs holistically, combining problem solving, managing delivery and change leadership.

This year, our work has been recognised at the inaugural HSJ Partnership Awards, where we won the awards for 'Best Provider of Healthcare Analytics' and were named 'Consultancy of the Year 2018'. Furthermore, won the award for 'Change Management in the Public Sector' at the MCA awards for our work with the Devon Sustainability and Transformation Partnership.

Ruth Carnall
Chair

Represented on 'The Lord Darzi Review Of Health And Care' Advisory Panel

Ruth Carnall is Chair at Carnall Farrar. She has extensive experience as a chief executive at NHS London, where she oversaw a city-wide programme of performance improvement and strategic change. The results of this work are widely recognised in the UK and internationally.

Ruth has worked at all levels of the NHS for over 30 years and worked as an independent consultant with various public and private sector clients. These included the Department of Health, Monitor, Health Authorities, NHS Trusts, pharmaceutical companies as well as the Prime Minister's Delivery Unit, the Cabinet Office, the Home Office and the Ministry of Justice. Ruth also has experience as a non-executive Partner of a public company, chair of a private company and trustee of a charity. Ruth is a member of the Board of Trustees at the Kings Fund.

The team (1/2)

Ben Richardson
Partner

Ben Richardson is a Partner at CF. He works with clients across health and care to help them achieve the triple aim of better care and better experience at lower cost. He is a global leader in Integrated Care and Payment Innovation.

He focuses on serving clients primarily in England and America, as well as bringing together clients and insights from all around the world including Europe, Asia, Australia and Latin America.

Prior to joining CF he was a Senior Partner at McKinsey & Company and leader of the Integrated Care & Payment Innovation Service Line in Europe.

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Toby Lambert
Principal

Toby Lambert is a Principal at CF, bringing a background in both consulting and policy. He has shaped and delivered national policy in a number of countries to bring about change.

Toby is passionate about improving value in health care, enabling staff to deliver the best possible care. Prior to joining CF he worked on policy development, overseeing the National Tariff, developing the costing transformation programme, and leading on strategy and policy for Monitor. Latterly he has been seconded to King's College Hospital as director of strategy.

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Sutha Satkunarajah
Principal

Sutha Satkunarajah, Principal at CF, brings a background in healthcare consulting and investing. He is passionate about improving value in health care, enabling staff to deliver the best possible care for their patients. Prior to joining CF he worked at improving outcomes at Bupa by leading a major transformation programme, based in Salford, and he conducted due diligence for private equity investors in health care at L.E.K Consulting and CIL.

He is an active investor in UK nursing homes, a Trustee Governor of Tiffin School and an admissions interviewer for Harvard College.

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The team (2/2)

Ellie Davies
Senior Analyst

Ellie Davies is a Senior Analyst at CF and has supported a programme working with CCGs to develop their collaborative commissioning arrangements. Ellie has significant experience of the provision of stroke services, having worked on a major stroke service reconfiguration. Prior to joining CF Ellie worked in primary care for a General Practitioner's surgery and in a CCG, gathering data on dementia diagnosis rates of care home residents.

Ellie graduated from Durham University with an MSc in Chemistry and Biology within the Natural Sciences programme.

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Melissa Egle
Senior Analyst

Melissa Egle is a Senior Analyst at CF and has experience working with a number of national healthcare systems. Melissa has a thorough understanding of analysis of complex data and achieving system-wide collaboration. She is interested in health services in developing countries and the question of equity in health. Melissa graduated with a BBA in European Management from Lancaster University and a BSc in International Management from Reutlingen University, Germany and holds a Master's Degree in International Health Management from Imperial College London.

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Guy Cochrane
Analyst

Guy Cochrane is an Analyst at CF and has worked to support the development of joint working arrangements between North West London CCGs, as well as in Oxfordshire, where he worked on a system-wide diagnosis for urgent and emergency care services.

Before joining CF, Guy worked with the NHS as a communications officer, working across Staffordshire, Warwickshire and Leicester, with both commissioners and providers. Guy graduated from St Hilda's College, Oxford with a BA in Philosophy, Politics and Economics in 2015.

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