Chief Medical Officer's
Annual Report 2020

Health trends and variation in England

Contents

Executive Summary

Introduction

The Chief Medical Officer's annual reports have been a tradition stretching back over 150 years, providing an independent assessment of the state of the public's health in England. While Chief Medical Officers have prepared their reports in various ways over the years, a constant thread is the use of data and scientific evidence to inform their assessments.

Surveillance of a range of health statistics allows us to monitor progress, prioritise areas for action to improve people's health, and inform policymaking, by highlighting areas where we are doing well and not so well.

In England, a vast array of health statistics is continually produced by a range of organisations across government, academia, industry and the third sector. This machinery of work often goes unseen and uncelebrated, and so this report is also an opportunity to highlight this work, which is so key to decision-making at both national and local level. The stronger our data and evidence – the more timely, reliable, complete, and granular – the more actionable the insights. By bringing together a collection of these statistics in one place, my hope is that these reports will be a valuable resource for those interested in understanding the high-level trends relating to the health of the nation and for decision makers in all parts of the system.

As we are still in the middle of the COVID-19 pandemic, the main body of this report deliberately focuses on the multitude of other enduring health challenges of the nation. The great majority of those who have died or suffered avoidable ill-health this year have done so from diseases unrelated to COVID-19. However, given its dominance in public health in 2020 I will start with a section on the pandemic as of the end of 2020. If we do not deal with COVID-19, we will not have the capacity to tackle all the other major diseases.

COVID-19

Public health in 2020 has been dominated by COVID-19. At the appropriate time, which will be when the epidemic in the UK has reached a stage where the forward view for the disease is relatively predictable, I intend to write a report on lessons learned from the pandemic for England from the public health point of view. There is a lot for us to learn, but some distance between day-to-day decisions and the lesson learning invariably helps provide perspective. There is still a great deal we do not know about the disease, its prevention and management, and lessons learned now will be overtaken by events and by the rapidly developing science around the disease. Vaccines have begun to be rolled out, a tremendous example of the power of medical science and international collaboration, though it will be some months before their full impact is felt. At the time of writing, we are still in the middle of the second wave, and cases remain high. It is, however, important to acknowledge the extraordinary impact of the COVID-19 pandemic on the health of the nation, the NHS and on wider society in 2020.

I and many others have consistently highlighted that mortality and morbidity would potentially occur in four broad ways as a result of the pressure of the disease.

A)   *Direct deaths, and long-term morbidity,* from COVID-19 (Covid).

These are the easiest to count, although limitations in diagnostic capacity in the first wave of the epidemic mean they can only be approximate. We are still trying to understand the long-term morbidity effects of Covid, including the group of syndromes currently called long Covid. Hospital mortality from Covid has decreased over the epidemic due to a combination of improved treatments from science (such as dexamethasone, proning, use of anticoagulants) and doctors learning how best to manage the disease, but mortality in the oldest people who catch it, and those with significant medical problems, remains high.

B)   The potential for *indirect mortality due to emergency services being overwhelmed.*

This would include emergency Covid admissions, but also all other emergency admissions such as heart attacks, stroke, gastrointestinal bleeds and other common emergencies. We avoided this in the first wave due to the remarkable actions of the entire nation undertaking a lockdown, and I am confident we will avoid it in the second wave during 2020, provided that people continue to follow guidelines. However, with an epidemic of this degree of speed of movement, force of transmission and inevitable exponential growth, this was not a given. Emergency services could easily have become overwhelmed without strong action by the whole community in the absence of medical countermeasures.

Although emergency services were not overwhelmed, there is already some evidence that people with medical emergencies, for example of cardiovascular disease, stayed away from hospitals when presentation as an emergency would have been in their health interests.

C)   *Indirect mortality and morbidity due to routine, urgent and non-Covid related healthcare being postponed, reduced or cancelled.*

Covid patients occupying a substantial number of hospital beds, and the need to divert medical and nursing staff to manage Covid, had a significant effect on the healthcare system. The importance of personal protective equipment (PPE) and measures to minimise nosocomial infection also contributed to this phenomenon. Even with the societal interventions (non-pharmaceutical interventions, or NPIs), including the two lockdowns as the waves were rising, this was a significant burden on healthcare. However, the burden would have been substantially greater if the NPIs had not been in place, and Covid had taken an even greater proportion of healthcare capacity.

D)   *The direct effects of the NPI on health in the short and long term.*

Short-term negative effects include significant mental health impacts, for example due to loneliness and isolation during lockdown, and positive effects, such as reductions in air pollution due to reduced motor vehicle use.

The long-term effects as a result of the combined economic impact of Covid and countermeasures to reduce the size of the Covid waves are likely to be substantial. These include the effects of reduced education, and increased deprivation due to increasing unemployment.

COVID-19 is therefore likely to have an impact on public health globally, in the UK, and in England specifically, for many years.

Rather than do a partial analysis, a thorough look back to learn lessons should be conducted when we have some distance, more data and evidence. It will, however, be essential. COVID-19 is the most important global pandemic at least since HIV emerged, and the most important pandemic affecting the UK probably since the 1918-19 H1N1 influenza pandemic, because of its widespread impact on society as well as its direct and indirect mortality.

Overleaf are charts showing the state of some of the key indicators for COVID-19 as of early December 2020.

Figure A: Global map of cumulative COVID-19 cases
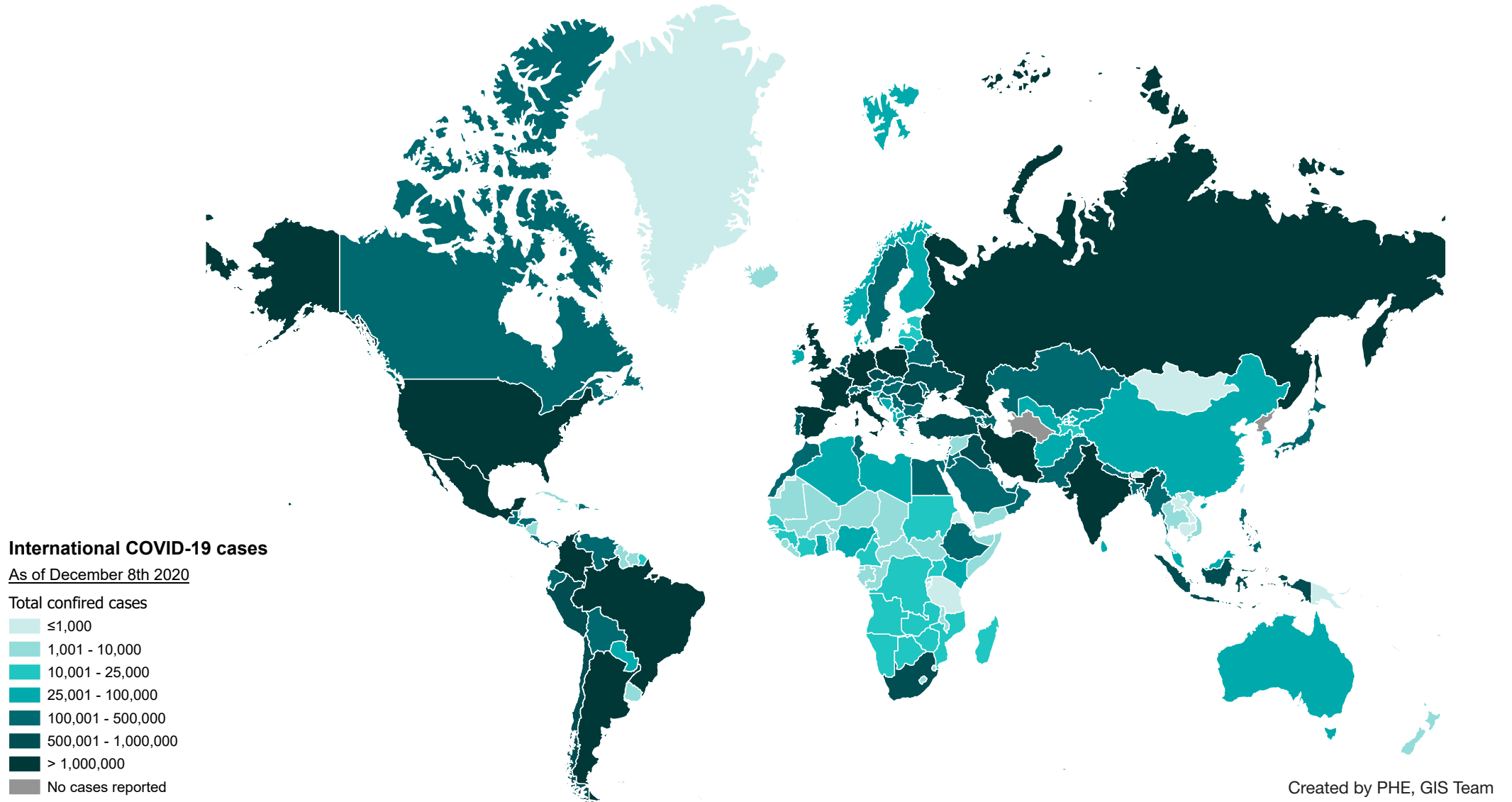
International COVID-19 cases

As of December 8th 2020

Total confired cases

- ≤1,000
- 1,001 - 10,000
- 10,001 - 25,000
- 25,001 - 100,000
- 100,001 - 500,000
- 500,001 - 1,000,000
- > 1,000,000
- No cases reported

Created by PHE, GIS Team

Source: Public Health England (2020), *National flu and COVID-19 surveillance report: 10 December 2020 (week 50)*

Figure B: Official estimates of the percentage of the population in England testing positive for the coronavirus (COVID-19) on nose and throat swabs, 03 May to 05 December 2020
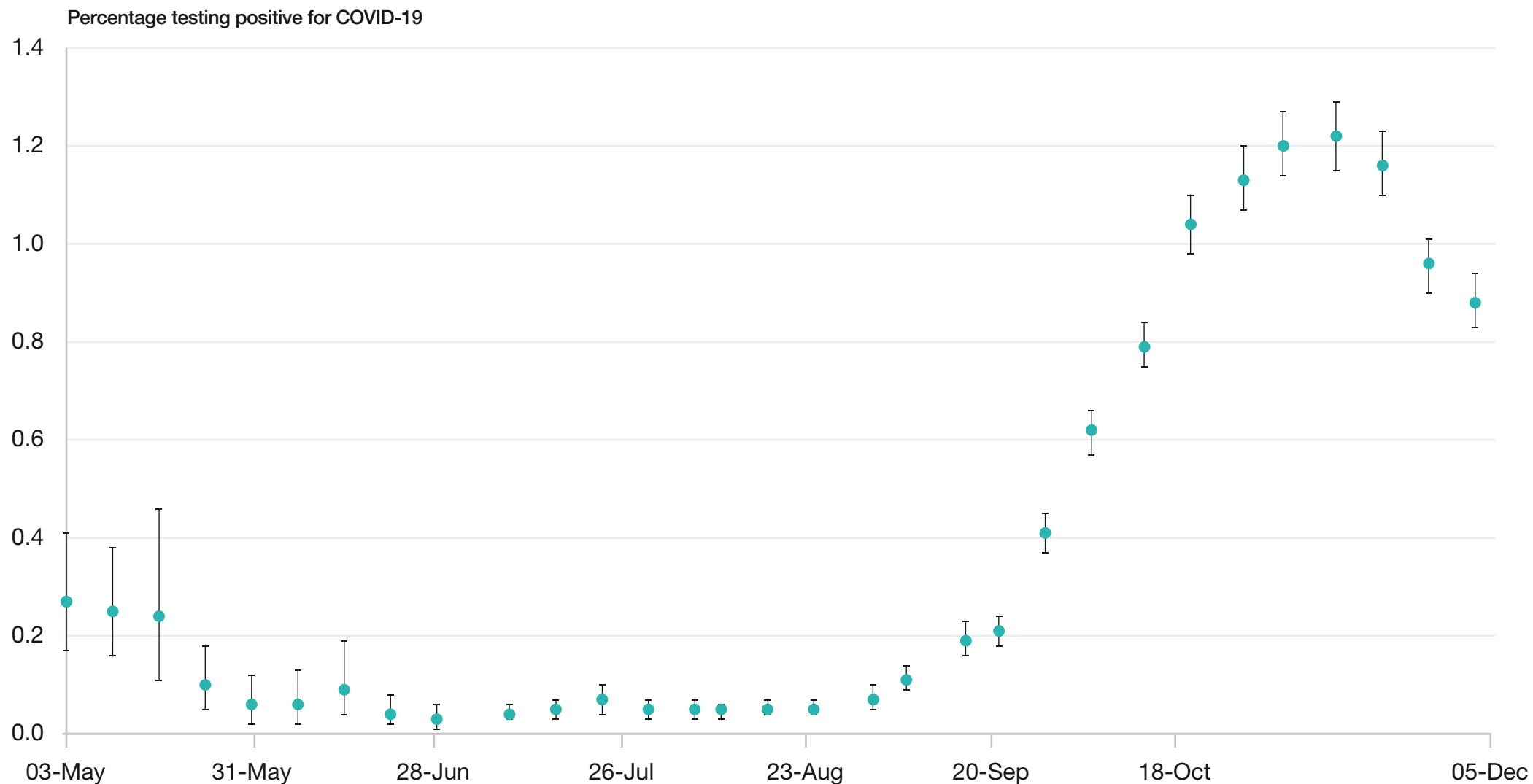
Percentage testing positive for COVID-19

Source: Office for National Statistics (2020), *Coronavirus (COVID-19) Infection Survey, UK: 11 December 2020*

Figure C: Daily number of COVID-19 patients admitted to hospital in England, 19 March to 11 December 2020

Source: NHS England (2020), *COVID-19 Hospital Activity*

Figure D: Number of COVID-19 deaths registered weekly in England, 29 February to 04 December 2020
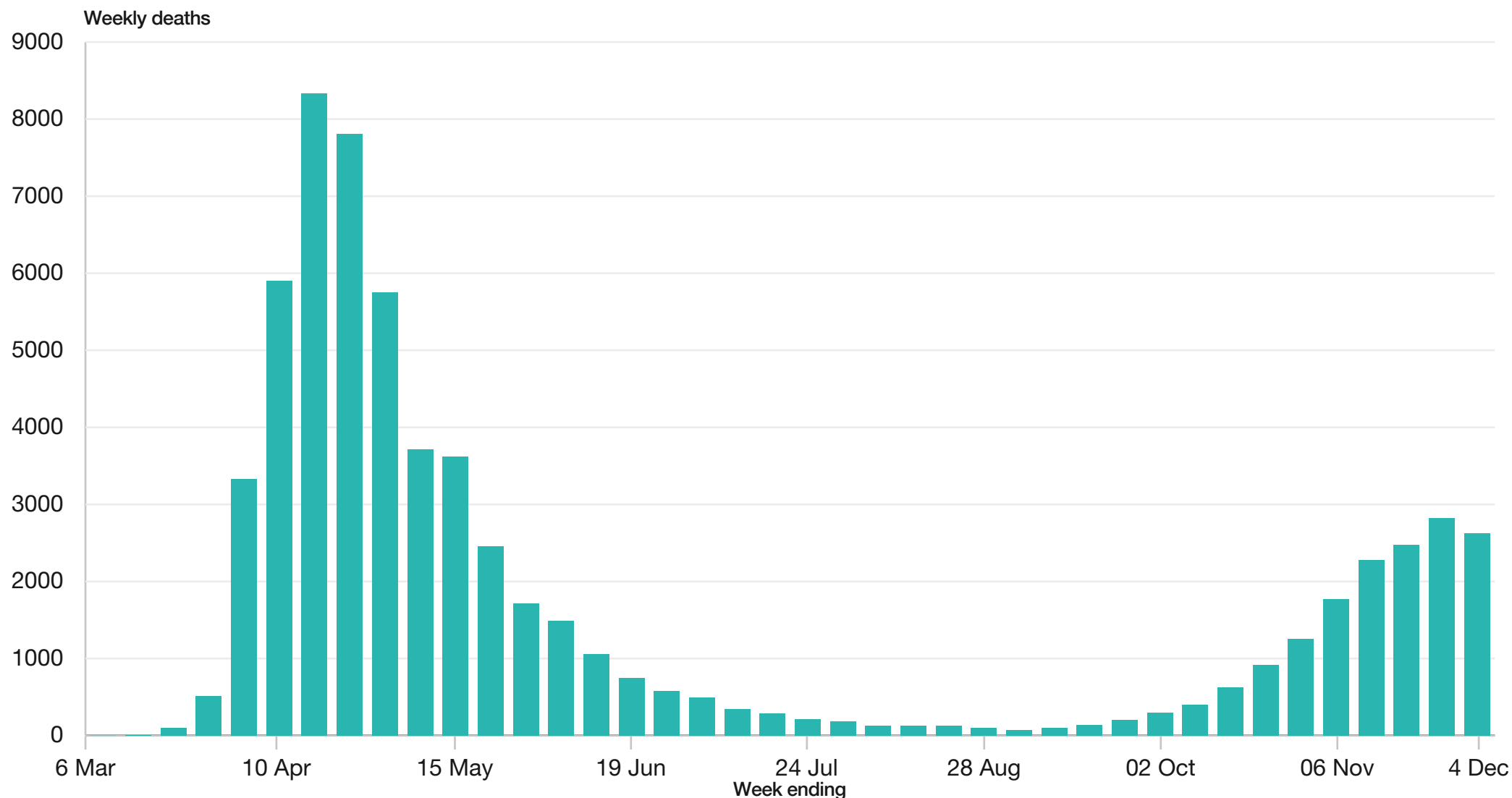
Source: Office for National Statistics (2020), *Deaths registered weekly in England and Wales, provisional*

Figure E: Number of deaths registered by week in England, 28 December 2019 to 04 December 2020
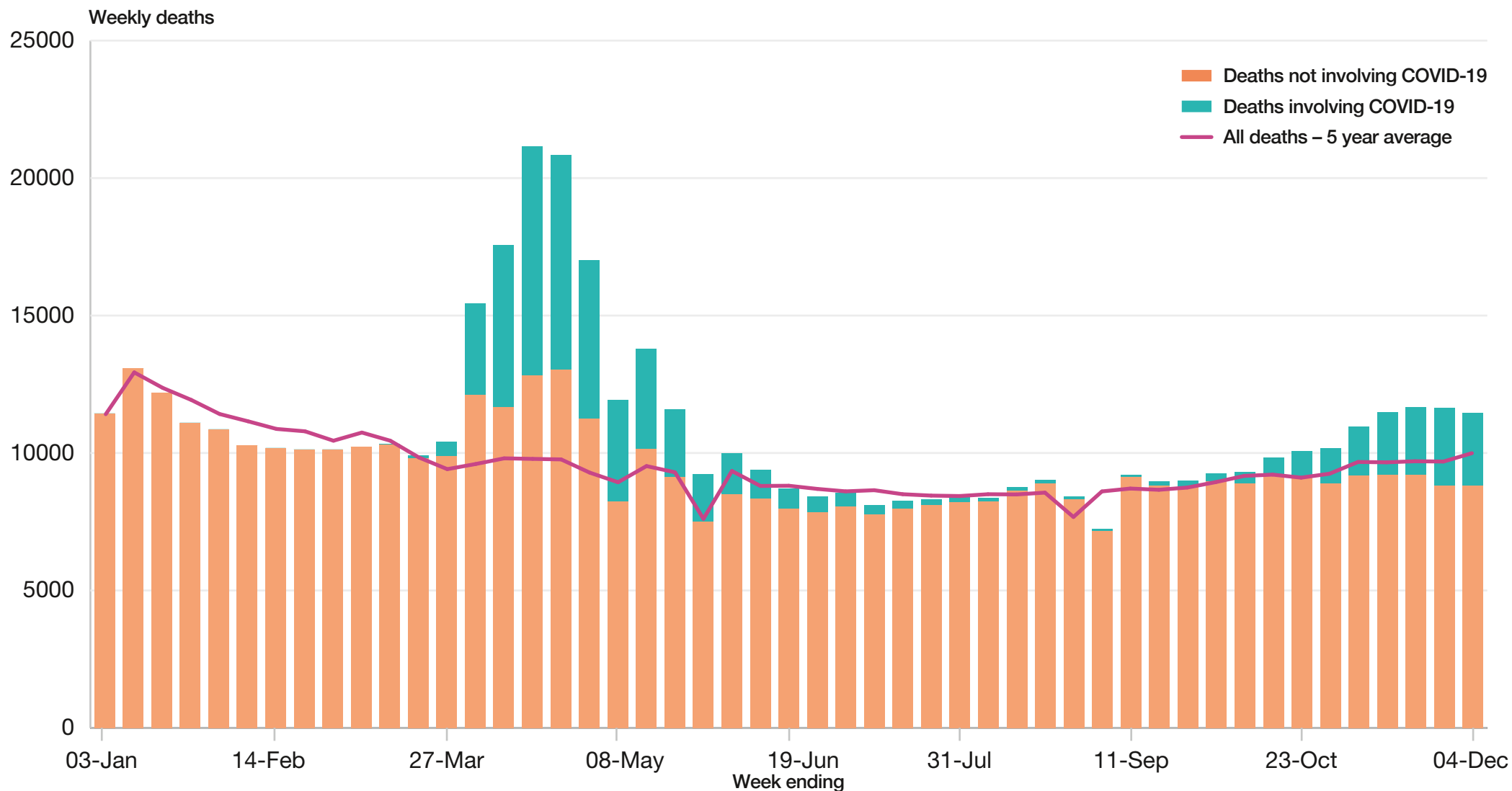
Source: Office for National Statistics (2020), _Deaths registered weekly in England and Wales, provisional_

Overview of charts of wider disease

The rest of this report relates to other aspects of the nation's health. The charts included present a broad, high-level overview of the nation's health across a range of health outcomes and public health indicators. They are by no means an exhaustive collection of the health data that exists in the country, which would run to many volumes. Instead, we have focussed on charts that identify some of the key trends. Epidemiologists typically describe patterns of health and disease across 'time', 'place' and 'person', and this has shaped our approach to the report and the types of analysis included:

- **Time:** Trends over time are a way of monitoring progress on health indicators and detecting negative trends which might warrant further action. This report includes both short-term and long-term trends.
- **Place:** Maps have been used to demonstrate the geographic variation in health that exists for many reasons, such as socioeconomic deprivation, urban and rural differences and the concentration of older citizens in particular parts of the country. International comparisons have also been included for certain indicators.
- **Person:** Variation in health that exists across characteristics such as gender, age, and ethnicity.

Chapter 1 covers changes to life expectancy and other demographic changes relating to deaths and births, with population ageing as a key trend. Chapter 2 covers the overarching health outcomes of mortality (deaths) and morbidity (ill-health), both for all-causes and for specific physical and mental health conditions, with a particular focus on the common chronic conditions. Chapter 3 covers the health trends in children and young people, which are often distinct from those in adults. Chapter 4 covers the wider determinants of society that influence our health, such as socioeconomic deprivation and the avoidable health inequalities that arise from this, and environmental determinants of health. Chapter 5 covers the risk factors to health that are shaped by our behaviour, such as smoking, alcohol intake, and sexual health. Finally, Chapter 6 covers preventative and healthcare services such as screening and vaccination, and care at the end of life.

A running theme throughout these chapters is variation in health, over geographies, over time, and between groups of people. While in some cases this variation is unavoidable (relating to inherent biological differences associated with, for example, age or gender), in many more cases these variations are avoidable and can be acted upon. If people living a short way apart from one another have widely different health outcomes, this cannot be just a function of biology, and it should be possible to bring the least healthy much closer to the outcomes of the healthiest.

Some key findings and themes

Every reader will take different things away from this report, and that is its aim. I will pick up some of the themes in subsequent annual reports, but a few points are worth highlighting:

1) The extraordinary improvements in *life expectancy* everywhere stalled relatively recently. This is not unique to this country and has been seen in many major developed countries; the reasons for this are open to various interpretations. The fact of it is, however, striking and the improvements need to be started again.

2) Ill health and disease concentrating in areas of *deprivation* is long-standing and needs to be tackled. Describing and deploring it is not enough; we need to have actionable plans to improve it.

3) There is *an increasing concentration of older citizens* in particular, often in different parts of the country, and irrespective of deprivation, who have diseases such as dementia, many cancers and cardiovascular disease. Often, they are in semirural parts of the country where provision of services is more difficult, and this trend is likely to continue. We need to get ahead of it, or we will be faced by an entirely predictable problem of delivery of service to those in greatest need.

4) Multiple chronic diseases, also currently referred to as *multimorbidity*, are increasing relative to people with a single disease. At the same time, the trend within the medical profession has been to ever greater specialisation. This does not make sense. We need to maintain generalist skills within the medical profession whilst continuing to celebrate the advances that specialisation brings. It is possible to be an excellent specialist and simultaneously an excellent generalist. Medical science, so powerful in addressing individual diseases, has been much less effective in addressing multimorbidity.

5) The terrible toll of *cigarette smoking* continues, from the early stages of life including smoking in pregnancy, through to cardiovascular disease, respiratory disease, and the most common cancer-related mortality, including lung cancer. The cigarette industry has its greatest health effect in the most deprived areas while it gains its extraordinary profits. This entirely preventable burden of disease, caused simply to create additional profit for a small number of very wealthy companies by addicting people early in life to something that will kill many of them, has not gone away and still needs to be tackled head on.

6) Despite major areas for attention, such as those highlighted above, the data in this report also shows a general trend of gradual improvement across many areas of health, particularly over longer term timescales. Indeed, the long run history of the nation (and of humanity in general) demonstrates relatively consistent improvements to health, wellbeing and productivity, even through events such as wars and pandemics. This is due to the remarkable, steady advance of medical science, and improvements in people's standards of living. Although such long-term trends should never be taken for granted, it is encouraging to recognise that the health enjoyed by future generations is likely to be better than ours today.

I hope readers of this report find the data in it useful and illuminating. Most of the data included is publicly available and routinely published, but is not often brought together in one place.

Health in England has improved extraordinarily in every part of society, every age group and every part of the country since the appointment of the first Chief Medical Officer in the 1850s. It is our collective responsibility to continue this improvement in avoidable disease, ill-health, disability and mortality.

Prof Christopher Whitty

Chief Medical Officer for England, 2020.

How to use this report

This compendium of health statistics has been designed to be easy to navigate and use, either to be read through from top to bottom or as a resource to come back to. It is light on text with a focus on charts and maps in a slide deck format. Interactive navigation bars and contents pages allow the reader to jump between chapters and the charts contained within each. A headline on each page summarises a particular take-away point, but note that many charts and maps demonstrate more than one point. Below each chart is a description of the data and a link to the original source. These links will often provide datasets available for download (where data are publicly available), more detail about the context of the topic, and notes about the data.

Chapter 1.
Life expectancy and population change

Chart List

Life expectancy has increased over the last two centuries.

1.1 Life expectancy at birth – long term trend
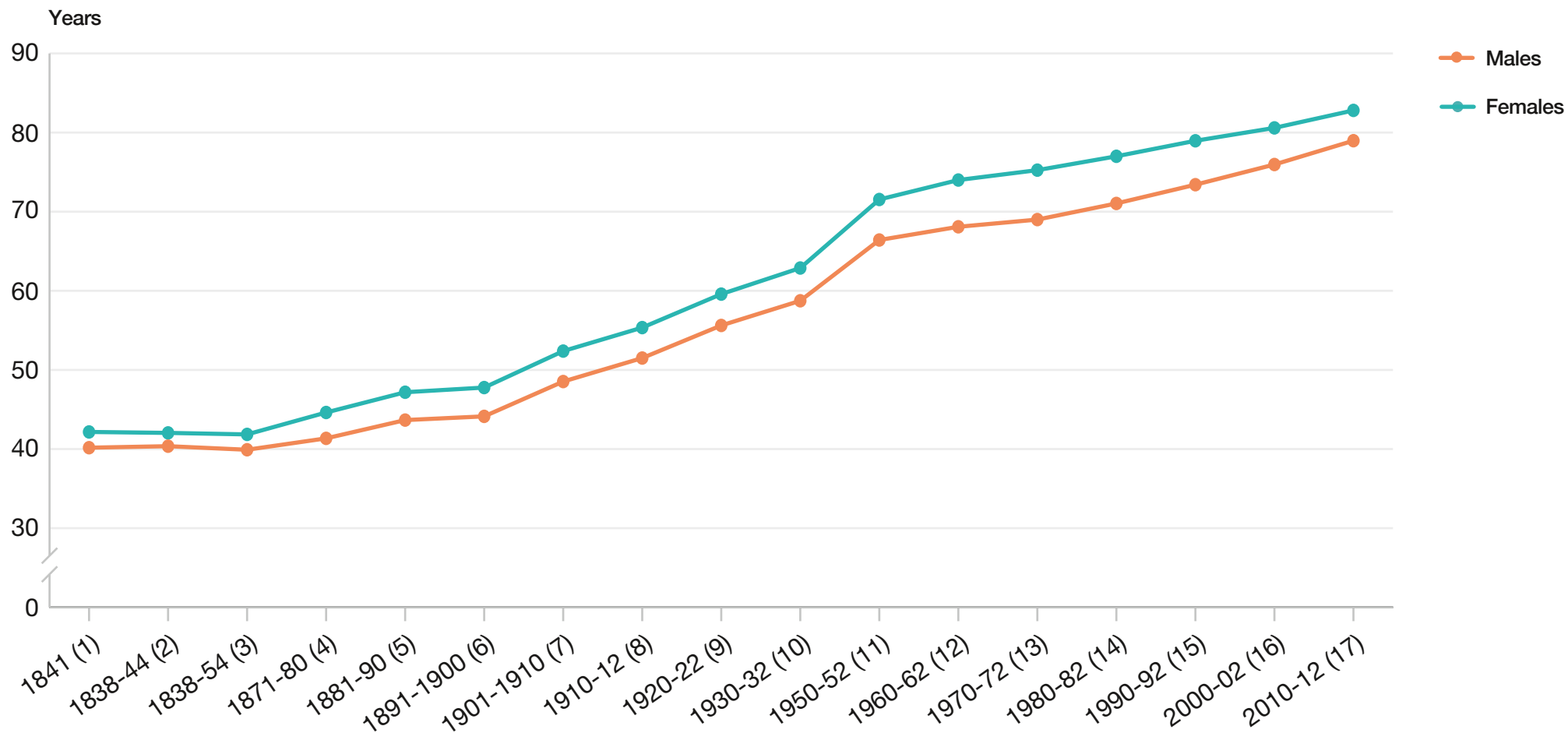
Period expectation of life at birth (years), from English Life Tables (ELT) No.s 1 to 17, based on data for England and Wales

Source: Office for National Statistics (2015), _English Life Tables No.17: 2010 to 2012_

Life expectancy gains have plateaued since 2010.

1.2 Life expectancy at birth – recent trend
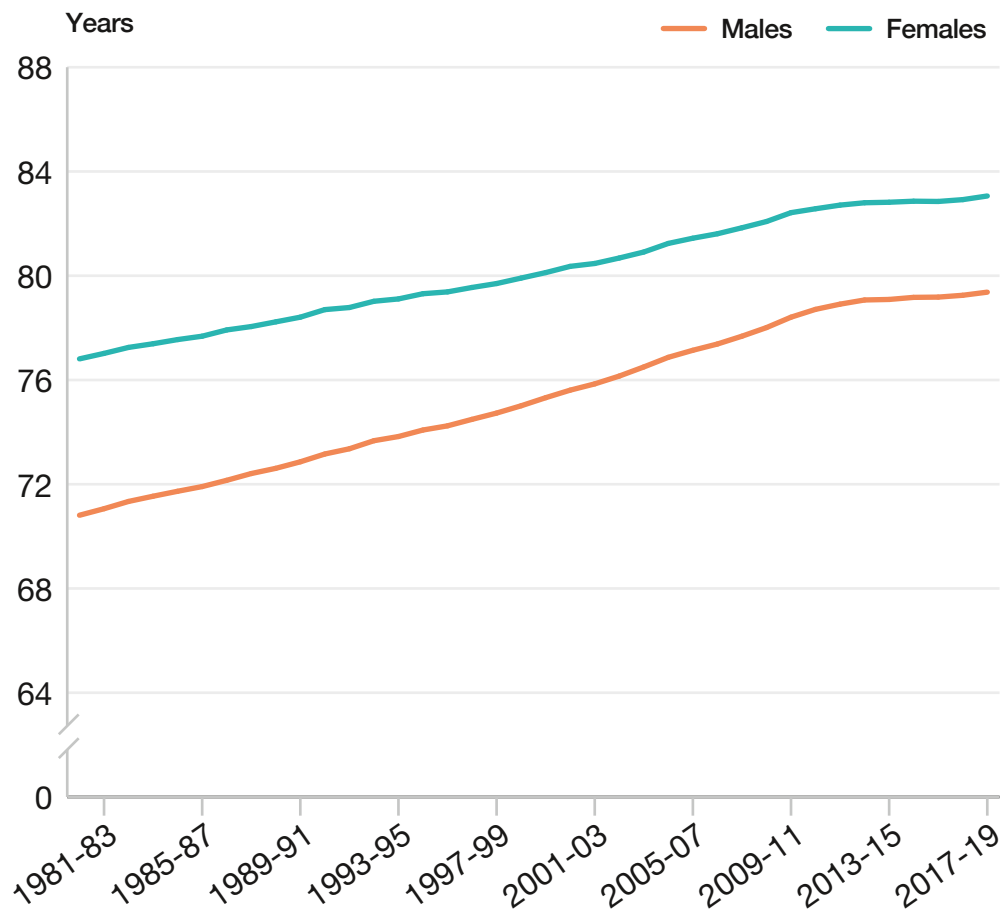
Life expectancy at birth, males and females, UK

Source: Office for National Statistics (2020), *National life tables – life expectancy in the UK: 2017 to 2019*

1.3 Change in life expectancy
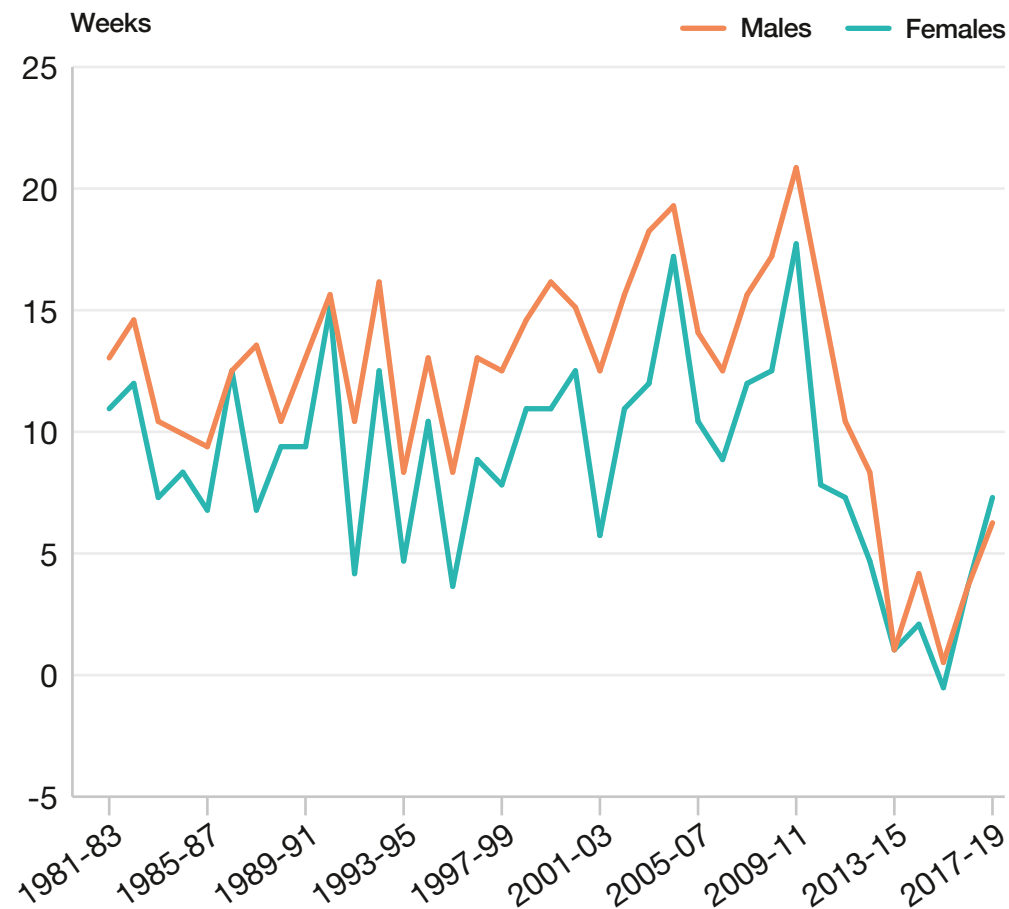
Annual change in life expectancy at birth in weeks, males and females, UK

Source: Office for National Statistics (2020), *National life tables – life expectancy in the UK: 2017 to 2019*

3

The slowdown in life expectancy has also been seen in other major developed countries.

1.4 Life expectancy – international comparison
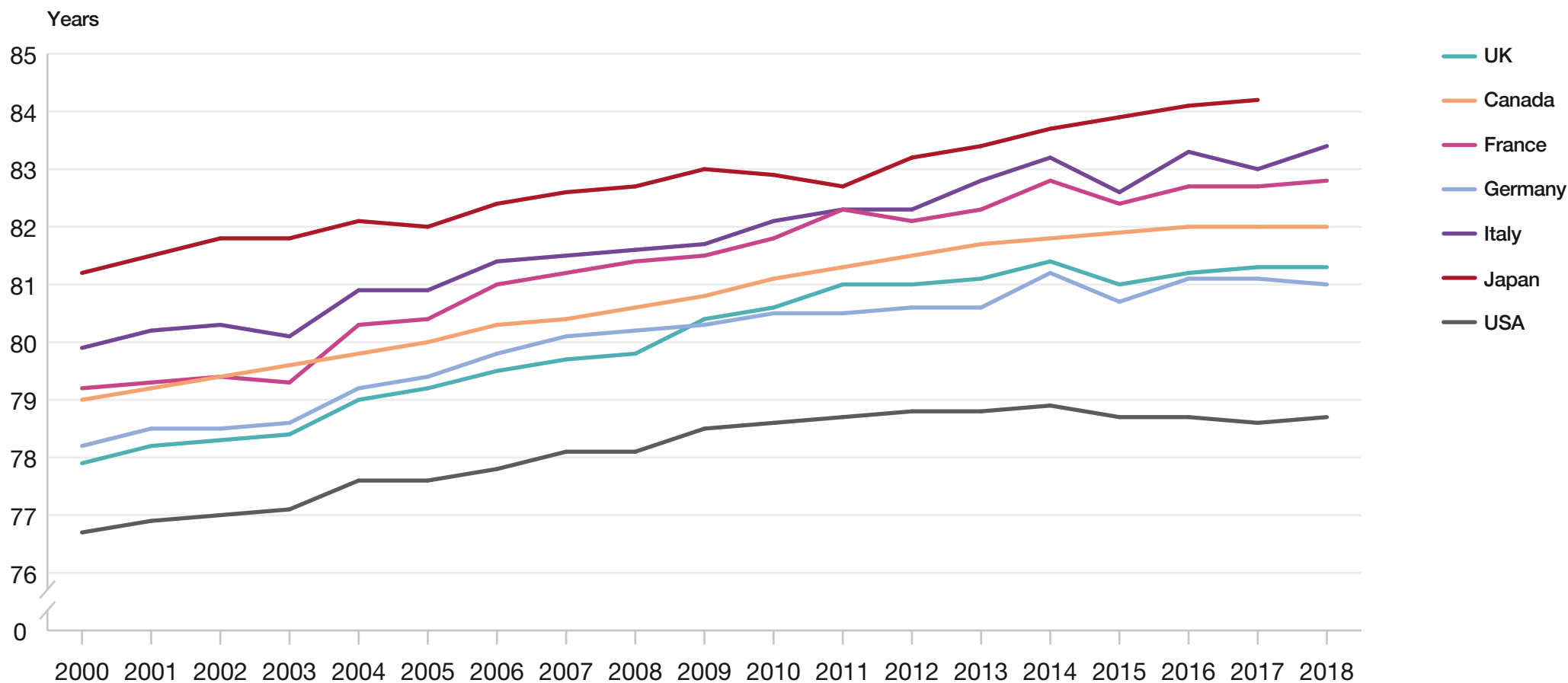
Life expectancy at birth (persons) for G7 nations

Source: OECD (2020), *Life expectancy at birth (indicator)*

Life expectancy is generally lower in more deprived areas.

1.5 Geographic variation in life expectancy

Years
- 81.4-84.9
- 80.5-81.4
- 79.6-80.5
- 78.5-79.6
- 74.4-78.5

Males

Years
- 84.9-87.2
- 84.0-84.9
- 83.2-84.0
- 82.3-83.2
- 79.5-82.3
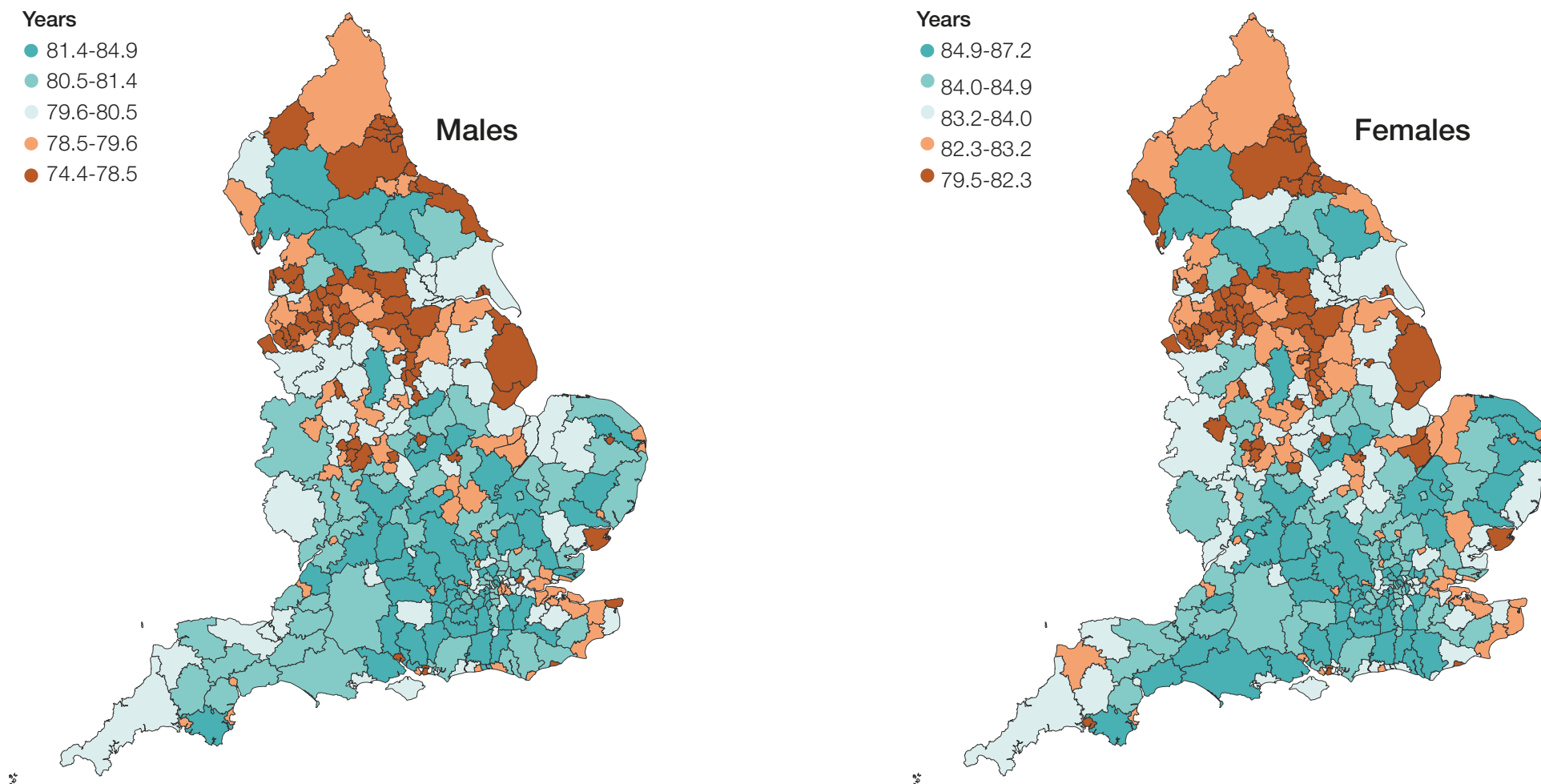
Females

Life Expectancy at birth, for lower tier local authorities in England, males (left) and females (right), 2017-19

Source: Public Health England (2020), *Public Health Profiles, Public Health Outcomes Framework*

The percentage of deaths occurring at older ages has increased.

1.6 Trend in deaths by age

Percentage of deaths
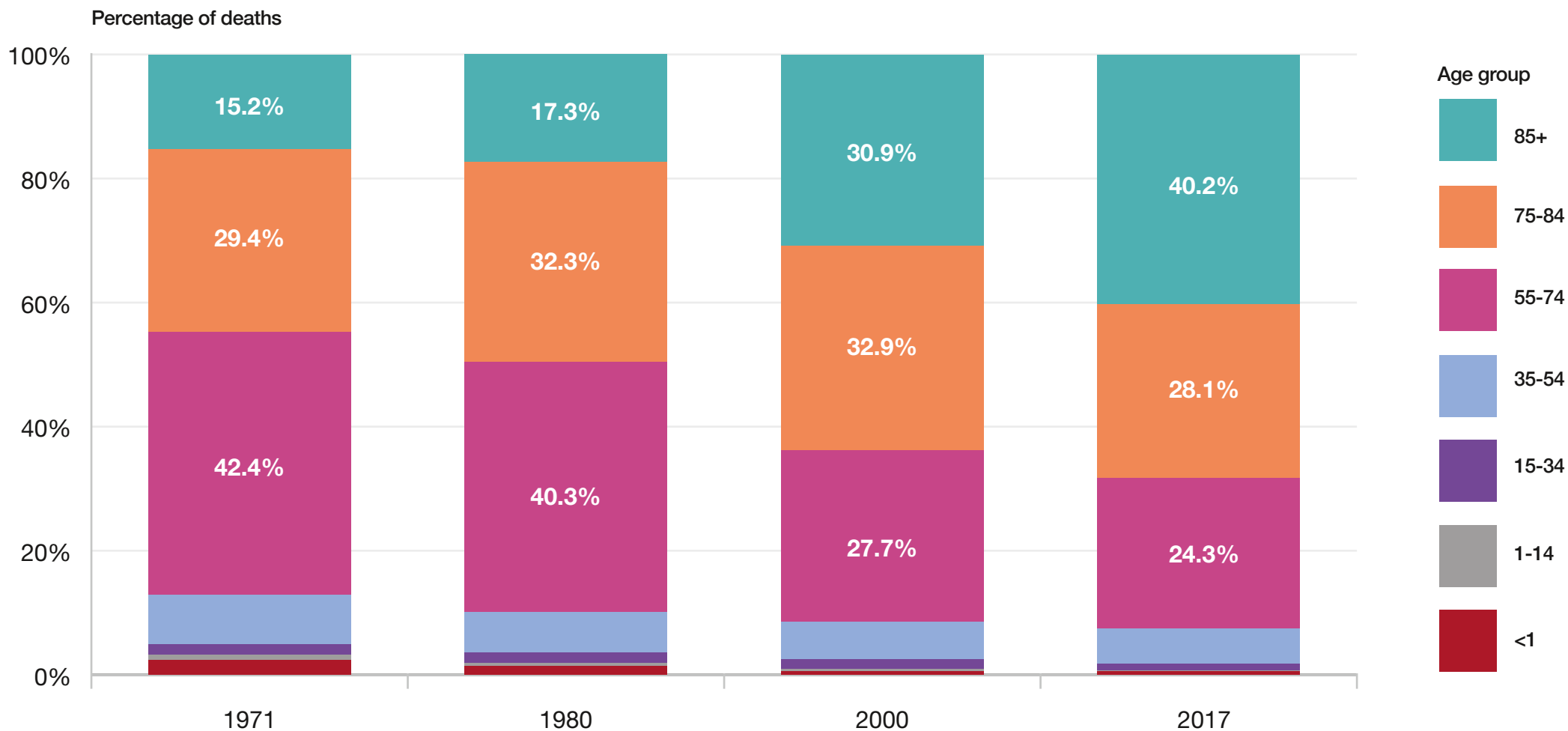
Trend in percentage of deaths by age, England and Wales, 1971, 1980, 2000 and 2017

Source: Public Health England (2019), *Health Profile for England 2019*

The population is ageing. The proportion of the population aged over 65 years is forecast to increase.

1.7 Population pyramid
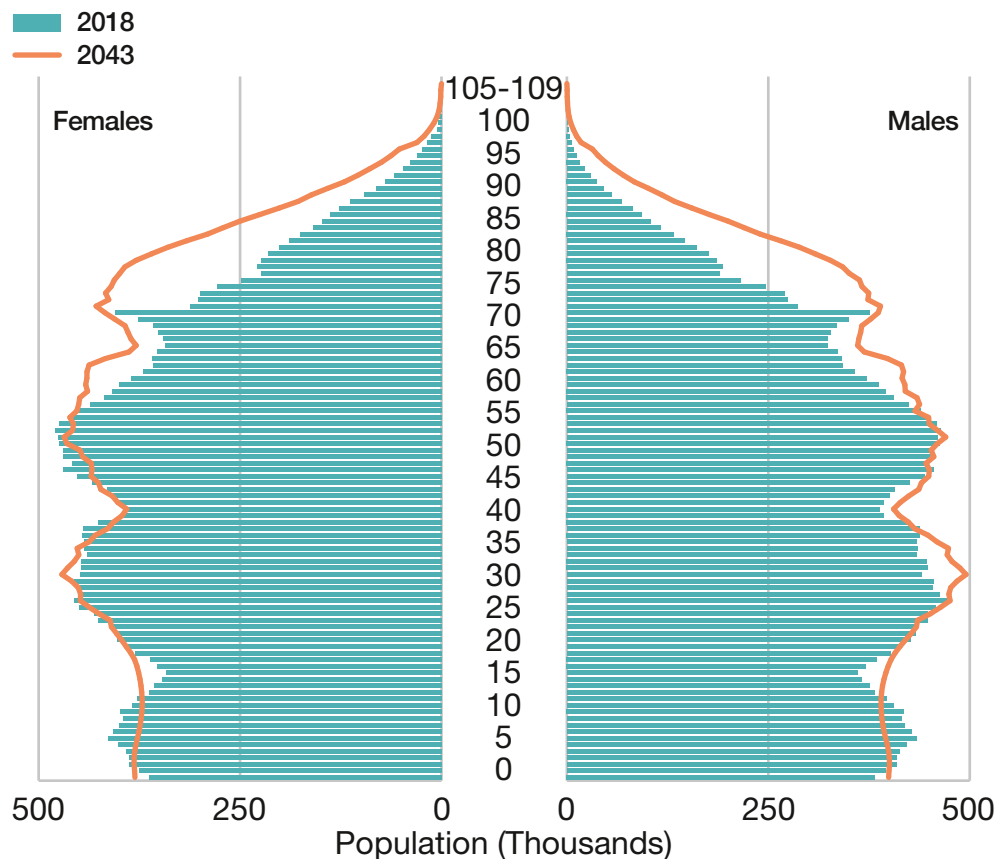
Age structure of the UK population, mid 2018 and mid 2043

Source: Office for National Statistics (2019), *National population projections: 2018-based*

1.8 Population projection by age group
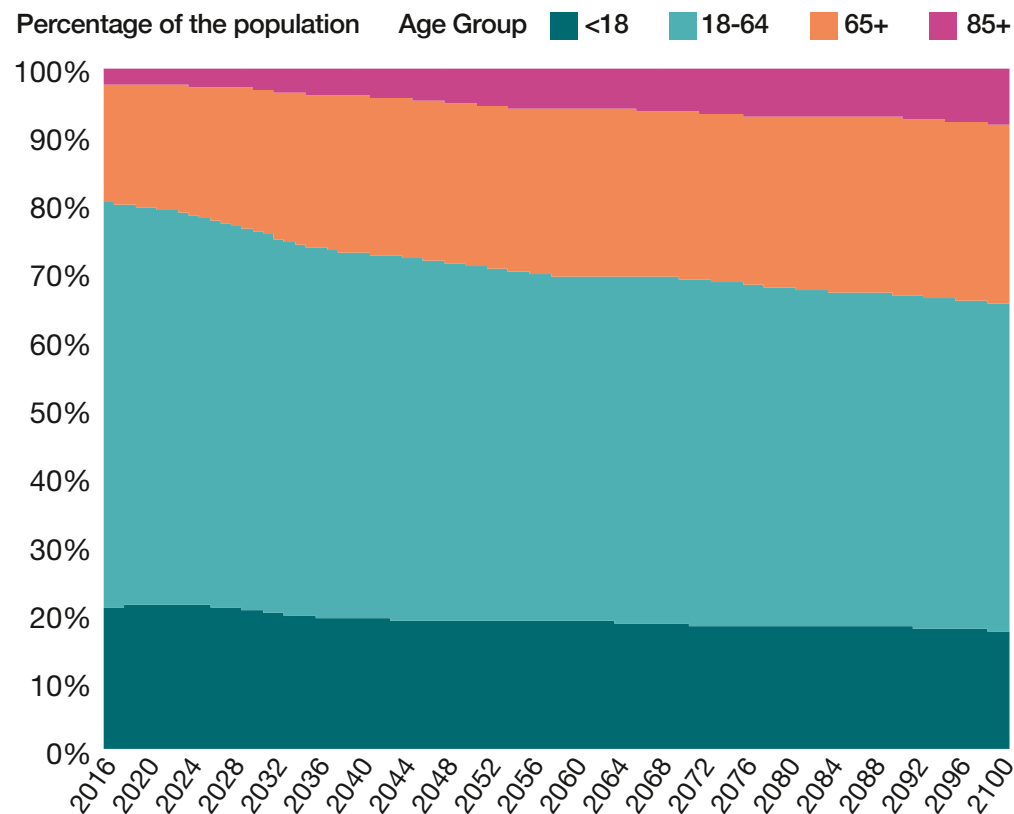
Population projection by age group, 2016 to 2100

Source: Public Health England (2019), *Health Profile for England 2019*

Most developed countries are also experiencing population ageing, some faster than the UK.

1.9 Population ageing – international comparison

Percentage aged over 65 years

Legend: UK, Canada, France, Germany, Italy, Japan, USA, EU Average
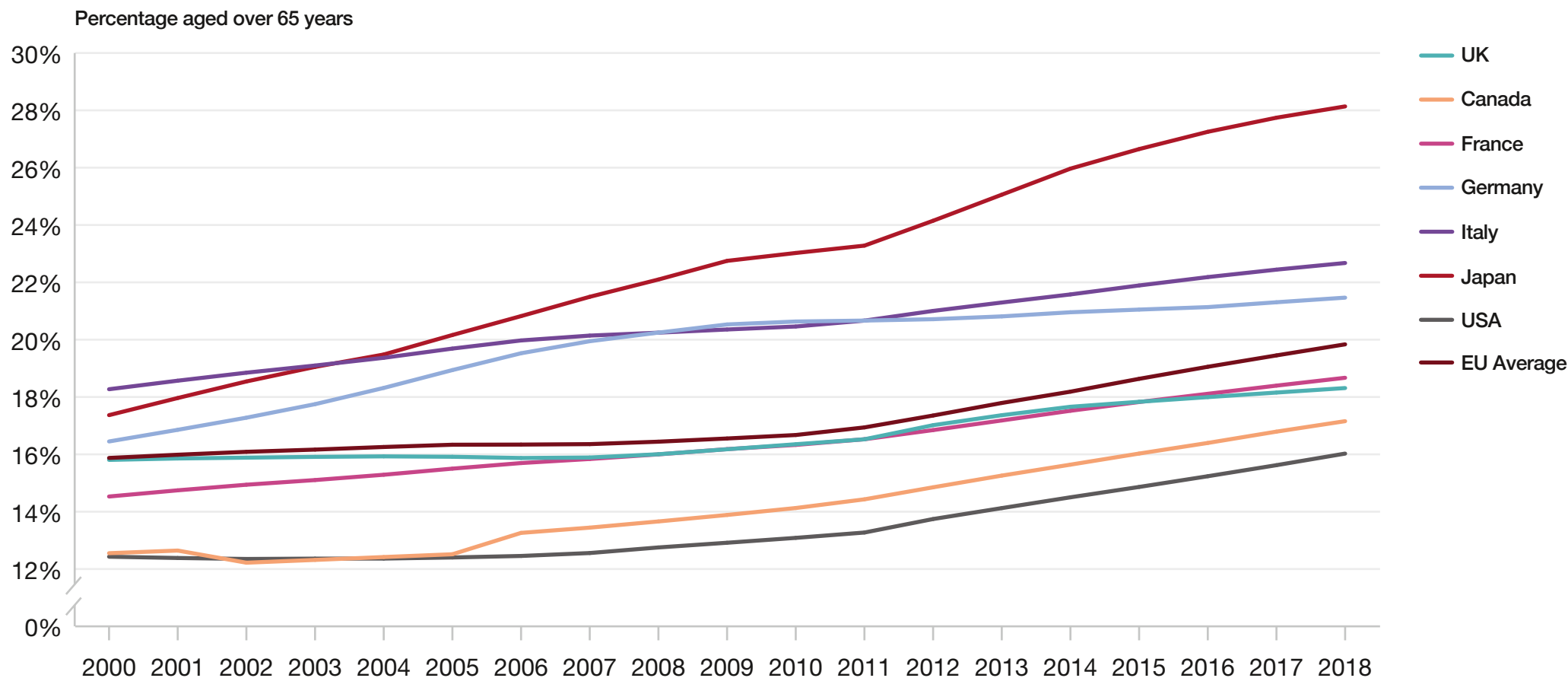
Percentage of the population aged 65 years or over for G7 countries and the EU average

Source: OECD (2020), *Elderly population (indicator)*

The population age structure varies across the country. Rural and coastal areas have higher proportions of older citizens.

1.10 Age structure by geography

0-15 years

Over 65 years

13%   28%

6%   34%
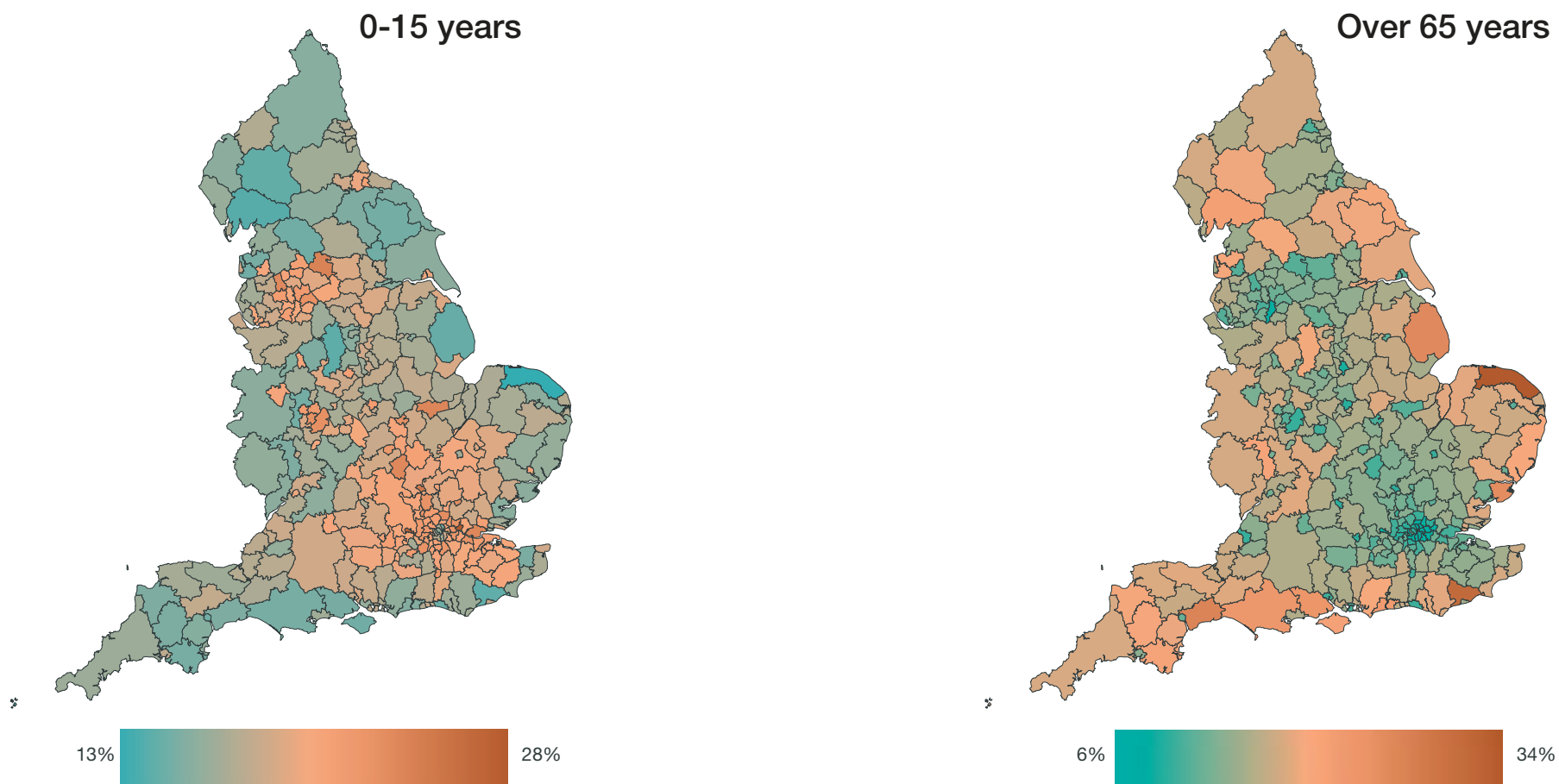
Percentage of the population aged under 15 years (left) and over 65 years (right), lower tier local authorities in England, mid-2019

Source: Office for National Statistics (2020), *Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland, Mid-2019*

Population ageing is happening in all parts of the country, but some areas will be impacted sooner than others.

1.11 Population ageing by geography

2001   2019   2039

0.8% of
Population
over 85

8% of
Population
over 85
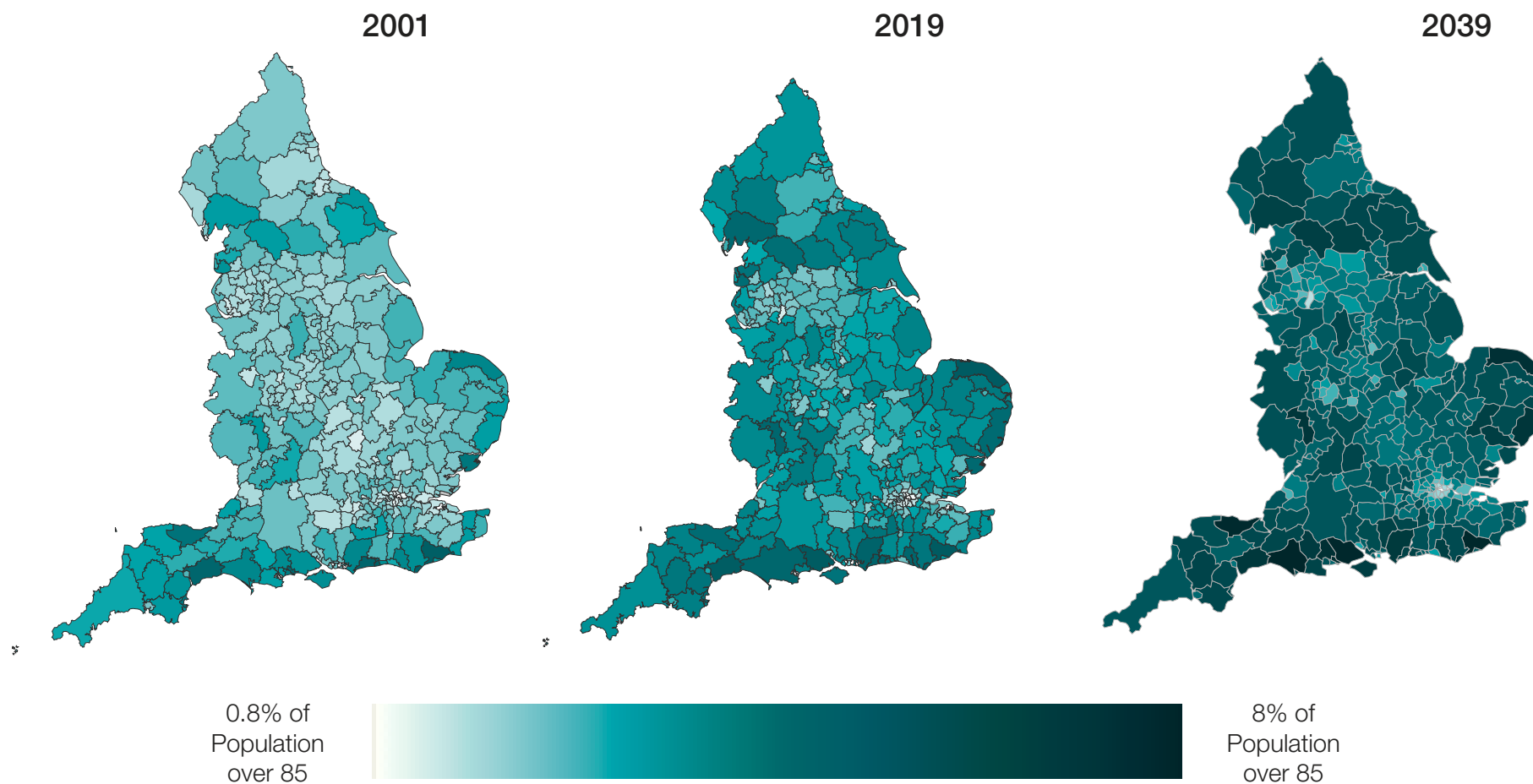
Percentage of the population aged over 85 years, in 2001 (left), 2019 (centre), and projected in 2039 (right)

Source: Office for National Statistics (2020), _Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland, Mid-2001 and Mid-2019_ and _Population projections for local authorities, 2018-based_

The total fertility rate (number of children per woman) has fallen and is below replacement level.

1.12 Total fertility rate

Number of children per woman
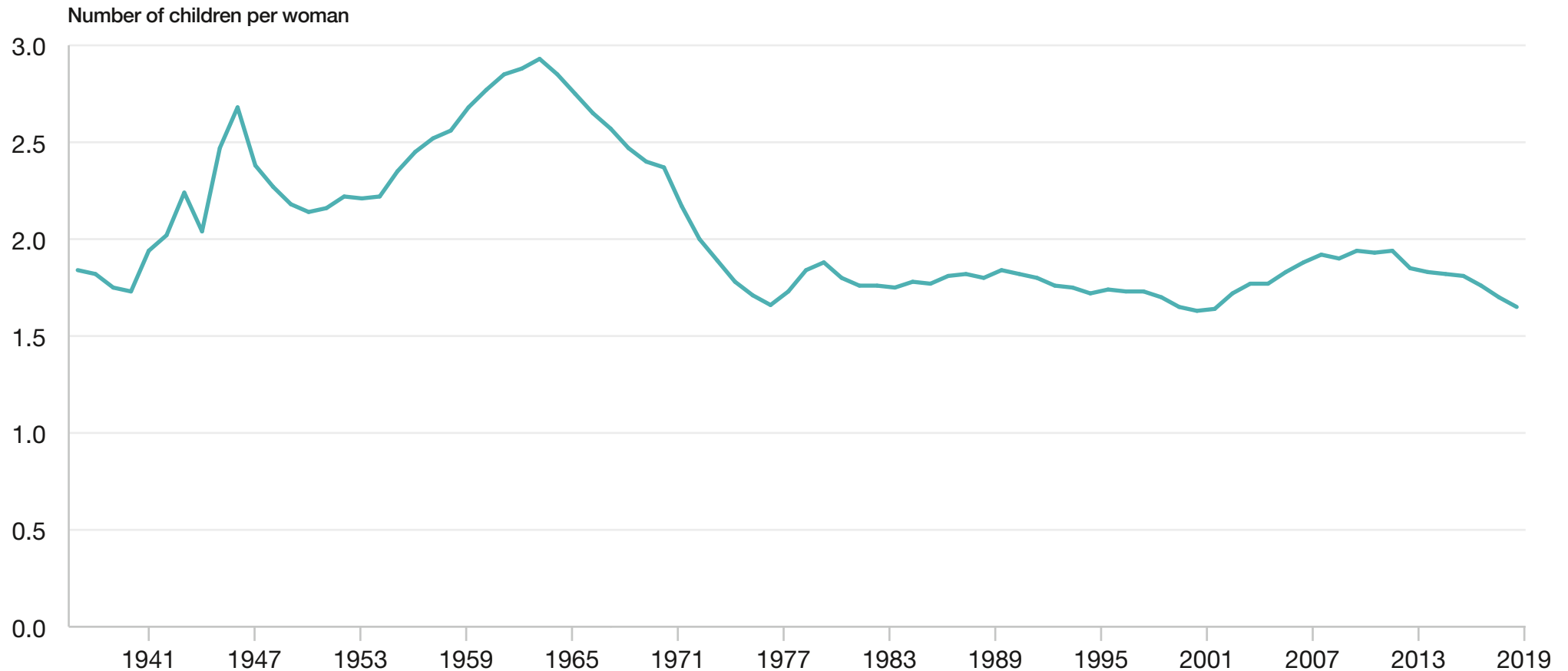
Total fertility rate, England and Wales, 1938 to 2019

Source: Office for National Statistics (2020), *Births in England and Wales: 2019*

Fertility rates have declined for women under 30 and increased for women over 30, as parenthood is being delayed.

1.13 Age specific fertility rates

1.14 Age of parenthood
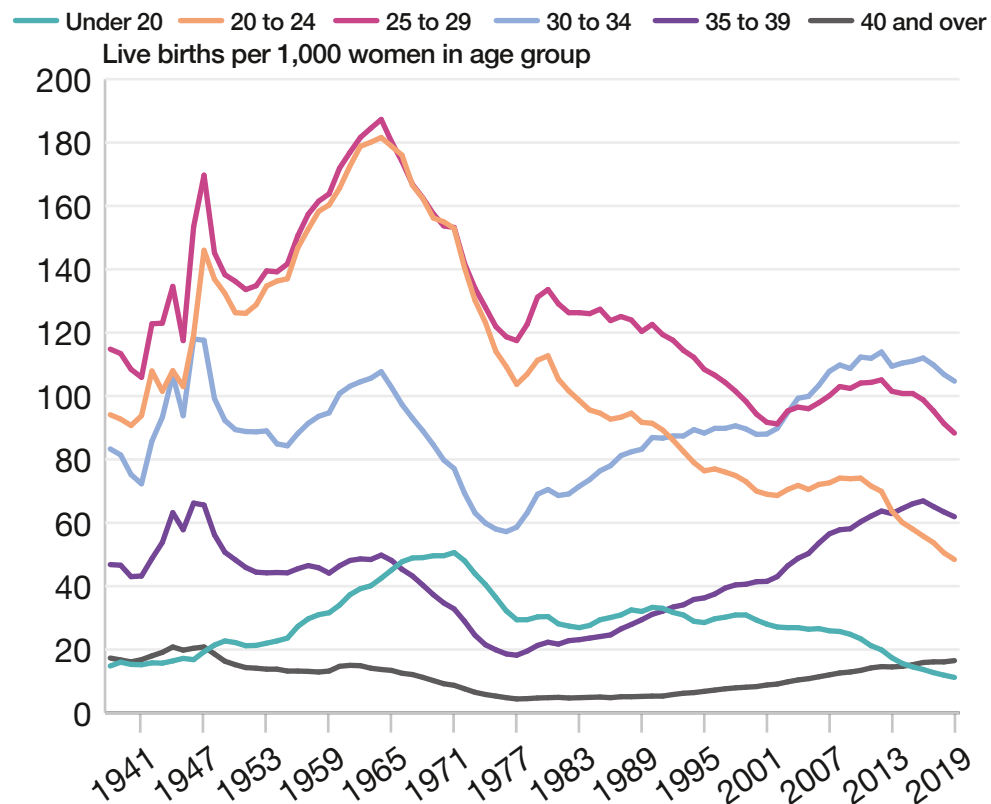
Age-specific fertility rates, England and Wales

Source: Office for National Statistics (2020), _Births in England and Wales: 2019_
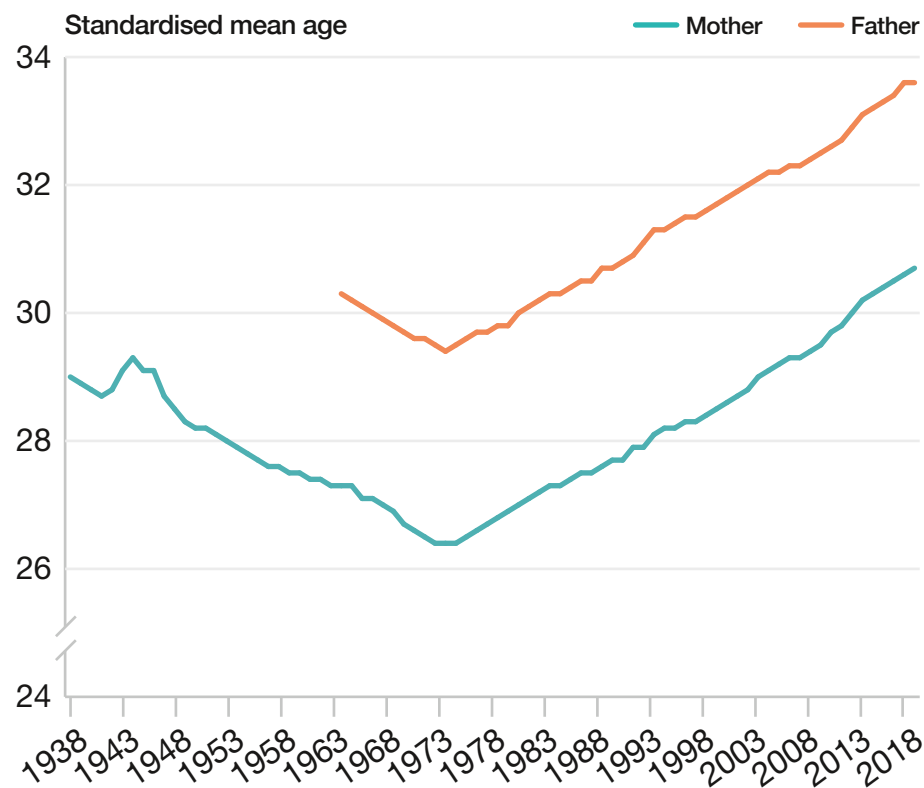
Age of parenthood by year, England and Wales

Source: Office for National Statistics (2020), _Birth characteristics in England and Wales: 2019_

Chapter 2.
Mortality and morbidity

Chart List

Mortality rates have declined over time, but there has been a slowdown in the rate of improvement since 2011.

2.1 Trend in mortality

Deaths per 100,000 population
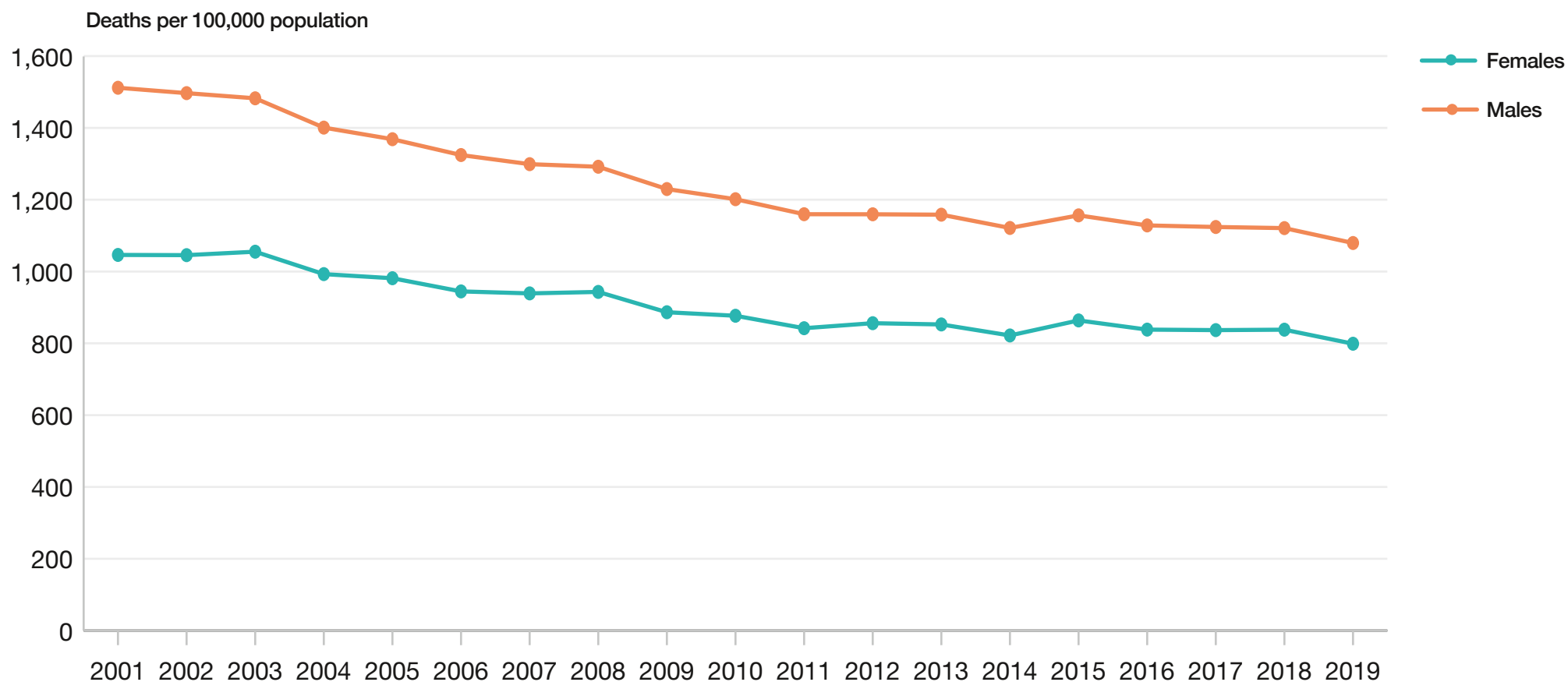
Age-standardised mortality rates, England and Wales, 2001 to 2019

Source: Office for National Statistics (2020), *Deaths registered in England and Wales 2019*

Infectious disease used to be a major cause of death, but has been overtaken by cardiovascular conditions and cancer.

2.2 Leading causes of death over the last 100 years
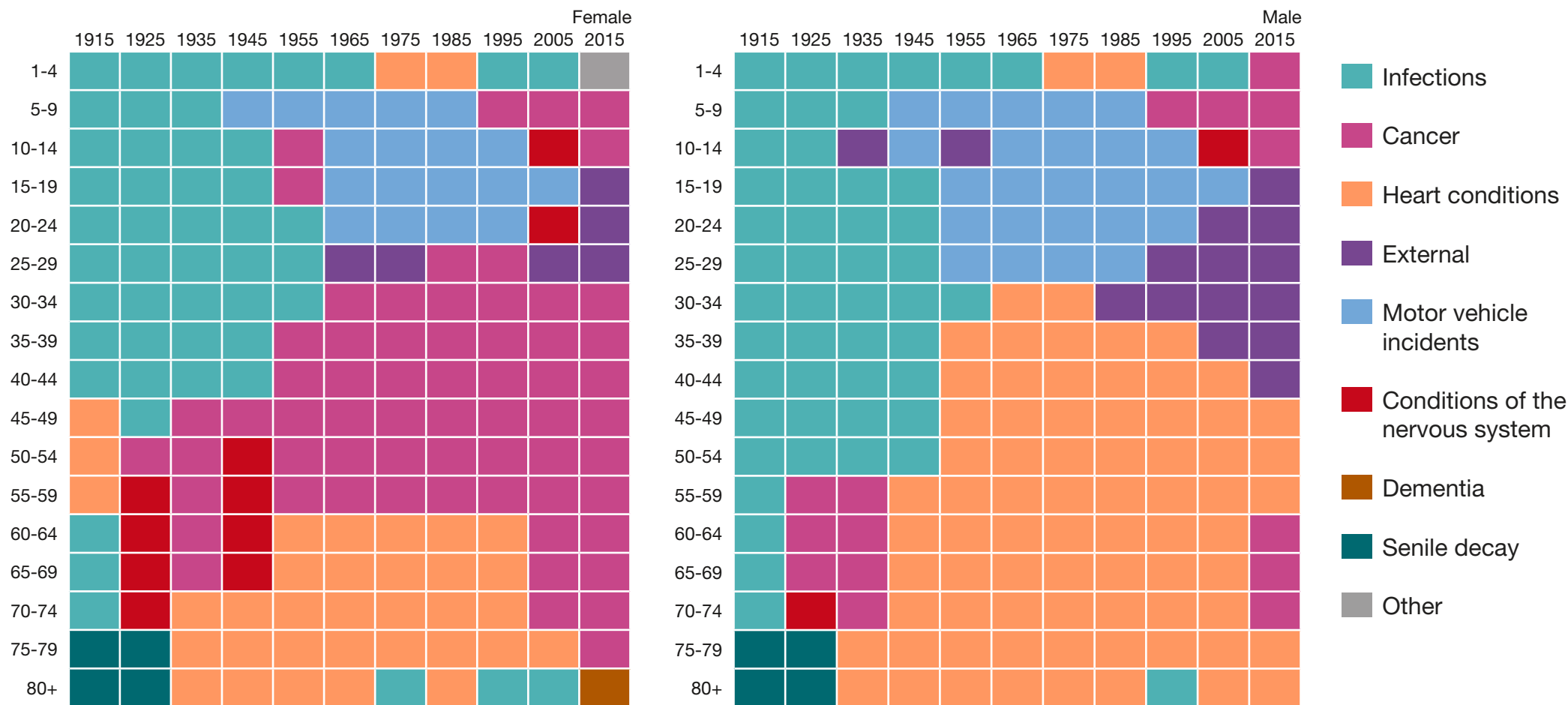
Leading cause of death by age for females (left) and males (right), England and Wales, 1915 to 2015

Source: Office for National Statistics (2017), _Causes of death over 100 years_

Heart disease is the leading cause of death in men, while dementia is the leading cause of death in women.

2.3 Leading causes of death – present day
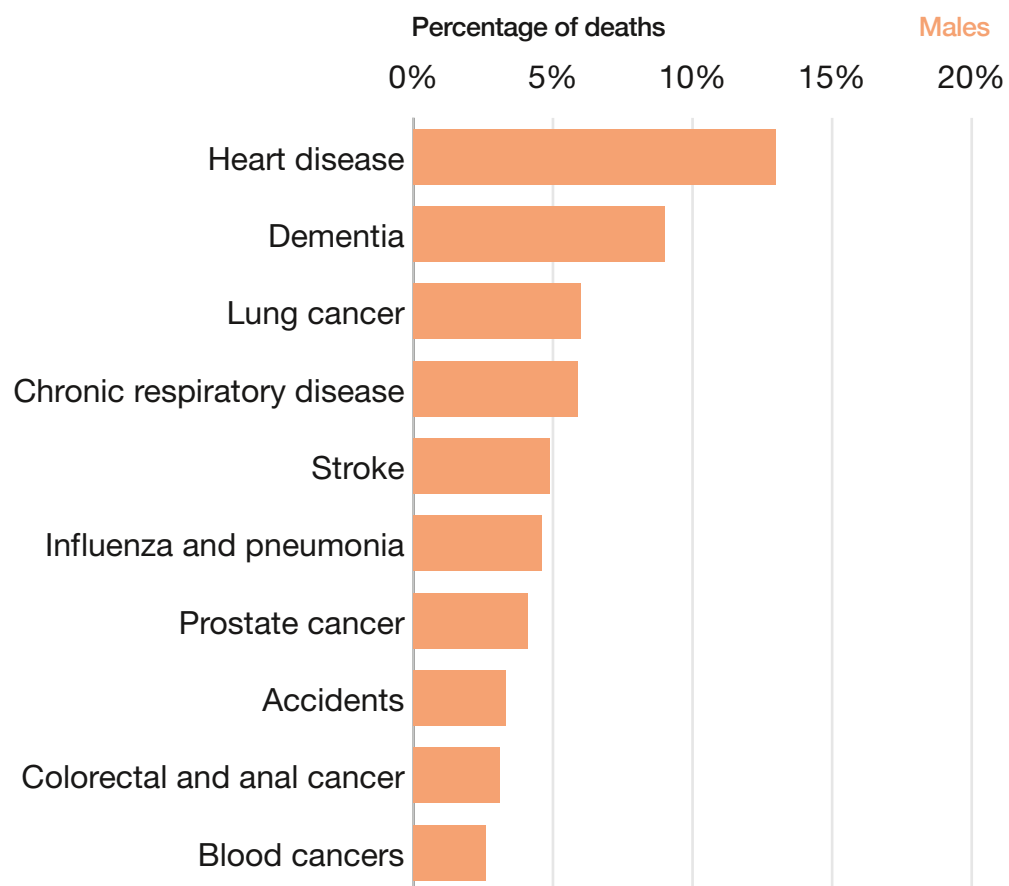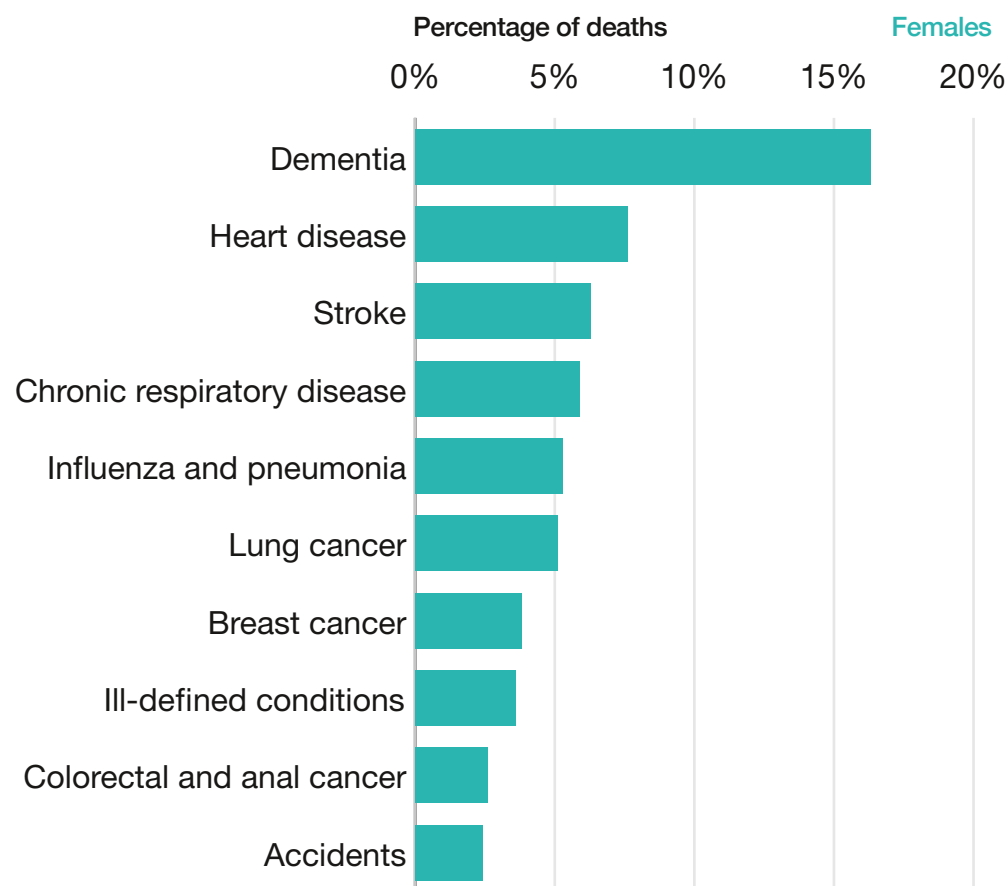
Leading causes of death for females (left) and males (right), England, 2019

Source: NOMIS (2020), *Mortality statistics – underlying cause, sex and age*

Deaths due to heart disease and stroke have fallen over time, while deaths due to dementia have increased.

2.4 Trends in mortality rates by cause of death
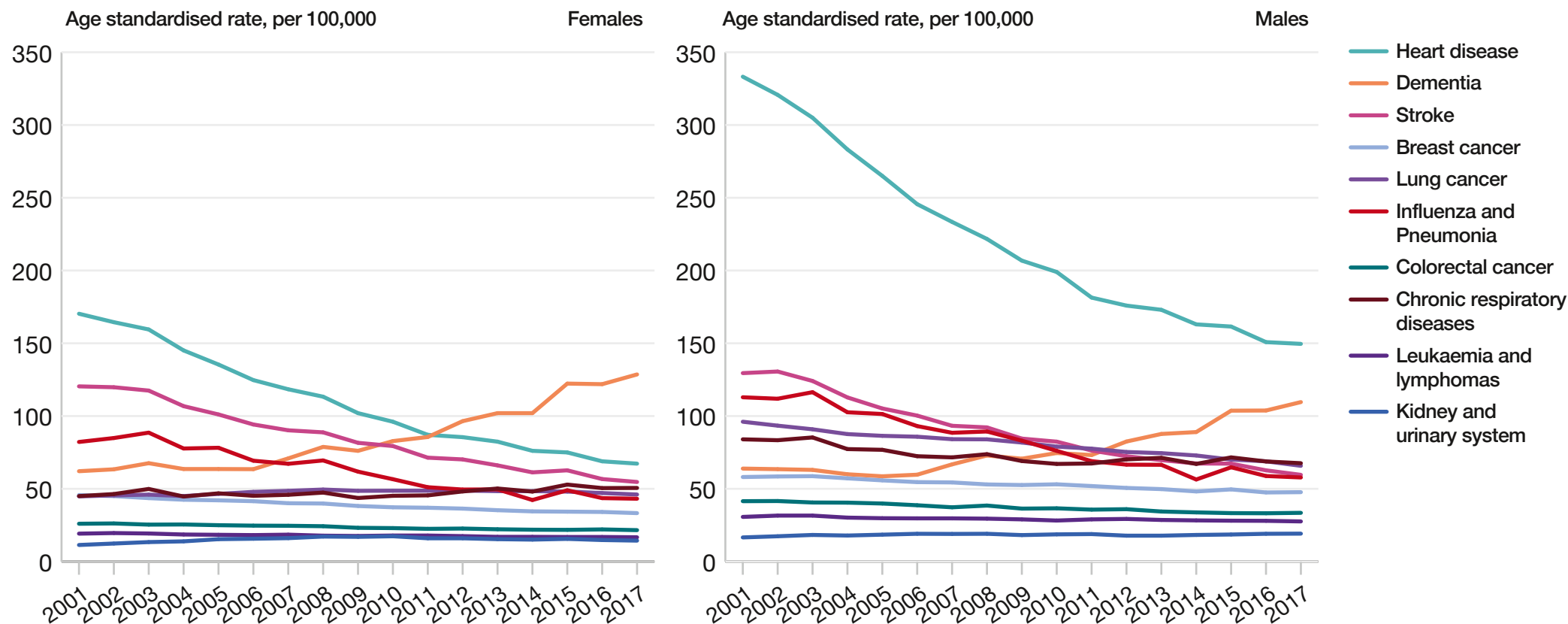
Trends in mortality from leading causes of death, age-standardised rates per 100,000, females (left) and males (right), England

Source: Public Health England (2019), *Health Profile for England 2019*

Mortality under 75 years of age (premature mortality) has fallen over time, but the rate of improvement has slowed.

2.5 Premature mortality
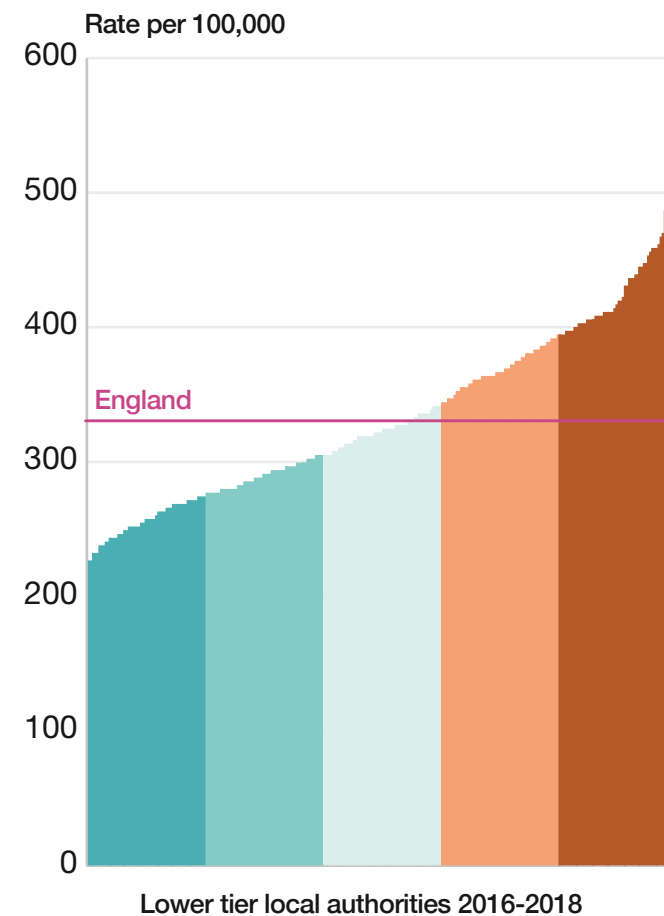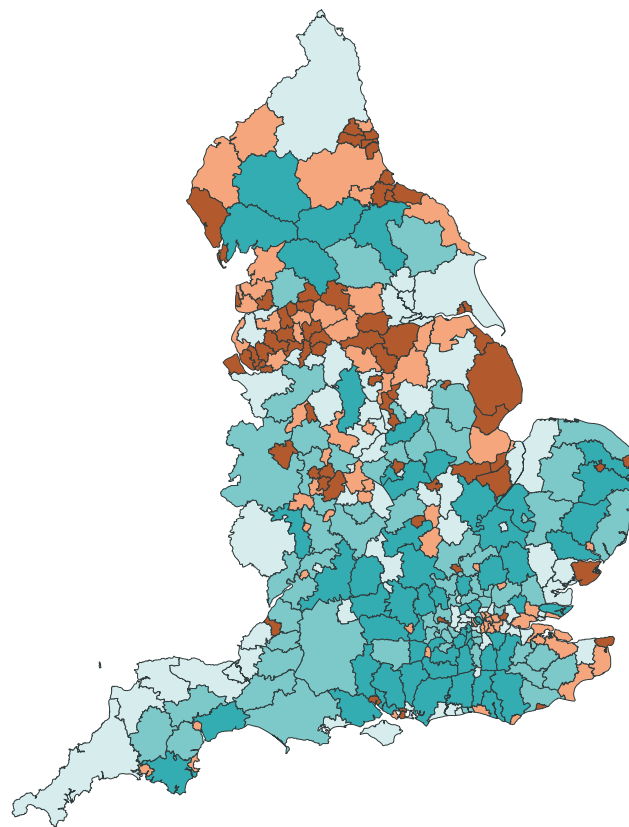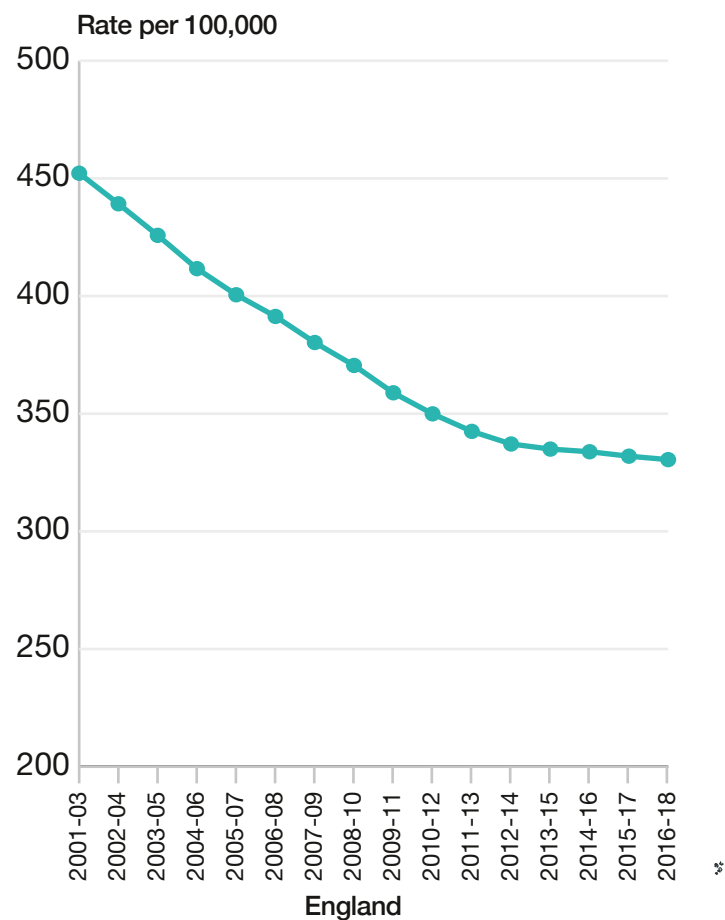
Under 75 mortality rate from all causes. Directly age-standardised rate per 100,000, for England, 2001-03 to 2016-18 (left) and for lower tier local authorities, 2016-2018 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Mortality Profile*

On average, we spend 20% of our lives in poor health. This proportion has increased marginally in both men and women.

2.6 Healthy life expectancy and years in poor health
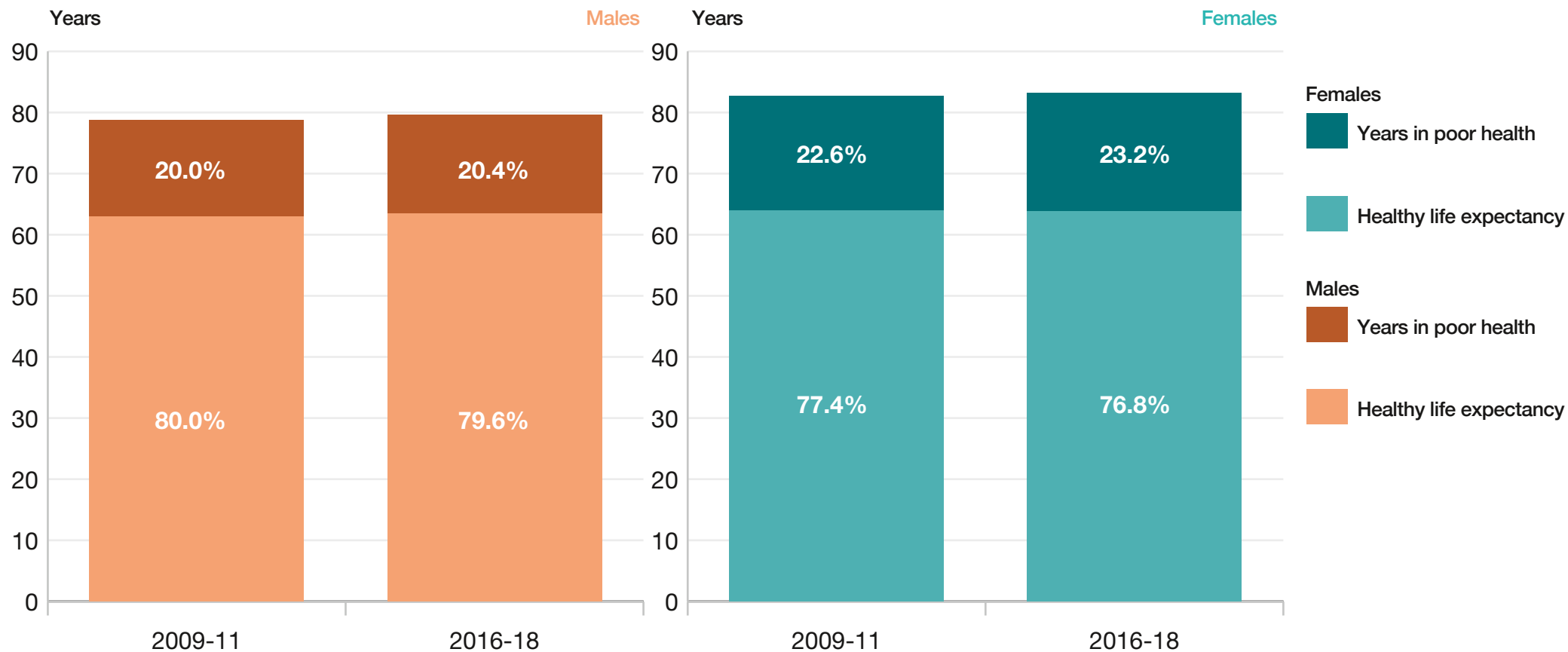
Life expectancy, healthy life expectancy and years spent in poor health from birth, males and females, England

Source: Public Health England (2020), *Public Health Profiles, Public Health Outcomes Framework*

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Healthy life expectancy (or years spent in good health) is generally lower in more deprived areas.

2.7 Healthy life expectancy by geography

Males

Years
- 65.5-71.9
- 63.7-65.5
- 61.7-63.7
- 59.4-61.7
- 53.3-59.4

Females

Years
- 66.2-72.2
- 64.3-66.2
- 62.0-64.3
- 59.4-62.0
- 54.2-59.4
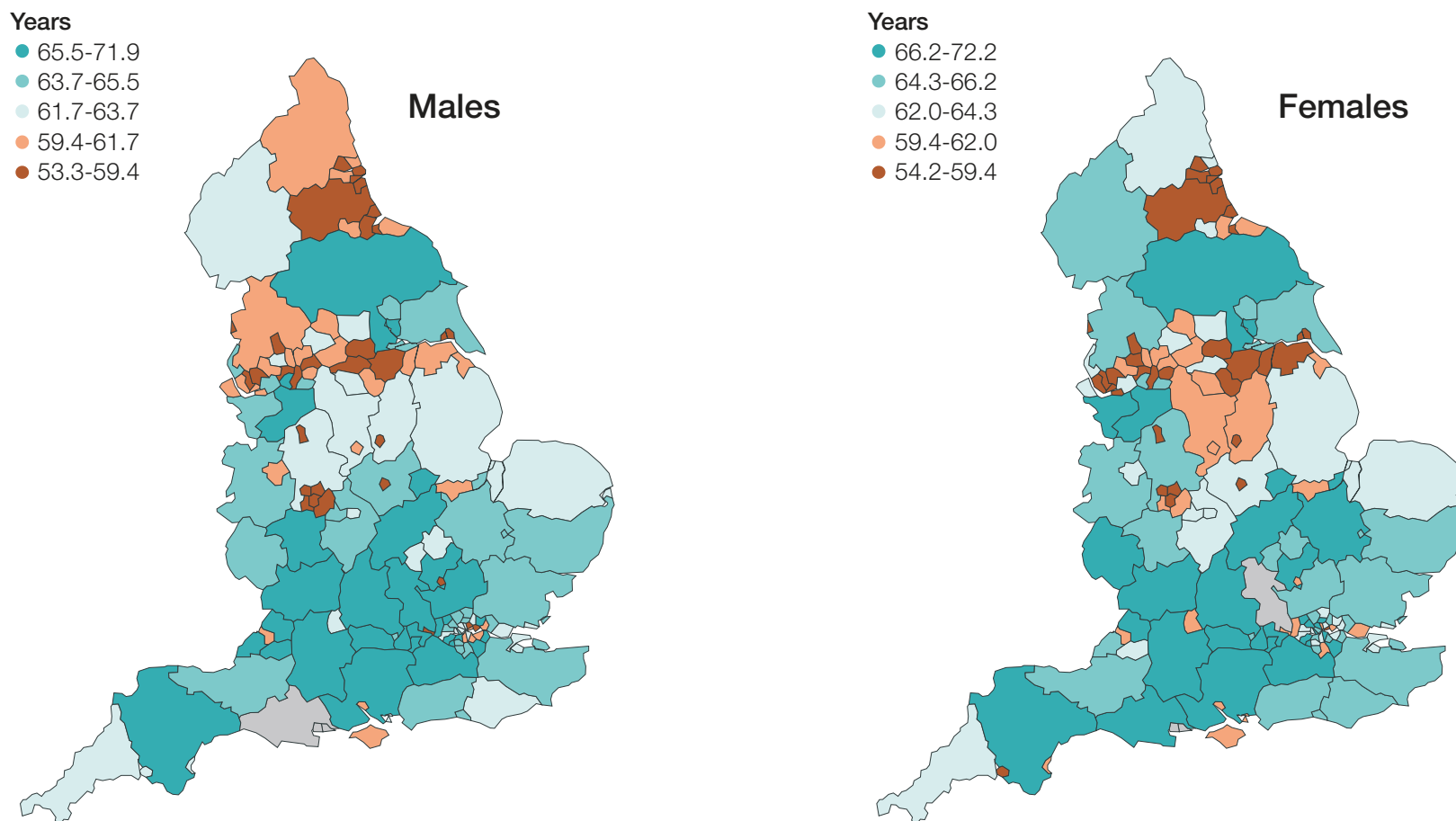
Healthy life expectancy at birth, for upper tier local authorities in England, males (left) and females (right), 2016-2018

Source: Public Health England (2020), *Public Health Profiles, Public Health Outcomes Framework*

Morbidity increases with age. Many different conditions contribute to age-related morbidity.

2.8 Morbidity by age and cause
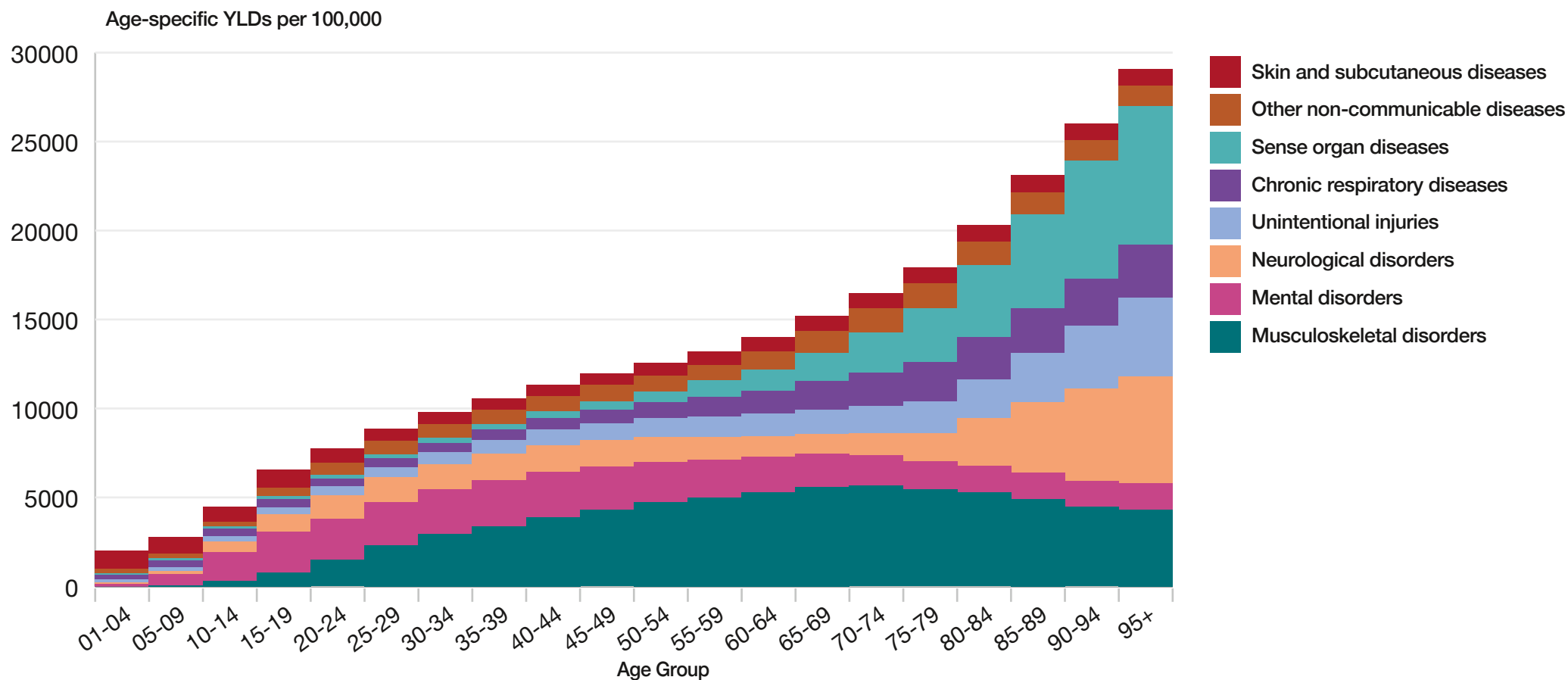
Morbidity rate by age and top 8 broad causes (level 2 disease groups), age-specific years lived with disability (YLDs), persons, England, 2017

Source: Public Health England (2019), *Health Profile for England 2019*

Multimorbidity (the presence of multiple long term conditions) also increases with age.

2.9 Multimorbidity by age

Percentage of the population

Number of long term conditions

- 6 LTCs
- 5 LTCs
- 4 LTCs
- 3 LTCs
- 2 LTCs
- 1 LTCs
- 0 LTCs

Age Group
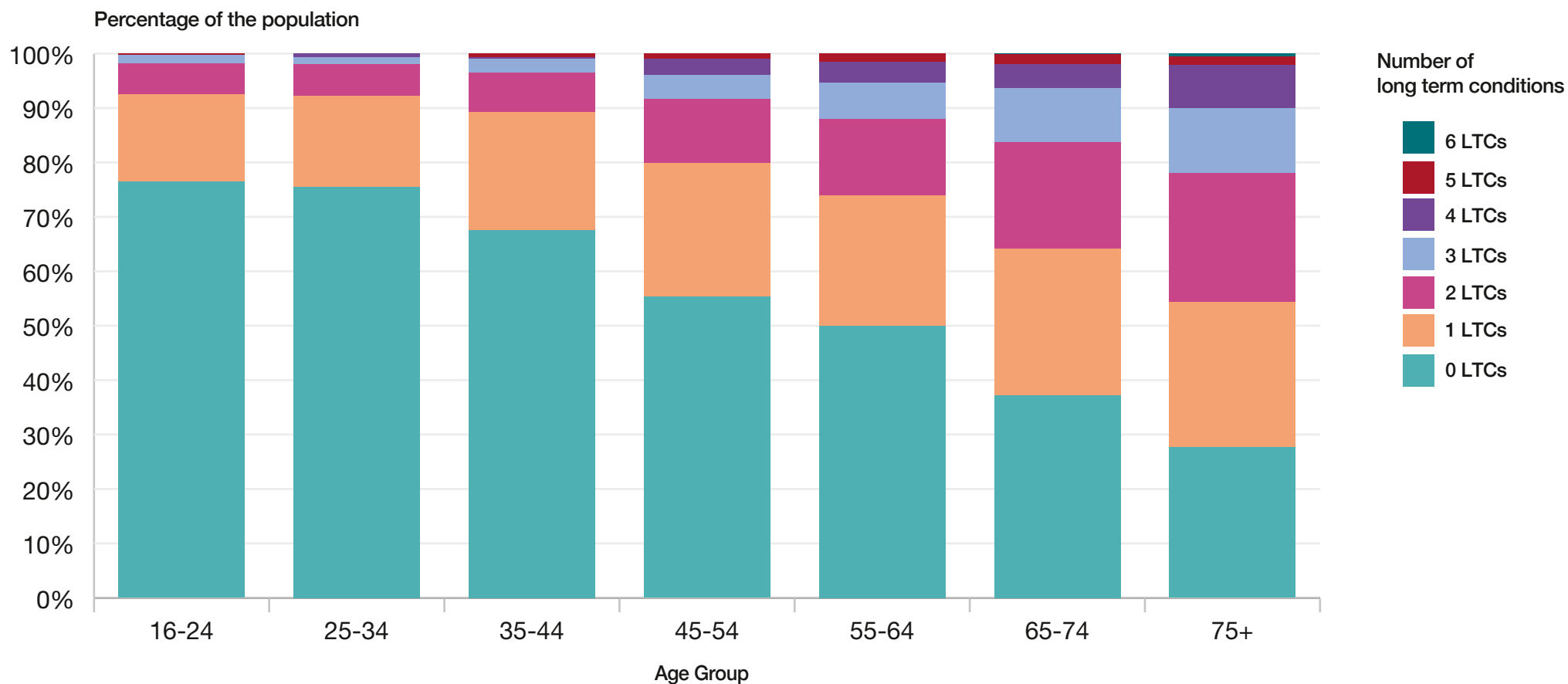
Number of long term conditions (LTCs) by age, England, 2018

Source: Department of Health and Social Care, analysis of data from the *Health Survey for England 2018*

Multimorbidity occurs at an earlier age of onset in more deprived areas.

2.10 Number of conditions by age and deprivation

2.11 Multimorbidity by age and deprivation
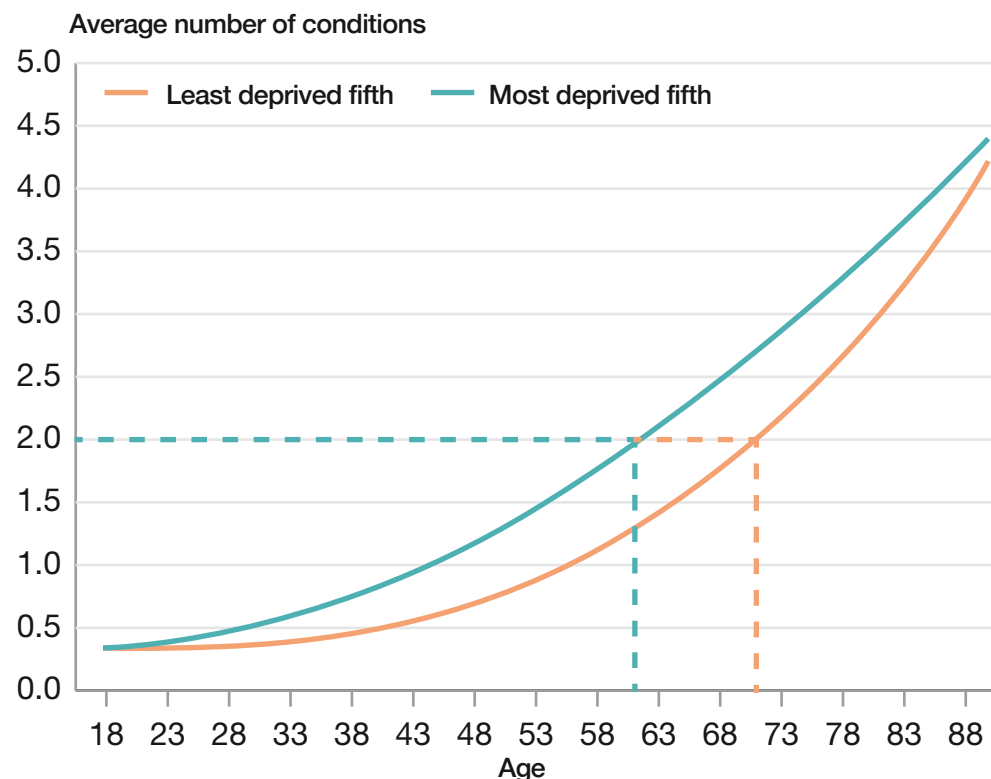
Average number of conditions by age and deprivation

Source: The Health Foundation (2018), *Understanding the health care needs of people with multiple health conditions*
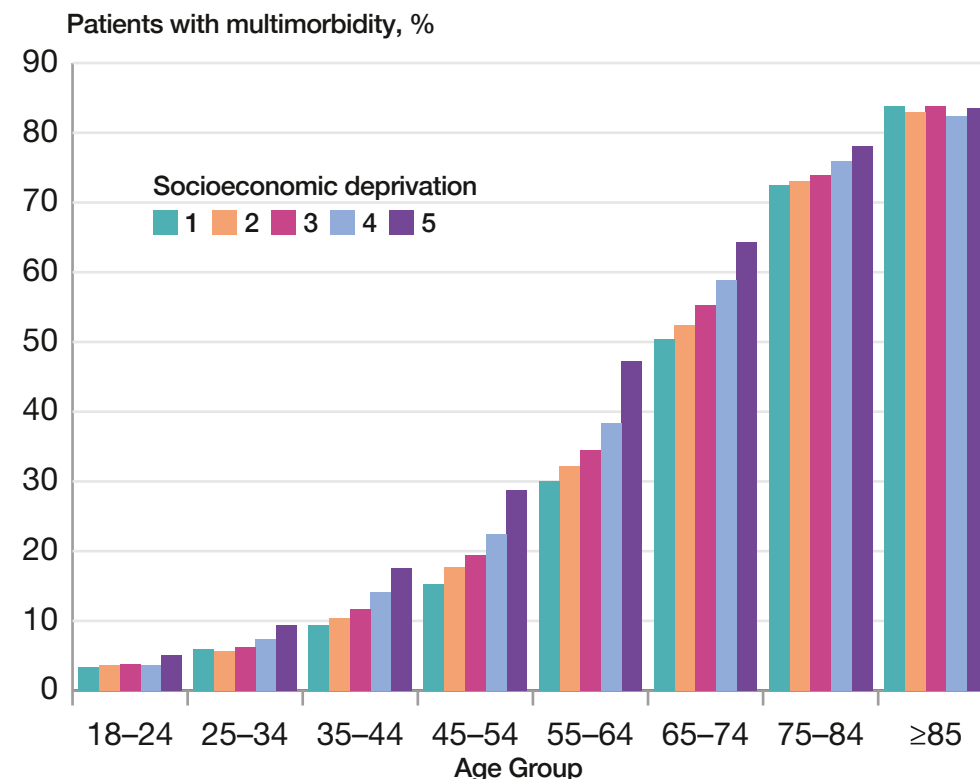
Prevalence of multimorbidity (2 or more conditions) by age and deprivation (IMD quintiles: 1 = least deprived, 5 = most deprived)

Source: Cassell et al (2018). *The epidemiology of multimorbidity in primary care: a retrospective cohort study.* British Journal of General Practice 2018

The impact of infectious diseases such as tuberculosis fell substantially throughout the 20th century.

2.12 Tuberculosis

Number of notifications
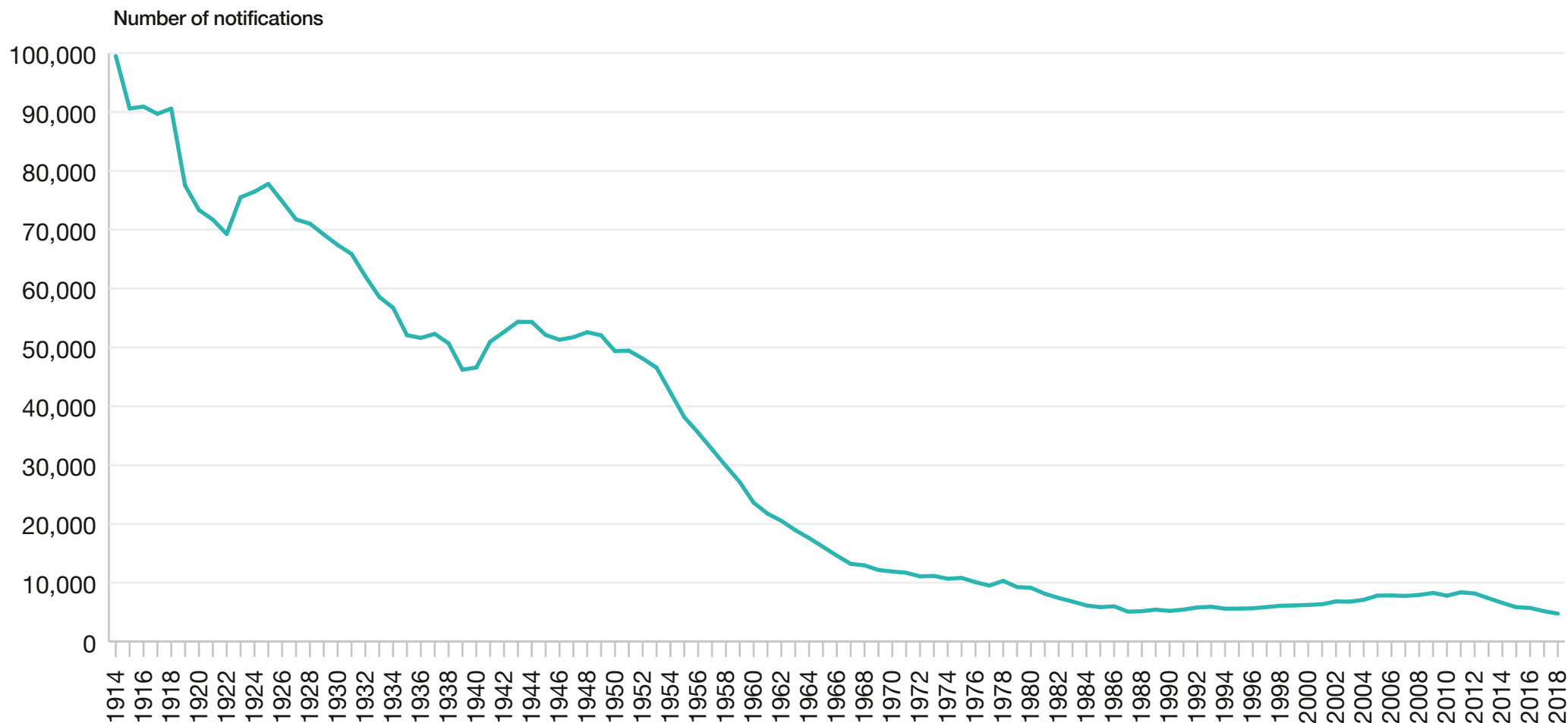
Tuberculosis notifications in England and Wales, 1914 – 2018

Source: Public Health England (2019), _Health Profile for England 2019_

Recorded prevalence of coronary heart disease (CHD) has decreased, while atrial fibrillation, stroke and heart failure have increased.

2.13 Prevalence of cardiovascular disease
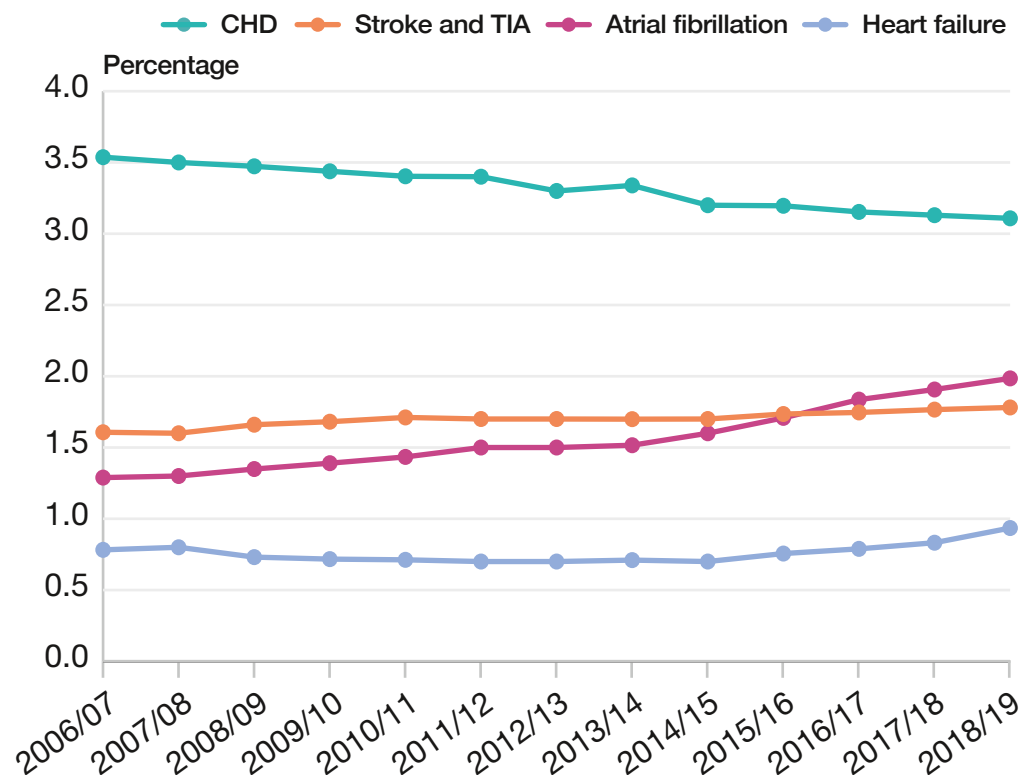
Prevalence of selected cardiovascular conditions from GP patient registers (QOF), England

Source: British Heart Foundation (2020), *Heart & Circulatory Disease Statistics 2020*

2.14 Cardiovascular disease by local authority
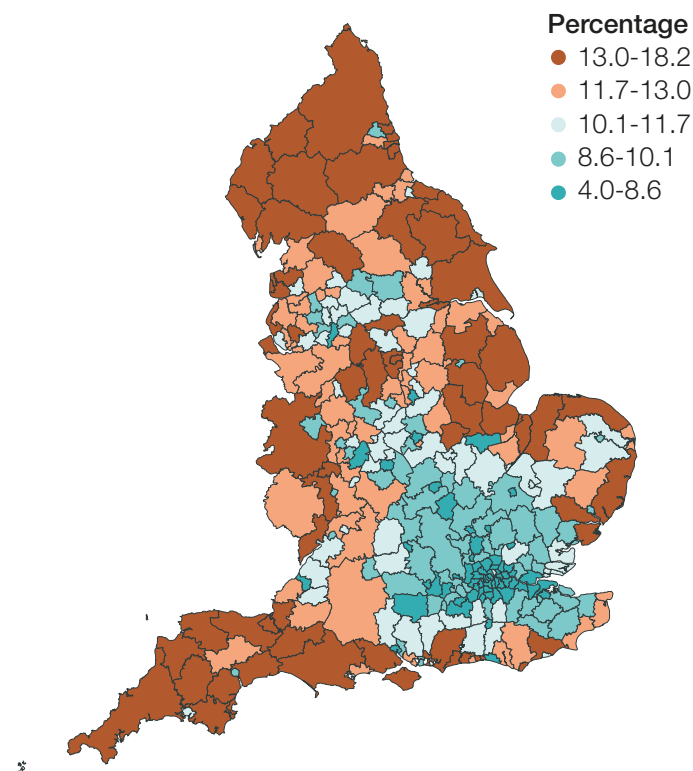
Heart and circulatory disease estimated prevalence by local authorities in England, 2018/19

Source: Source: British Heart Foundation (2020), *Heart and circulatory disease in numbers*

25

Mortality due to cardiovascular diseases such as coronary heart disease and stroke has fallen, although the rate of improvement has slowed.

2.15 Trends in cardiovascular disease mortality
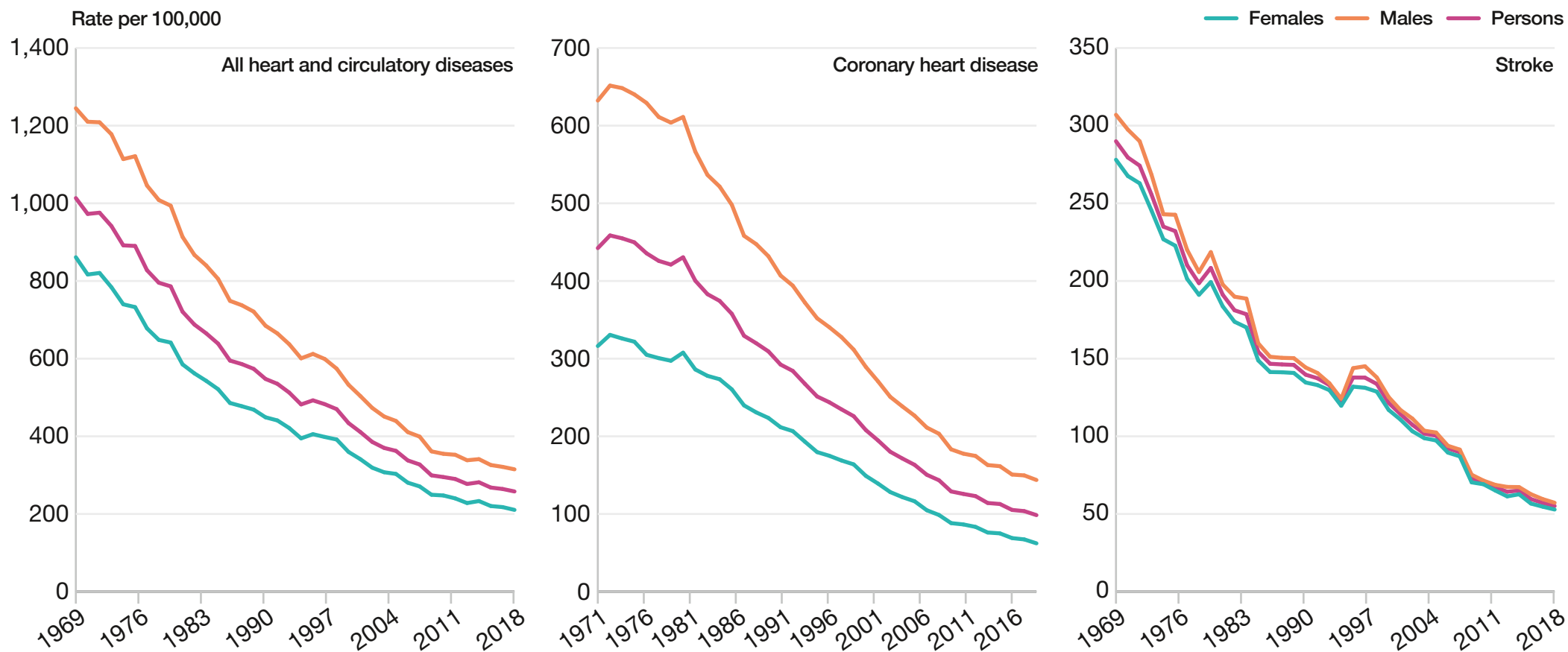
Age-standardised death rates per 100,000 from heart and circulatory diseases, UK, 1969 to 2018

Source: British Heart Foundation (2020), *Heart & Circulatory Disease Statistics 2020*

26

Similar trends in cardiovascular mortality have also been seen in other major developed nations.

2.16 Cardiovascular mortality – international comparison

Deaths per 100,000 population (age-standardised rates)
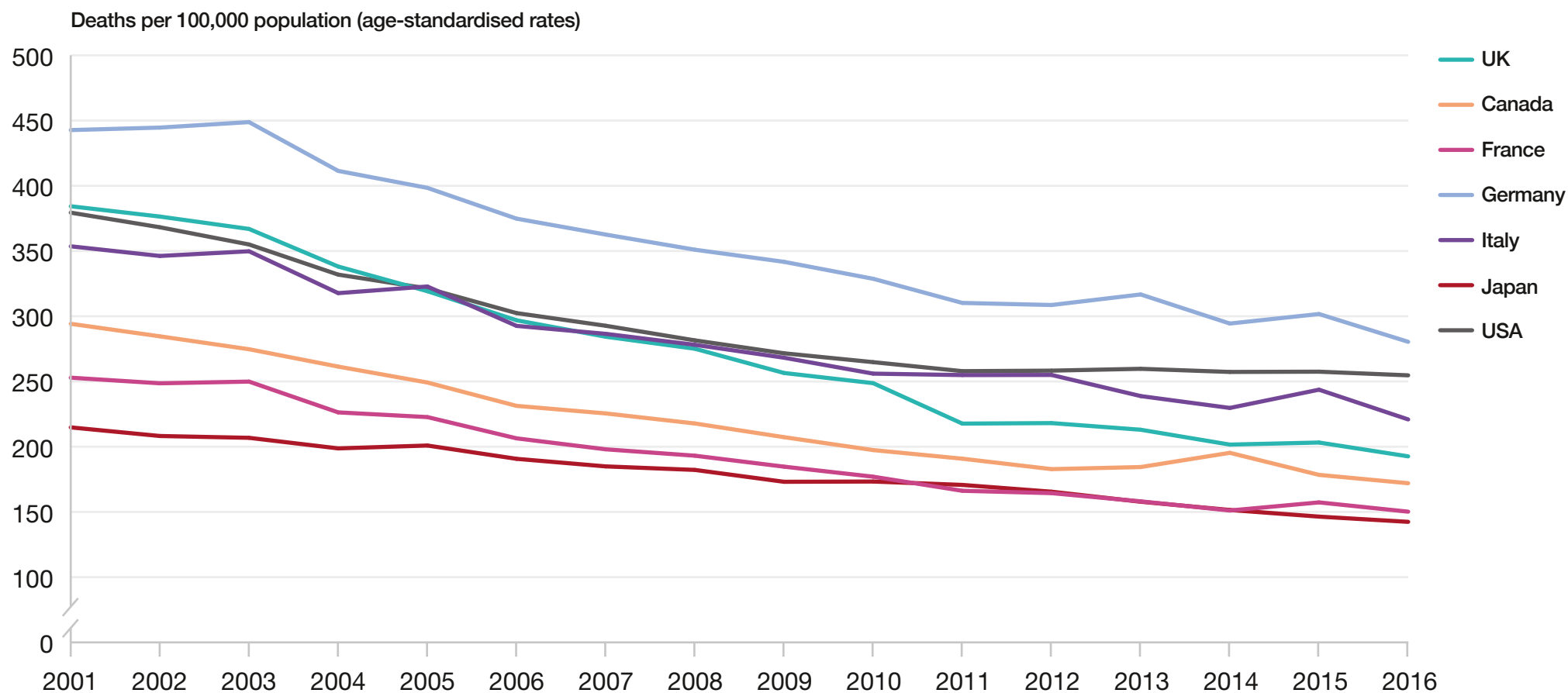
Deaths caused by a disease of the circulatory system, age-standardised rates per 100,000 population for G7 countries

Source: OECD (2020), *OECD Health Statistics 2020*

27

Cancer mortality has been declining since the 1990s. Cancer incidence has increased over the long term, but has decreased since 2013.

2.17 Cancer incidence
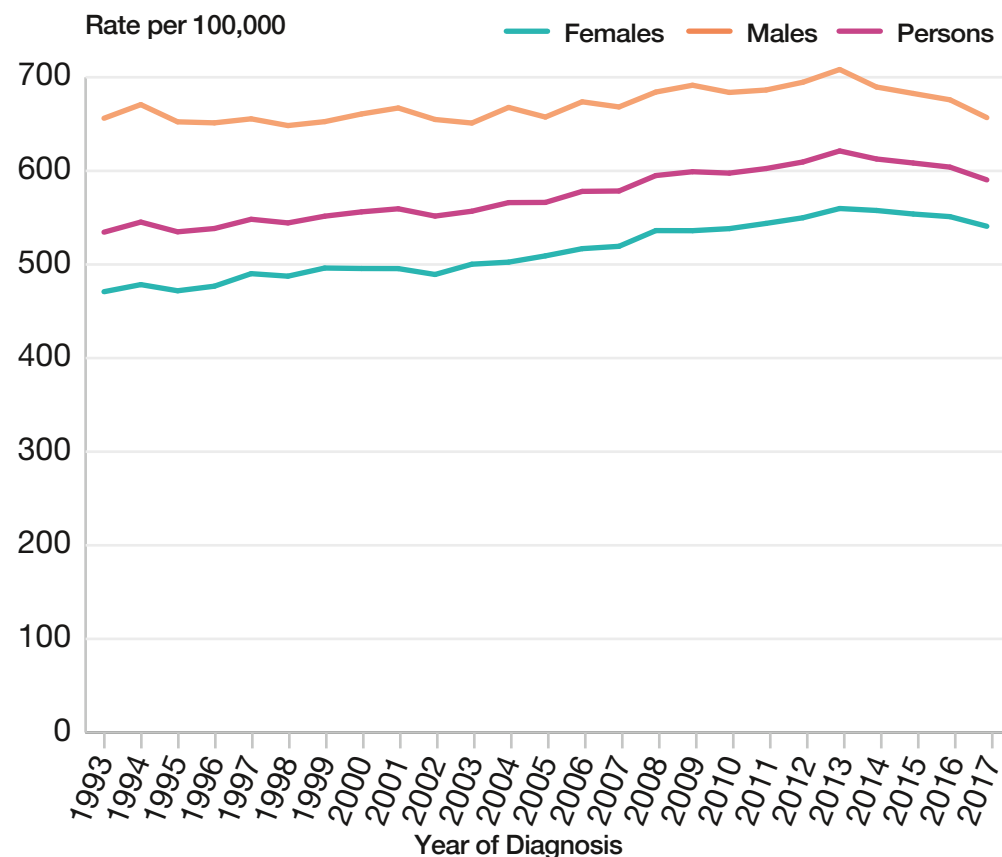
Age-standardised incidence rate for all cancers excluding non-melanoma skin cancer (C00-97 excluding C44), UK

Source: Cancer Research UK (2019), *Cancer incidence statistics*

2.18 Cancer mortality
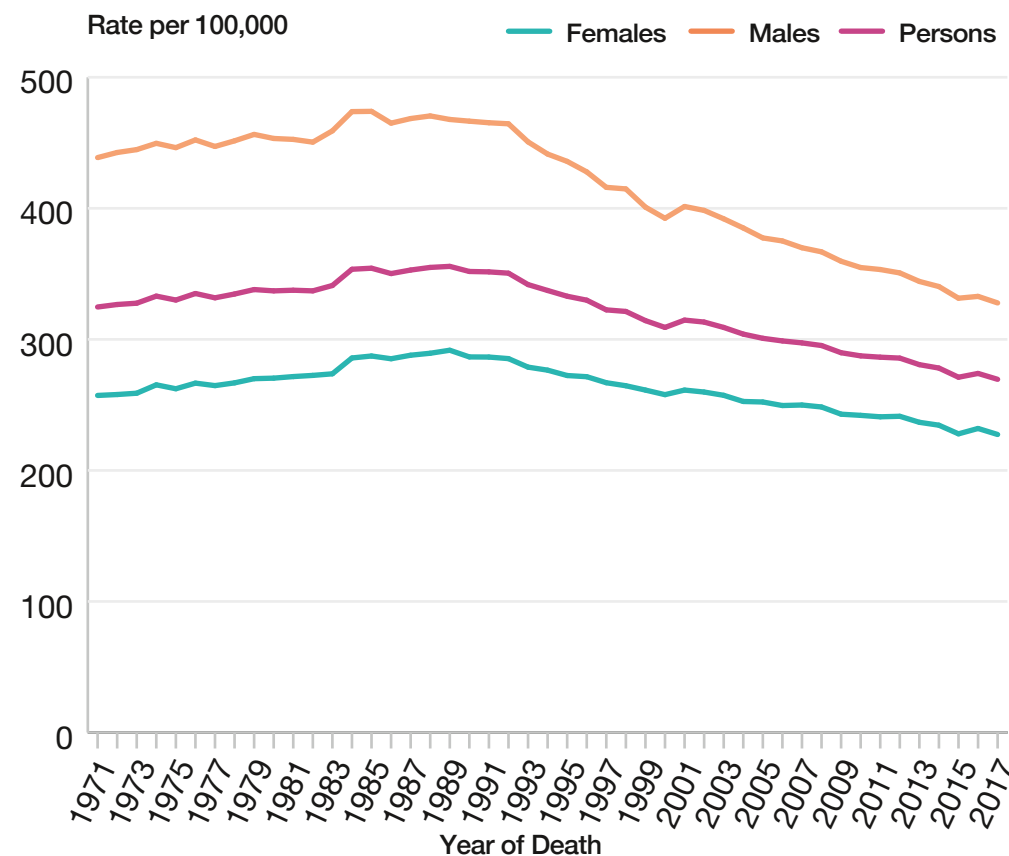
Age-standardised mortality rates for all cancers (C00-97), UK

Source: Cancer Research UK (2019), *Cancer mortality statistics*

The most common cancers in the UK are breast cancer, prostate cancer, lung cancer and bowel cancer. Lung cancer is the most common cause of cancer death.

2.19 Most common cancers by site

Number of new cases, 2017
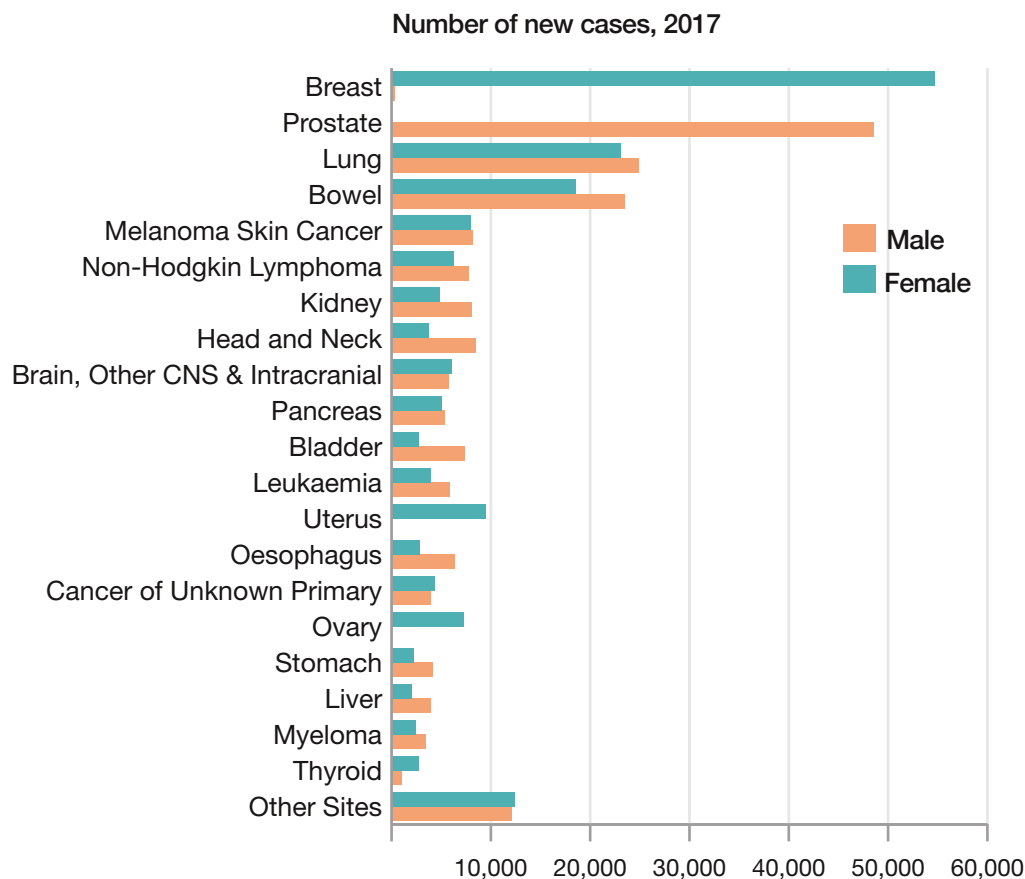
Top twenty most common cancers, UK, 2017

Source: Cancer Research UK (2019), *Cancer incidence statistics*

2.20 Cancer deaths by site

Number of deaths, 2017
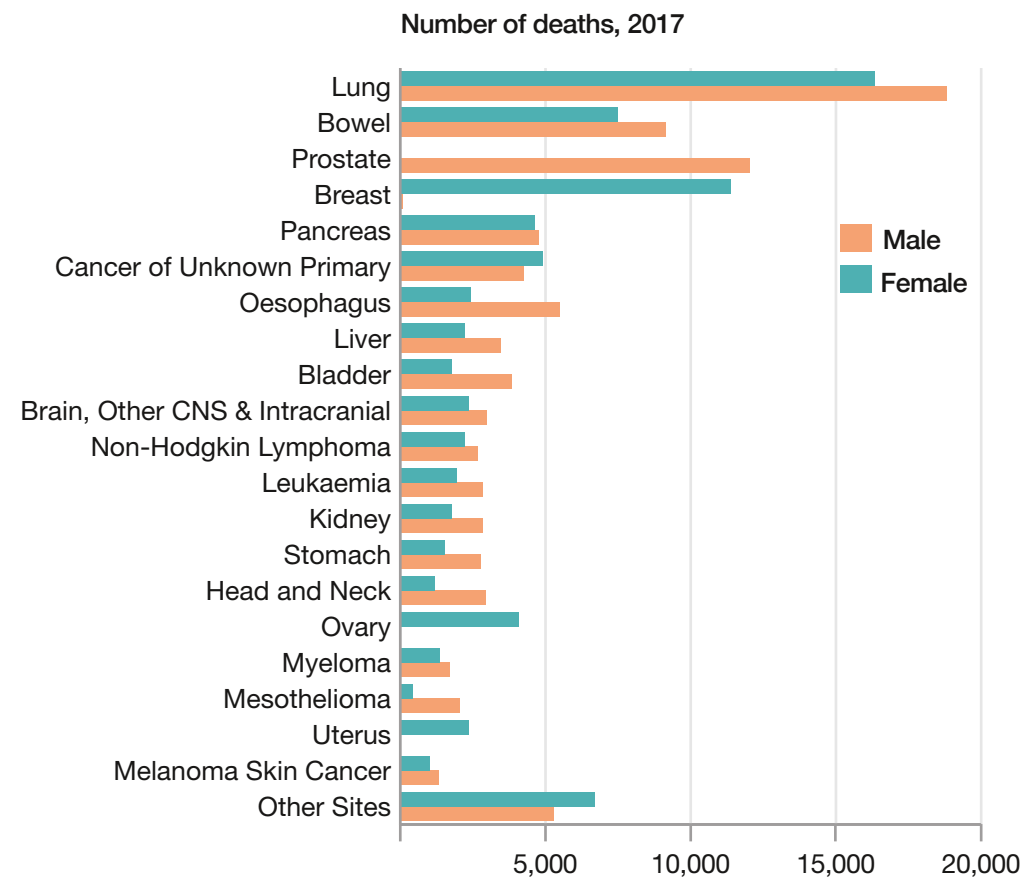
Top twenty causes of cancer deaths, UK, 2017

Source: Cancer Research UK (2019), *Cancer mortality statistics*

Cancer survival varies markedly by the site of the cancer. Sites with the lowest five-year survival are mesothelioma, pancreas, brain, liver and lung.

2.21 Cancer survival by site

Cancer type (w/o = women only, m/o = men only)

Legend:
- All persons
- Men only
- Women only

X-axis: Five-year cancer survival estimates (0% to 100%)

Cancer types (top to bottom):
Testis (m/o), Melanoma of Skin, Thyroid, Prostate (m/o), Breast (w/o), Hodgkin Lymphoma, Uterus (w/o), Vulva (w/o), Non-Hodgkin Lymphoma, Larynx (m/o), Kidney, Cervix (w/o), Kidney and Urinary Tract, Rectal, Anus, Colorectal, Colon, Leukaemia, Bladder, Myeloma, Urinary Tract, Ovary (w/o), Stomach, Oesophagus, Lung, Liver, Brain, Pancreas, Mesothelioma

Five-year age-standardised net survival (%), with 95% confidence interval (CI), for adults with 29 common cancers (aged 15 to 99 years) in England diagnosed between 2013 and 2017 and followed up to 2018. Analysis of Office for National Statistics, Cancer Survival in England

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Cancer Survival Rates*

Cancer incidence has increased at the fastest rate for thyroid cancer, liver cancer, kidney cancer and melanoma. Cancer mortality has increased the most for liver cancer.

2.22 Change in cancer incidence by site
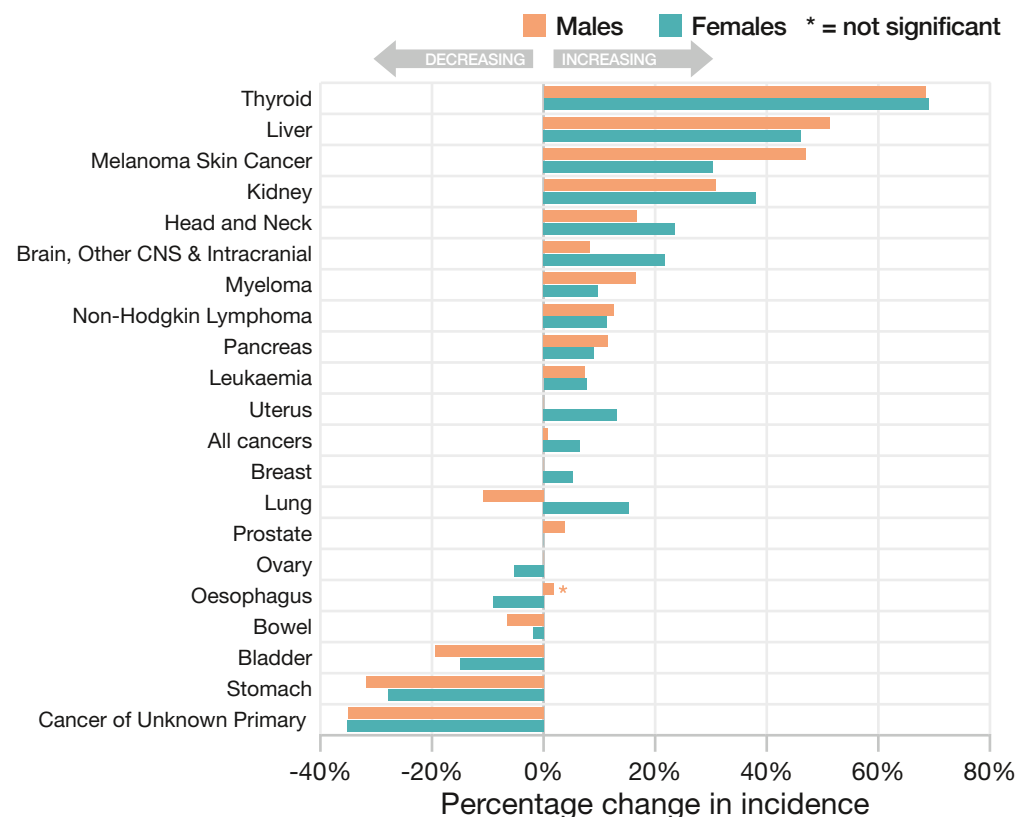
Percentage change in age-standardised three year average incidence rates for select cancers, UK, between 2005-2007 and 2015-2017

Source: Cancer Research UK (2019), *Cancer incidence statistics*

2.23 Change in cancer mortality by site
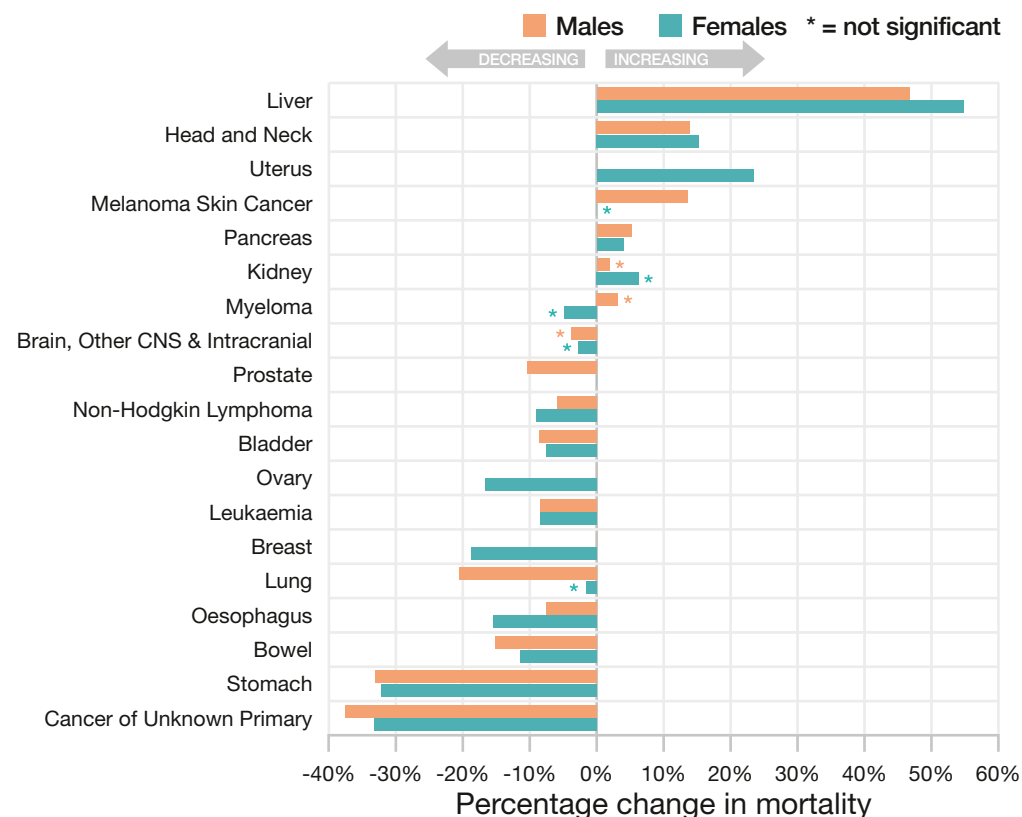
Percentage change in age-standardised three year average mortality rates for select cancers, UK, between 2005-2007 and 2015-2017

Source: Cancer Research UK (2019), *Cancer mortality statistics*

While cancer mortality has improved, the UK still lags behind other major developed nations.

2.24 Cancer mortality – international comparison

Deaths per 100,000 population (age-standardised rates)
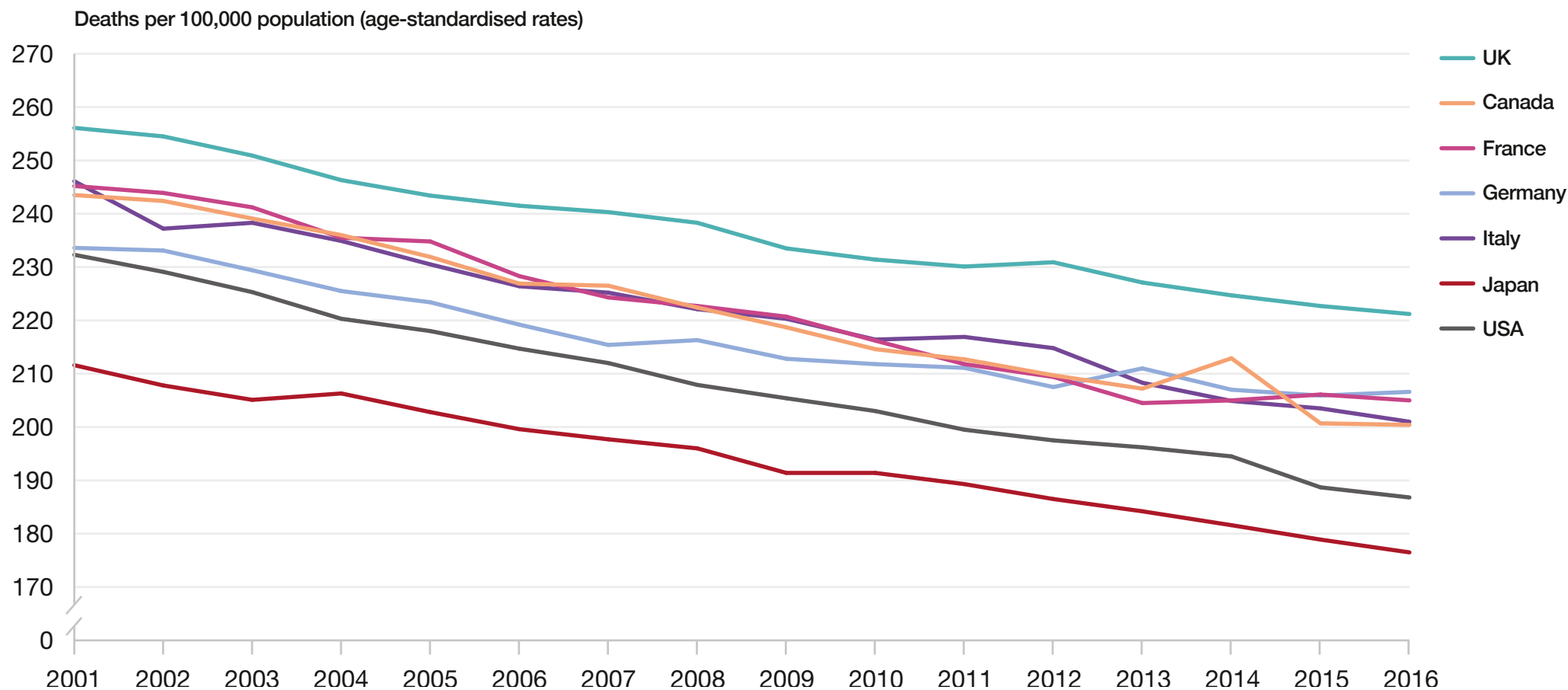
Deaths caused by neoplasms of all types, age-standardised rates per 100,000 population for G7 countries

Source: OECD (2020), *OECD Health Statistics 2020*

Recorded prevalence of diabetes has increased over time.

2.25 Diabetes prevalence
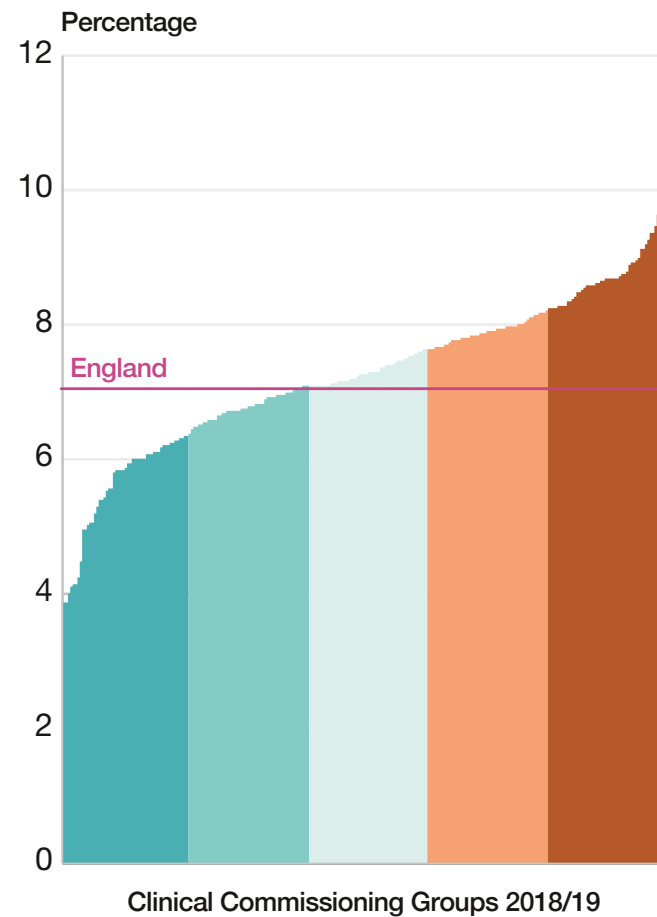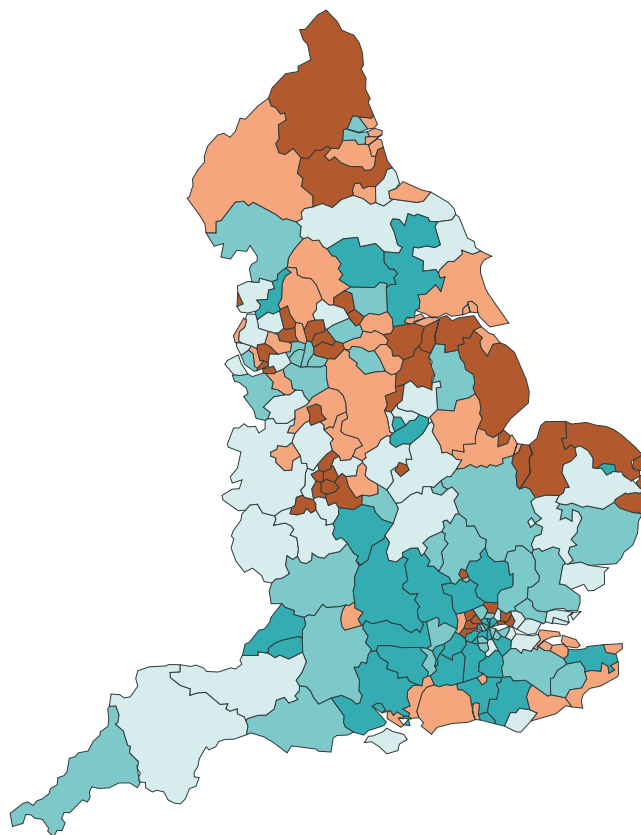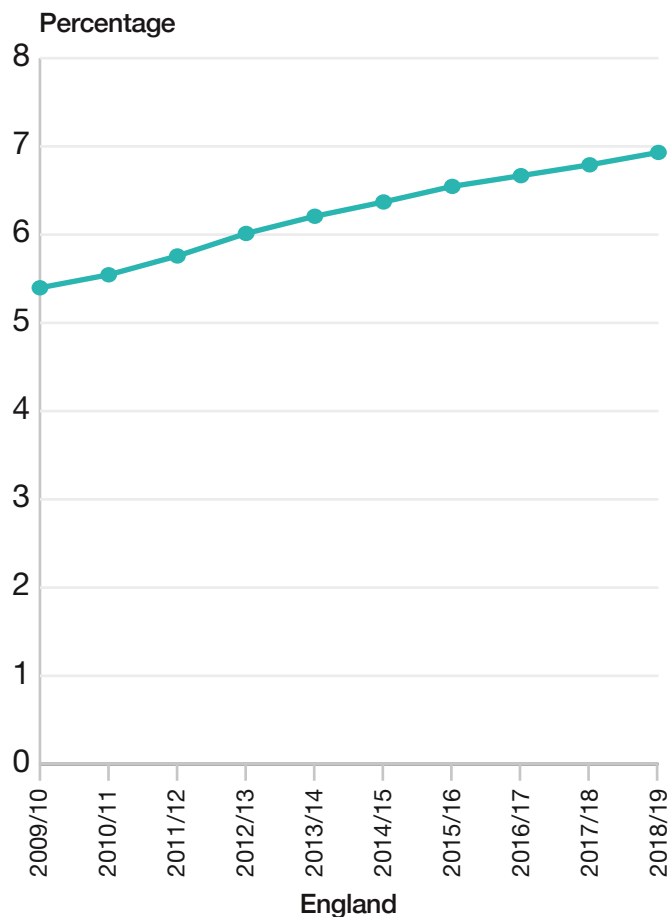
Diabetes: QOF prevalence. The percentage of patients aged 17 years and over with diabetes mellitus, as recorded on GP practice registers, for England, 2009/10 to 2018/19 (left) and for clinical commissioning groups, 2018/19 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Productive Healthy Ageing Profile*

Estimates suggest between 20-30% of people with diabetes remain undiagnosed. This has remained relatively unchanged in men and women over time.

2.26 Diagnosed and undiagnosed diabetes
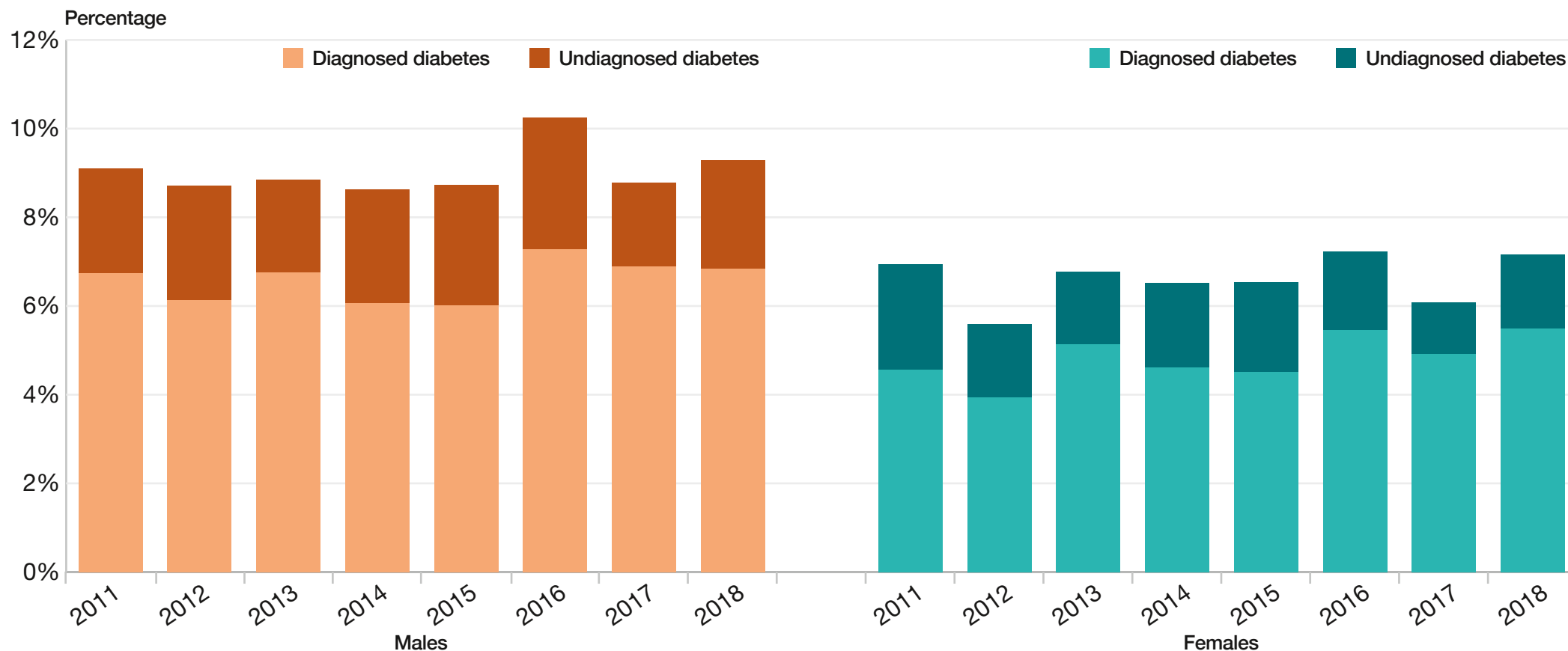
Proportion of adults with diagnosed and undiagnosed diabetes, males and females, England (age 16 and over with a nurse visit and valid glycated haemoglobin measurement)

Source: NHS Digital (2019), _Health Survey for England, 2018: Adults' health report_

There is higher recorded prevalence of chronic obstructive pulmonary disease (COPD) in areas with older and more deprived populations.

2.27 COPD prevalence
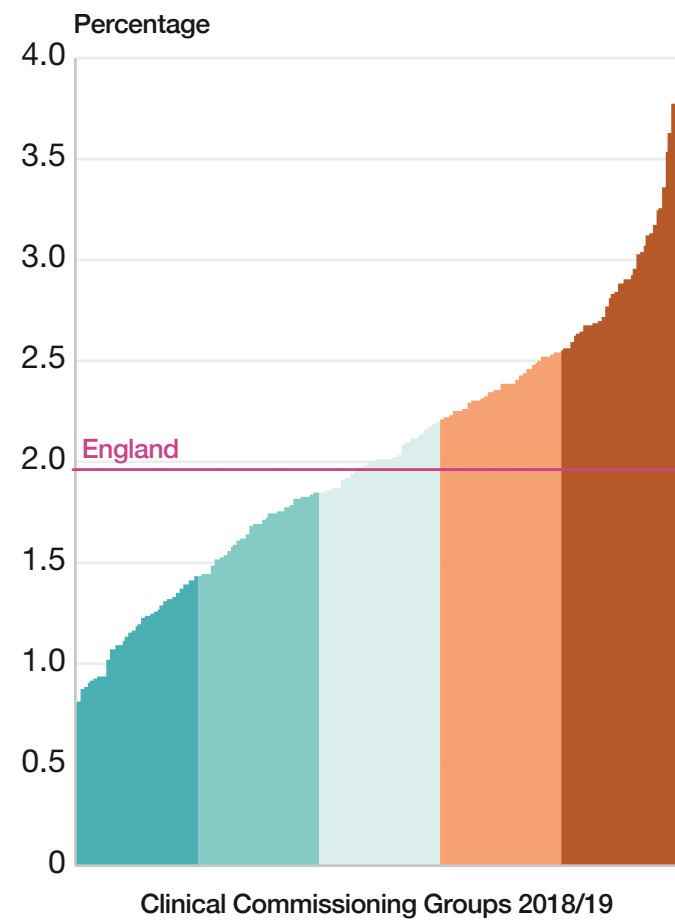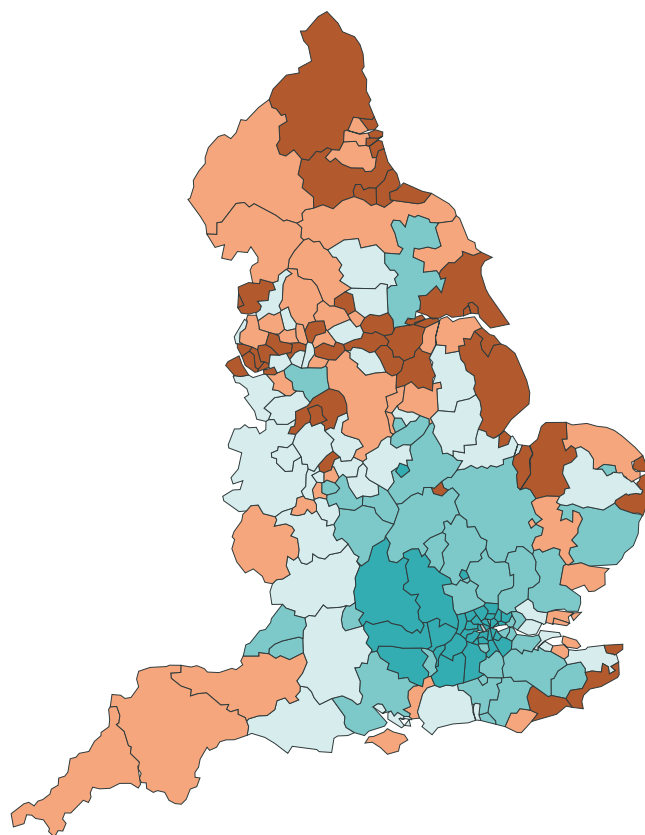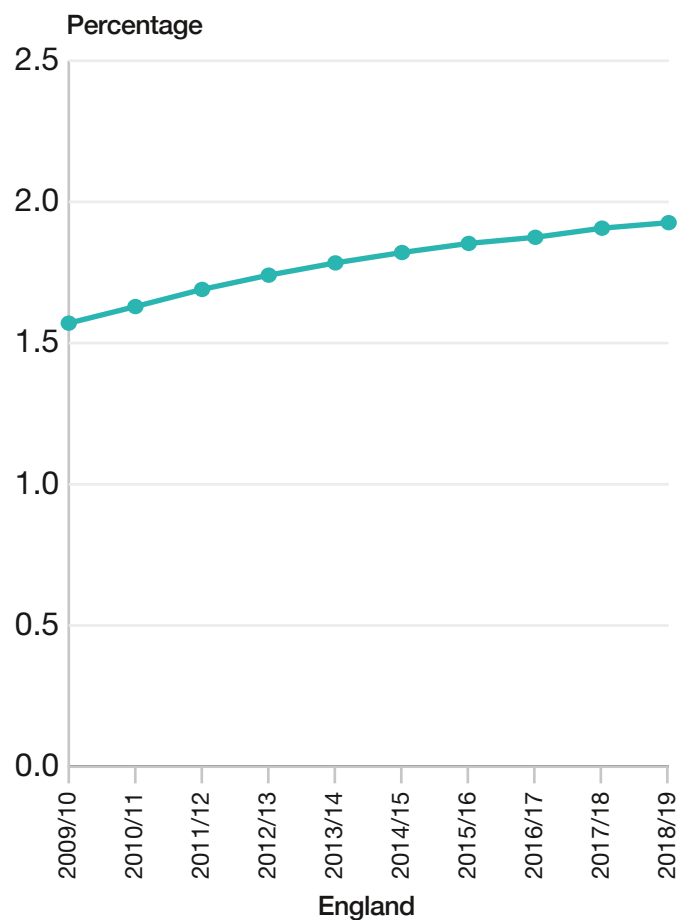
COPD: QOF prevalence (all ages). The percentage of patients with chronic obstructive pulmonary disease (COPD), as recorded on GP practice registers, for England, 2009/10 to 2018/19 (left), and for clinical commissioning groups, 2018/19 (centre and right)

Source: Public Health England (2019), _Public Health Profiles, Inhale – Interactive Health Atlas of Lung conditions in England_

Deaths due to respiratory disease under the age of 75 have increased slightly recently following a long term decrease.

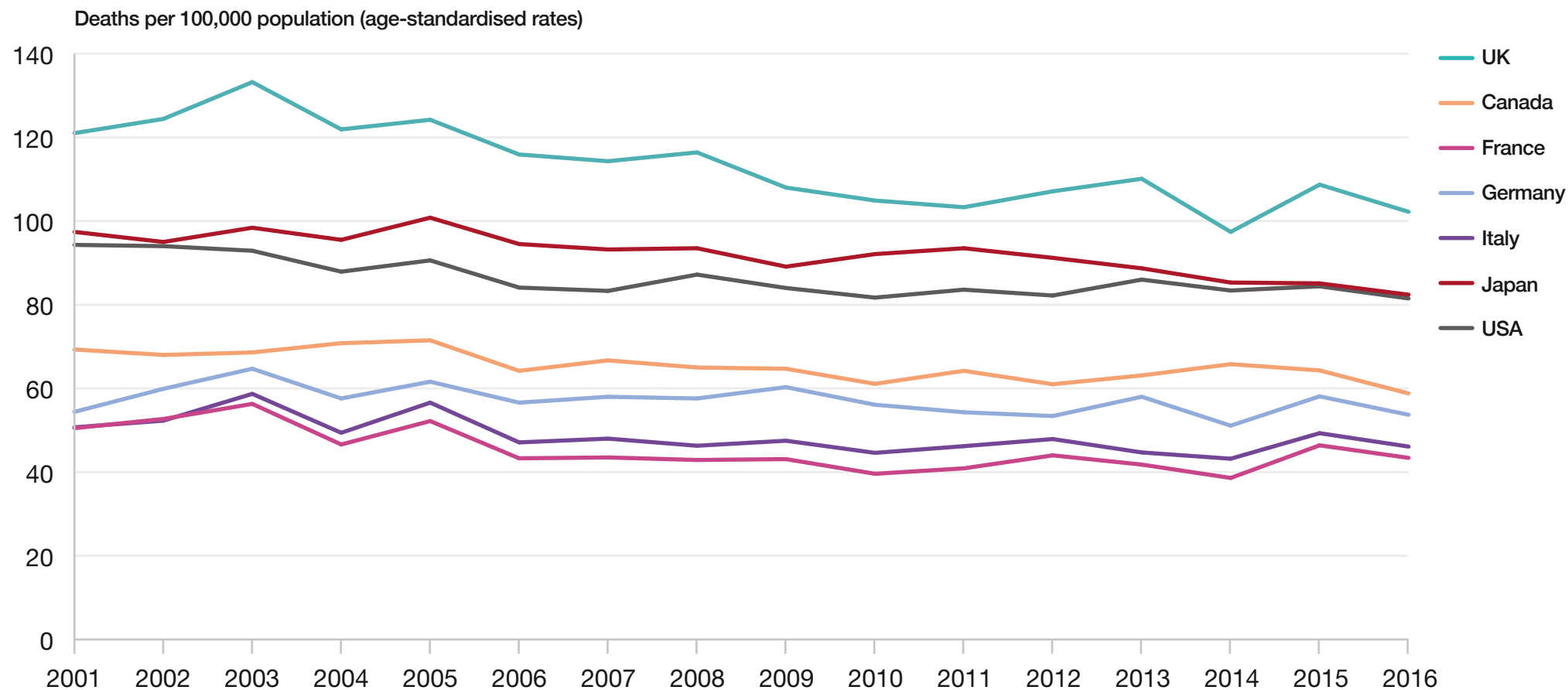## 2.28 Respiratory disease – premature mortality
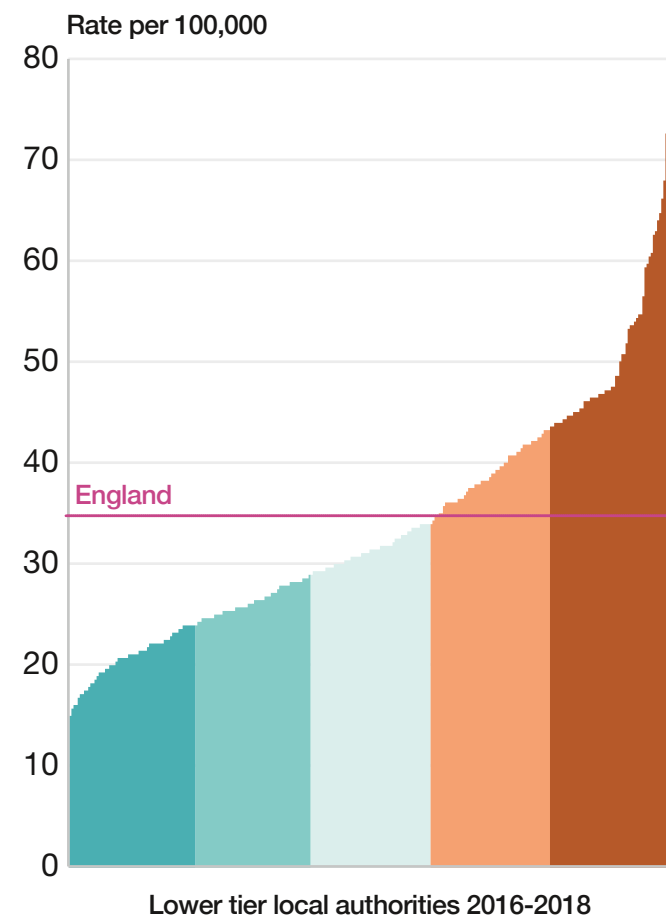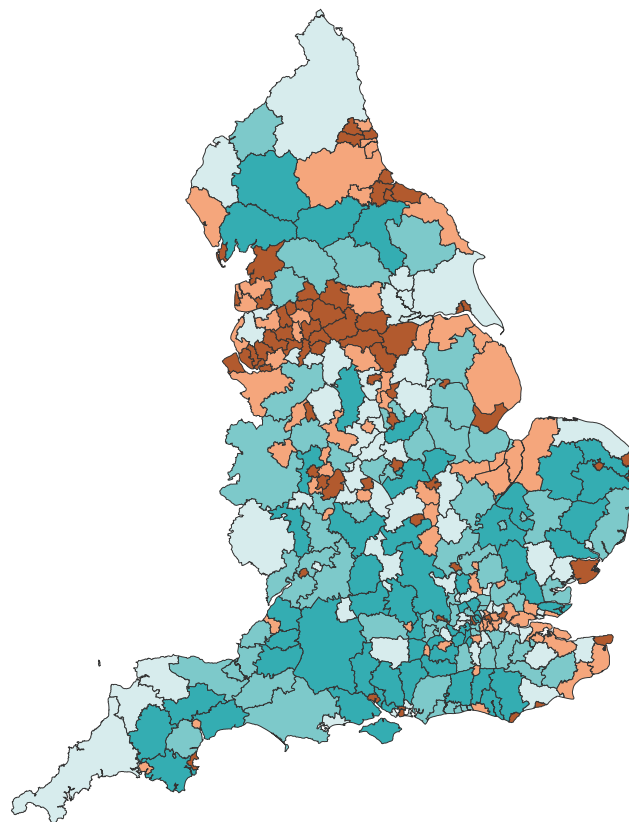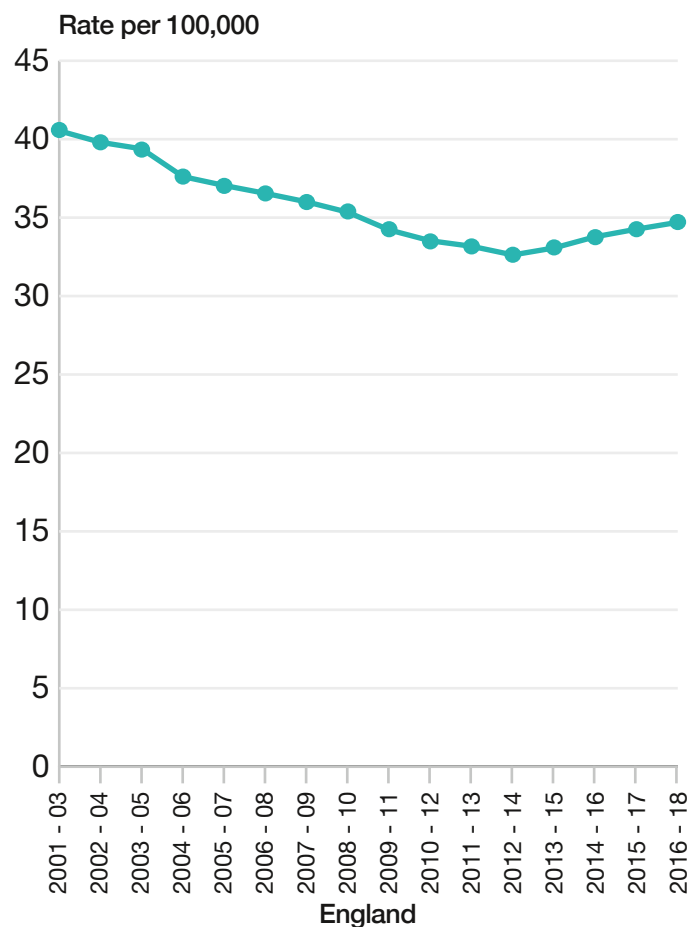
Under 75 mortality rate from respiratory disease. Directly age-standardised rate per 100,000 population, for England 2001-03 to 2016-18 (left) and for lower tier local authorities in 2016-18 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Inhale – INteractive Health Atlas of Lung conditions in England*

The UK has higher rates of death from respiratory disease compared to other developed nations.

2.29 Respiratory mortality – international comparison

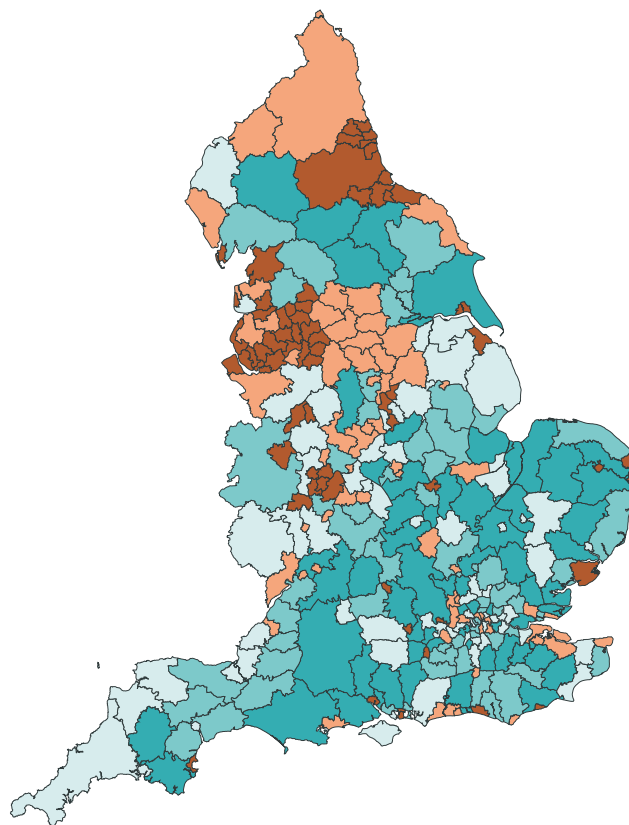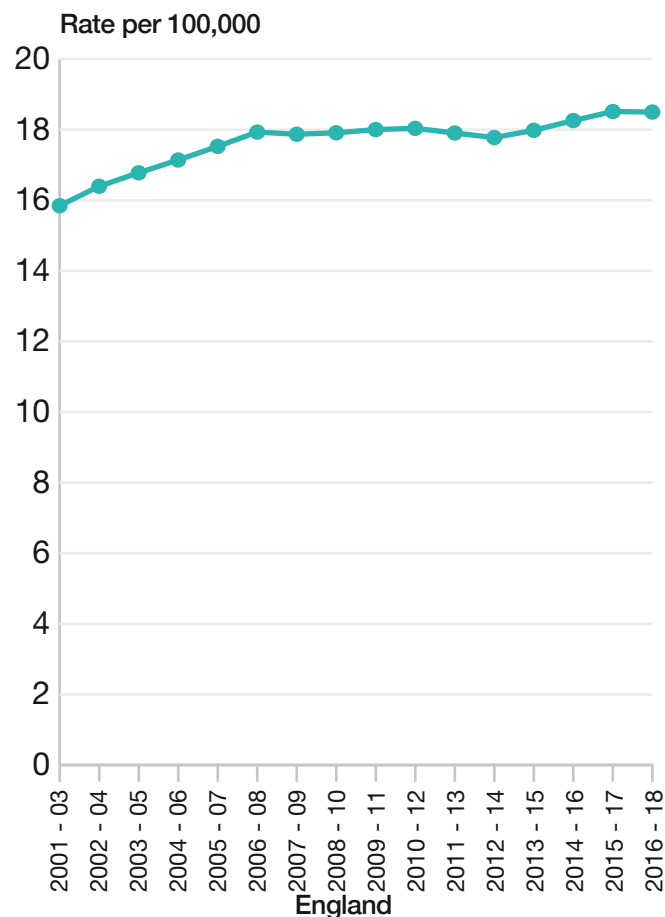Deaths per 100,000 population (age-standardised rates)

Deaths caused by diseases of the respiratory system, age-standardised rates per 100,000 population for G7 countries

Source: OECD (2020), *OECD Health Statistics 2020*

Deaths due to liver disease under the age of 75 have increased gradually.

## 2.30 Liver disease – premature mortality
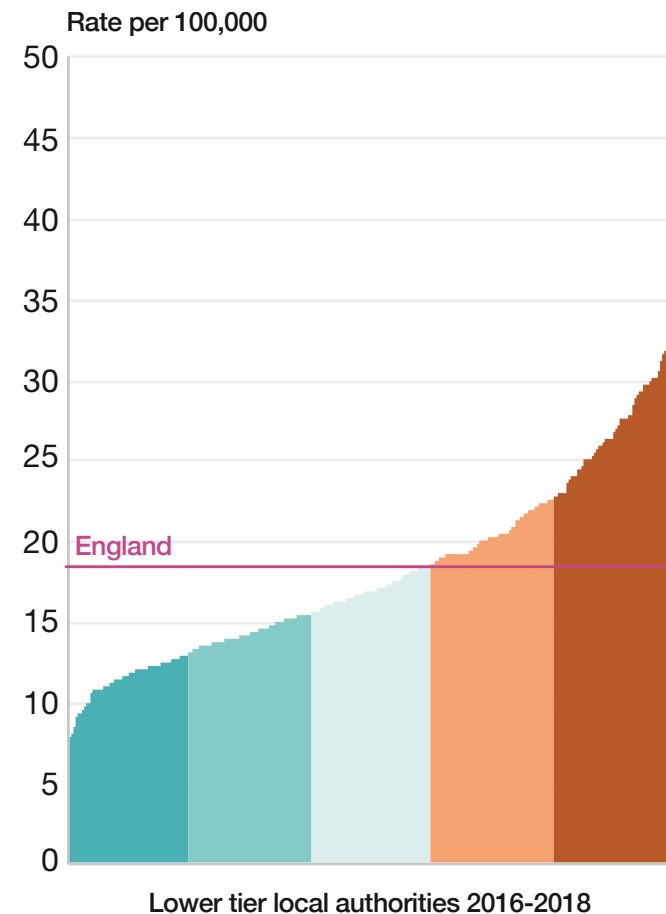
Under 75 mortality rate from liver disease. Directly age-standardised rate per 100,000 population, for England 2001-03 to 2016-18 (left) and for lower tier local authorities in 2016-18 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Liver Disease Profiles*

Recorded prevalence of dementia has increased, with higher levels in rural and coastal areas.

2.31 Dementia prevalence
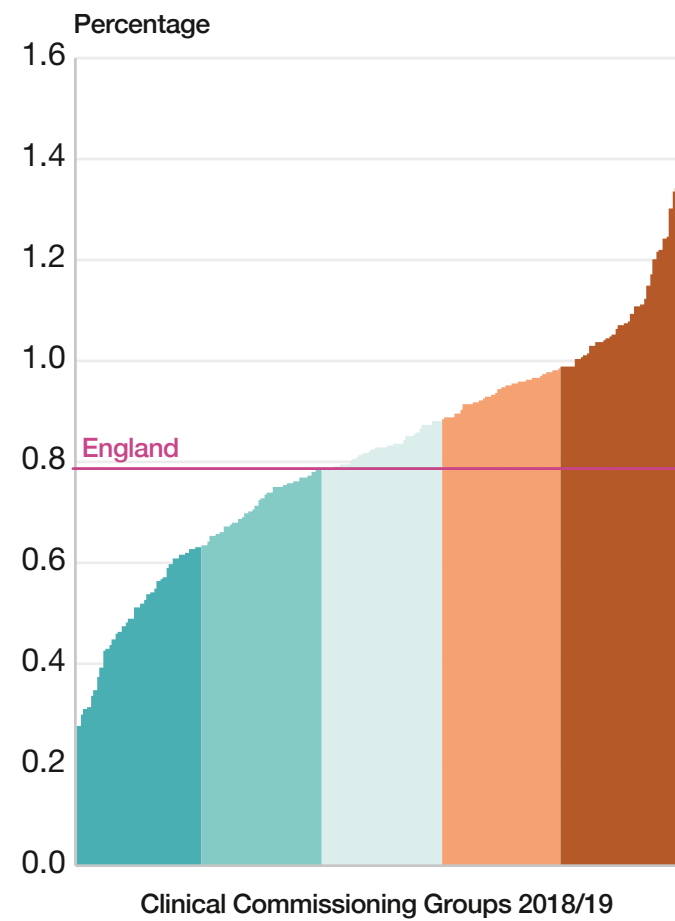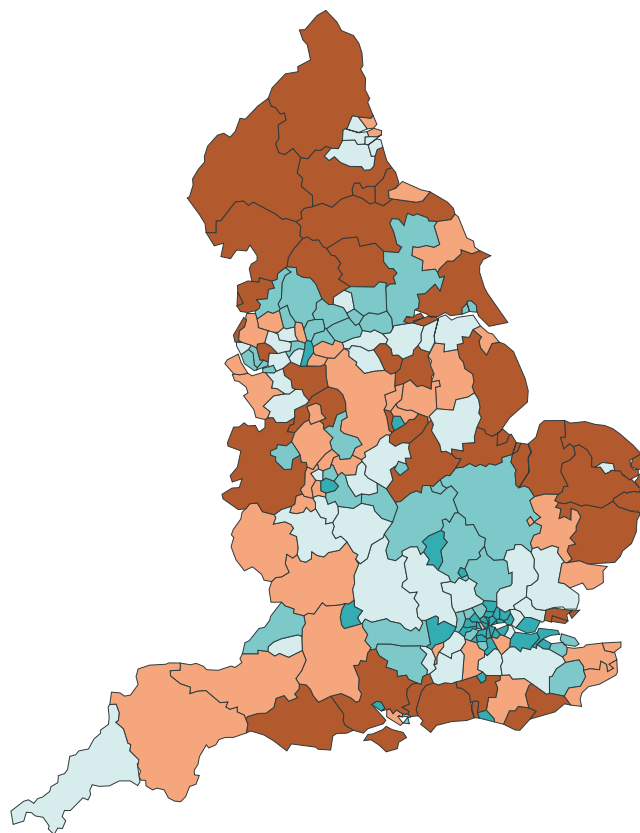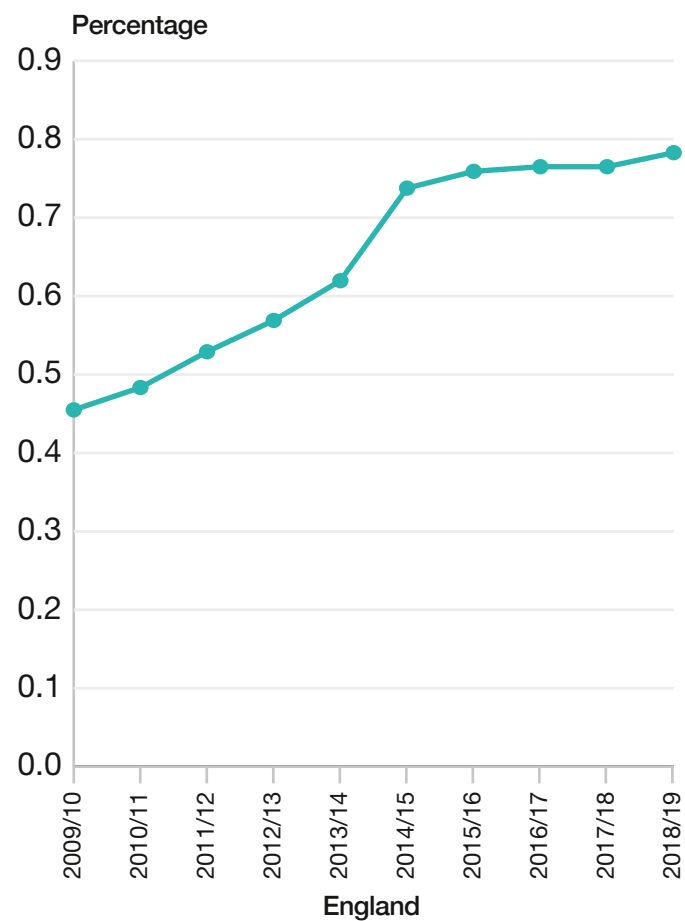
Dementia: QOF prevalence (all ages). The percentage of patients with dementia, as recorded on GP practice registers for England, 2009/10 to 2018/19 (left), and for clinical commissioning groups 2018/19 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Dementia Profile*

Common mental health problems are more prevalent in women across all age groups, and prevalence overall has increased over time.
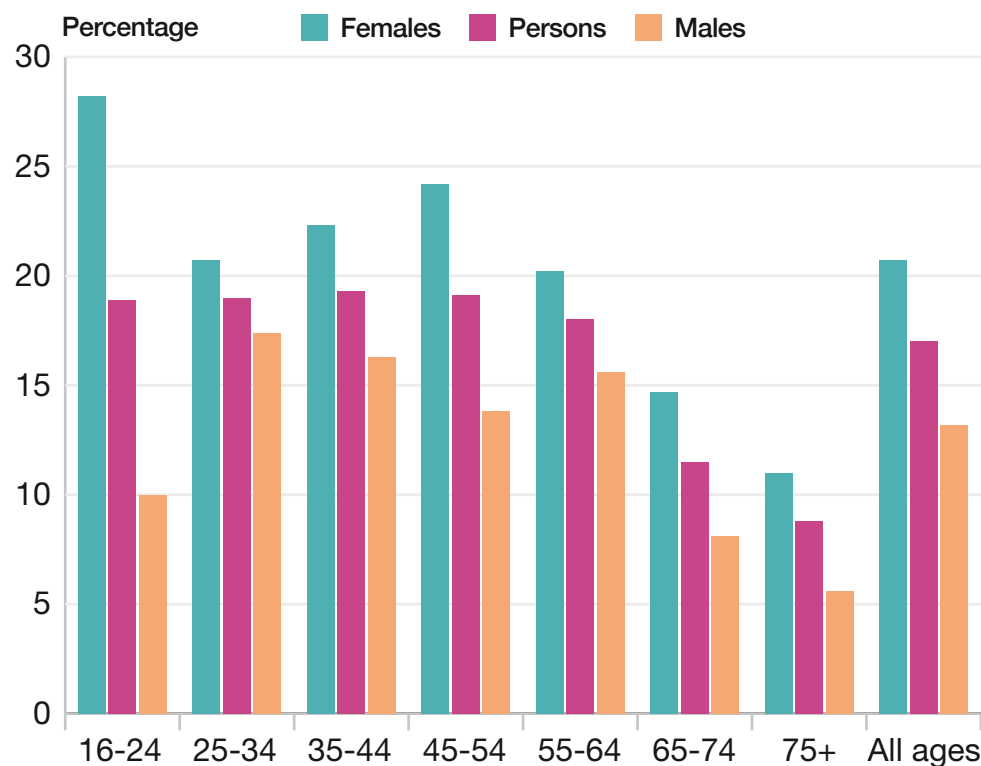
2.32 Trend in common mental health problems
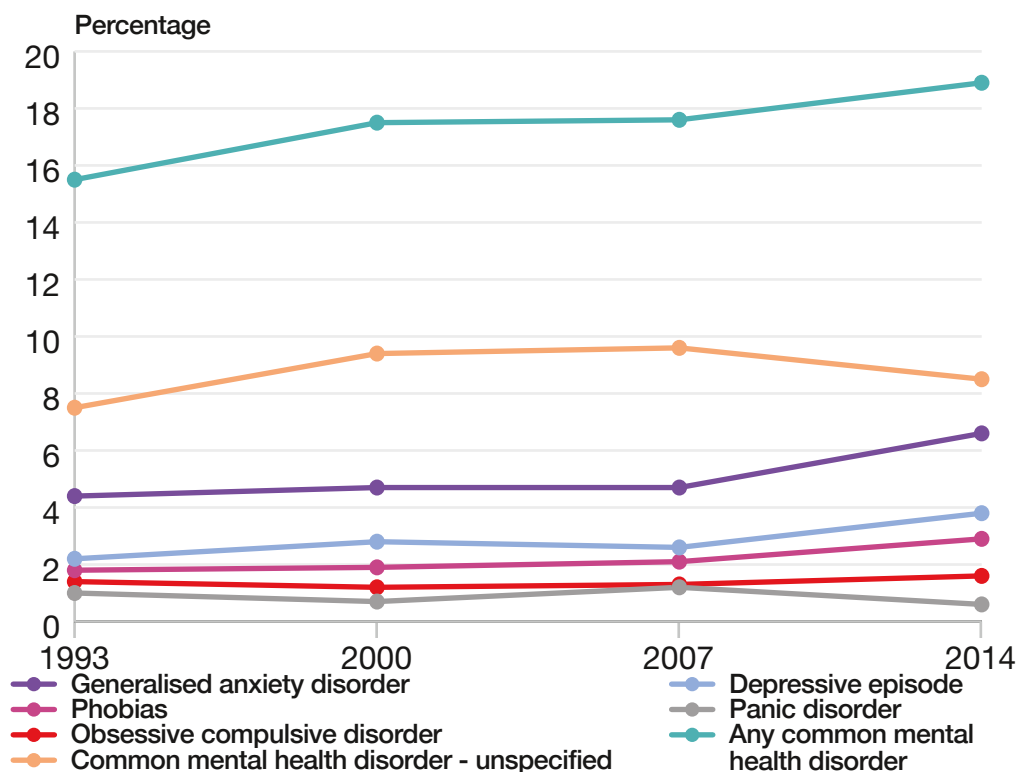
Prevalence of common mental health disorders in adults aged 16-64, England (Adult Psychiatric Morbidity Survey)

Source: Public Health England (2019), *Health Profile for England 2019*

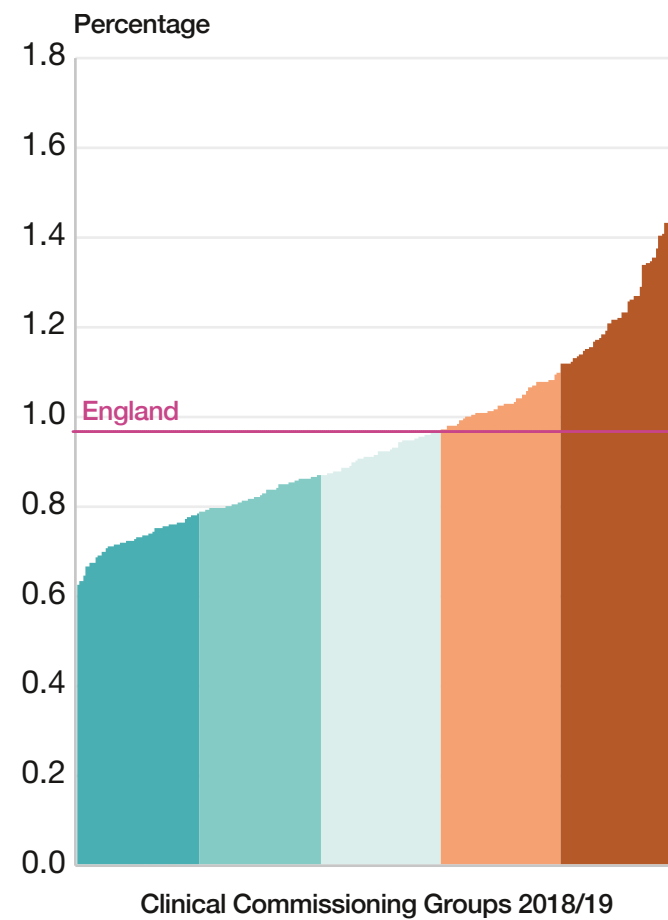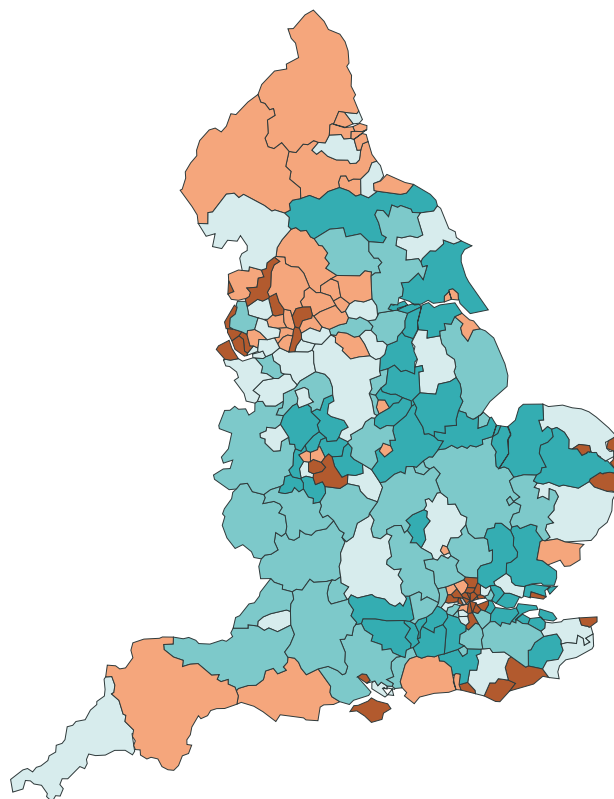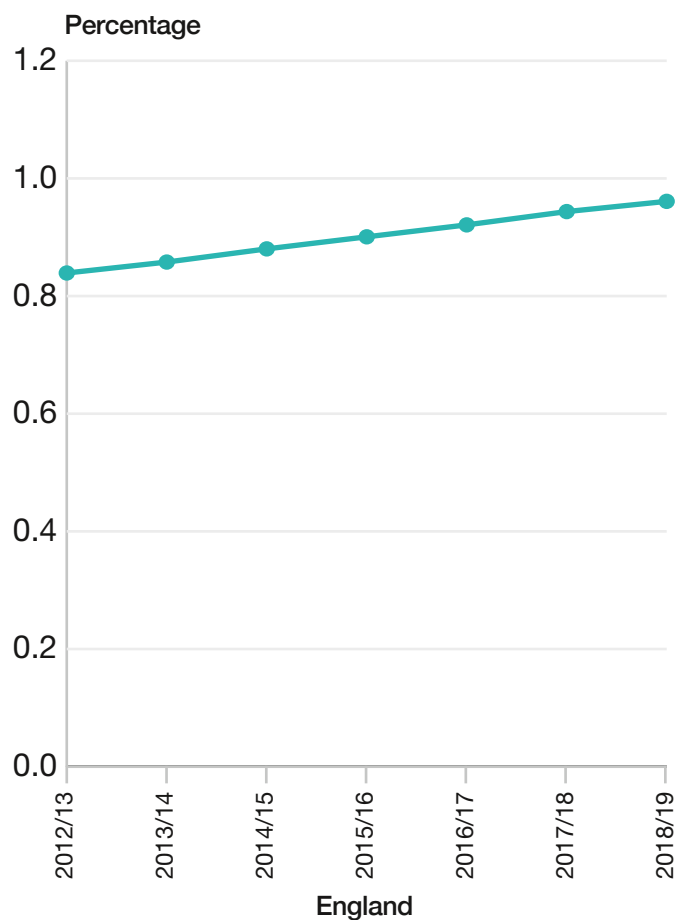## 2.33 Common mental health problems by age

Prevalence of common mental health problems by age, England, 2014 (Adult Psychiatric Morbidity Survey)

Source: Public Health England (2019), *Health Profile for England 2019*

Recorded prevalence of severe mental illness is highest in urban areas and some coastal areas.

2.34 Severe mental illness

Mental Health: QOF prevalence (all ages). The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses as recorded on GP practice registers for England, 2012/13 to 2018/19 (left) and for clinical commissioning groups, 2018/19 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Severe Mental Illness*

Suicide rates have increased recently following a longterm decrease. Rates are higher in men and peak in middle age.
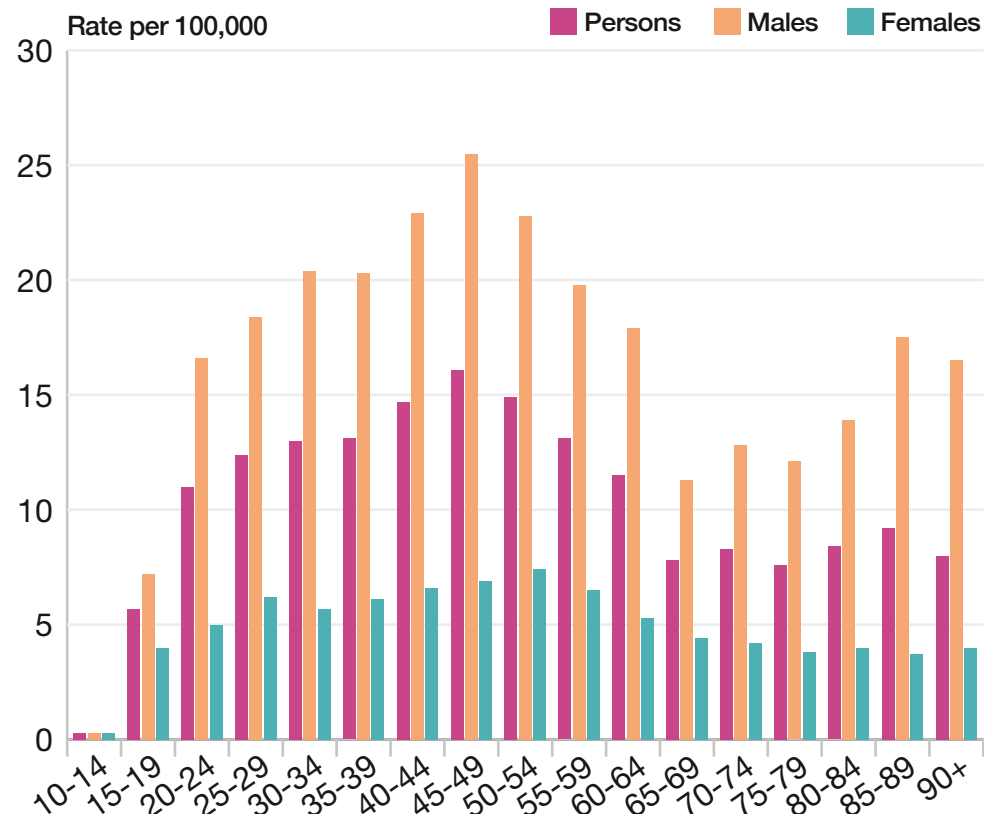
2.35 Trend in suicide rates

Rate per 100,000

Persons — Males — Females

Year of death registration
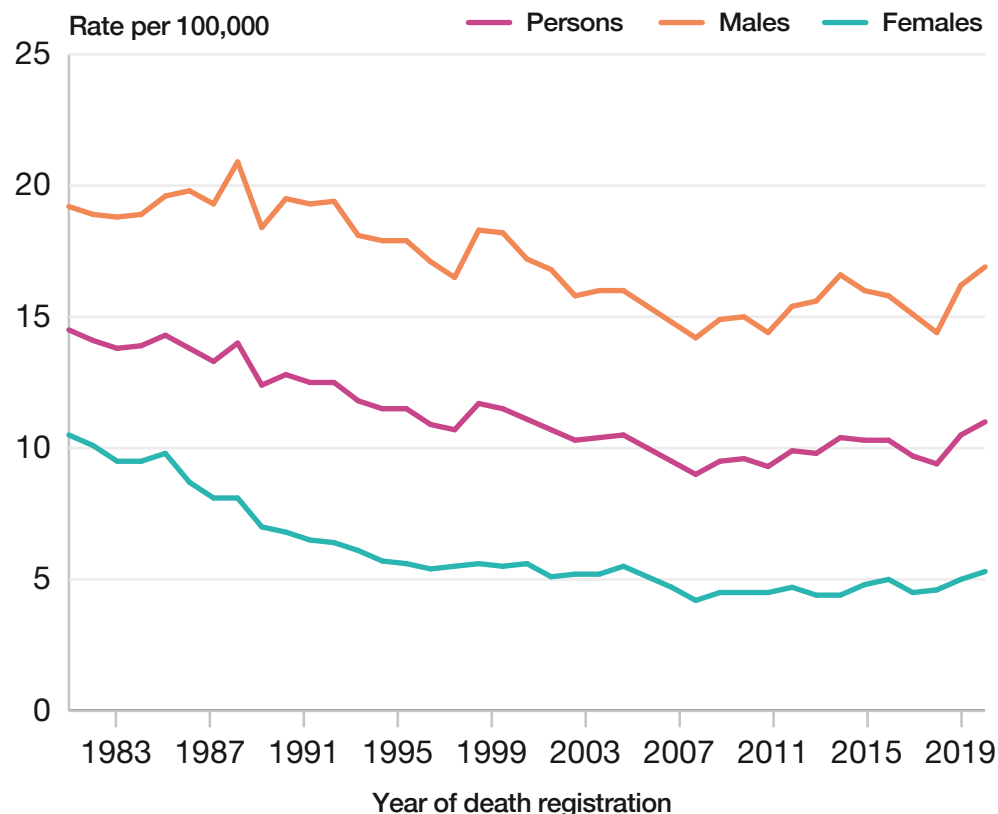
Age-standardised suicide rates by sex, England and Wales

Source: Office for National Statistics (2020), *Suicides in England and Wales: 2019 registrations*

2.36 Suicide rates by age

Rate per 100,000

Persons — Males — Females

Age-specific suicide rates by sex and five-year age groups, England and Wales, registered in 2019

Source: Office for National Statistics (2020), *Suicides in England and Wales: 2019 registrations*

Chapter 3.
Children and young people

Chart List

Smoking in pregnancy has decreased. However, in some parts of the country, more than one in five women are smokers at the time of delivery.

3.1 Smoking status at time of delivery
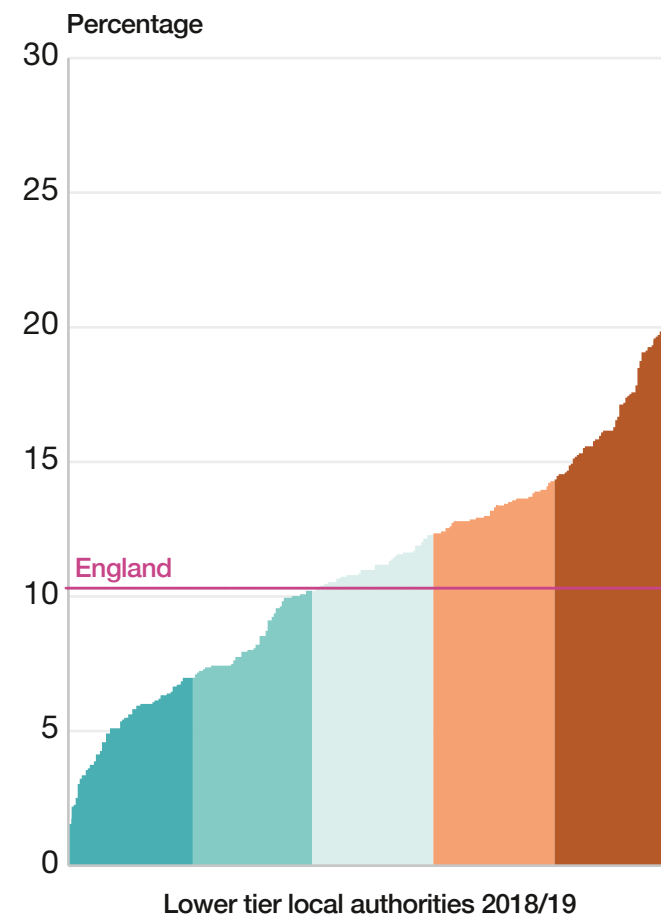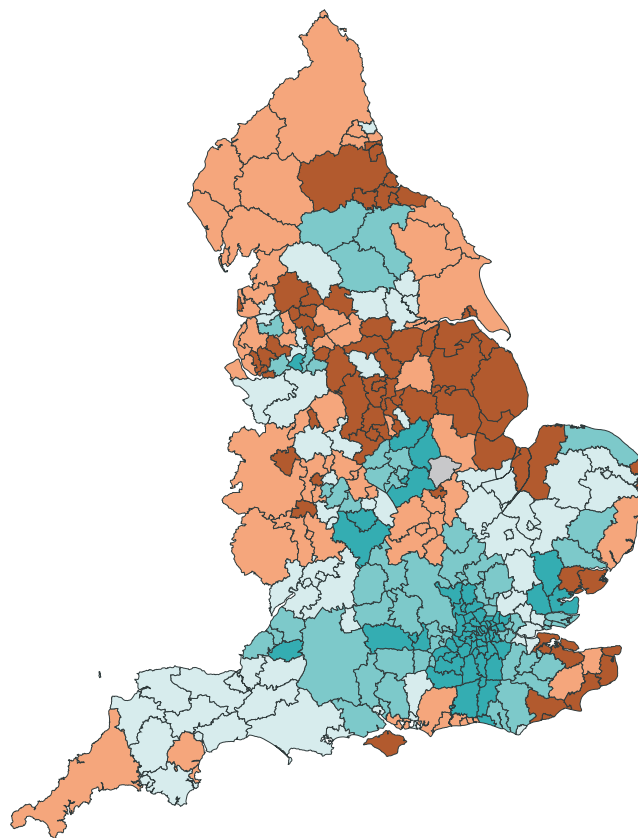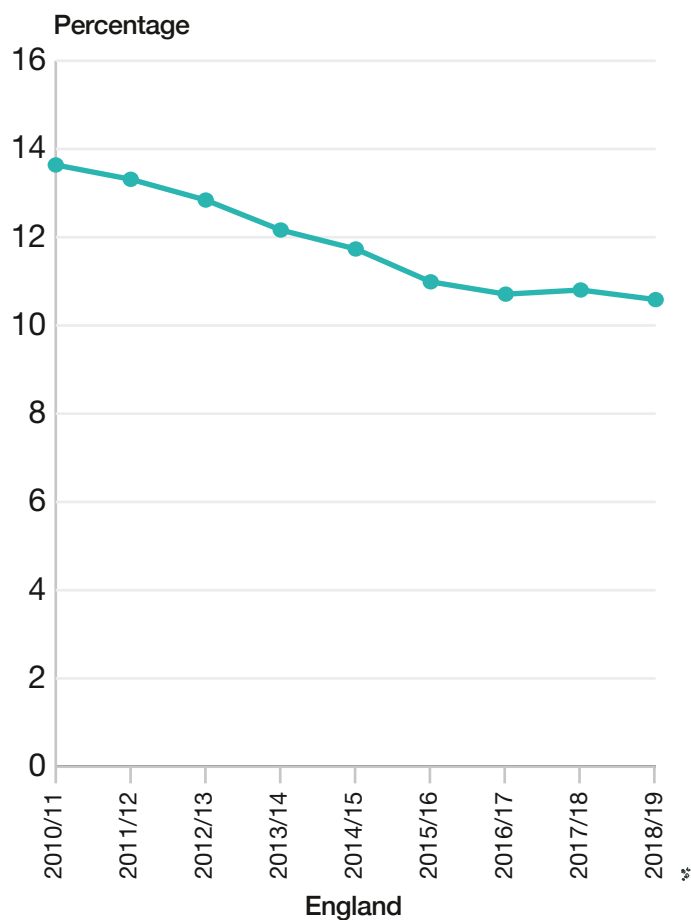
Smoking status at time of delivery. Mothers known to be smokers at the time of delivery as a percentage of all maternities, for England 2010/11 to 2018/19 (left) and for lower tier local authorities 2018/19 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Child and Maternal Health*

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Infant mortality has decreased, though improvements have slowed in recent years.

3.2 Infant mortality

Infant deaths per 1000 live births
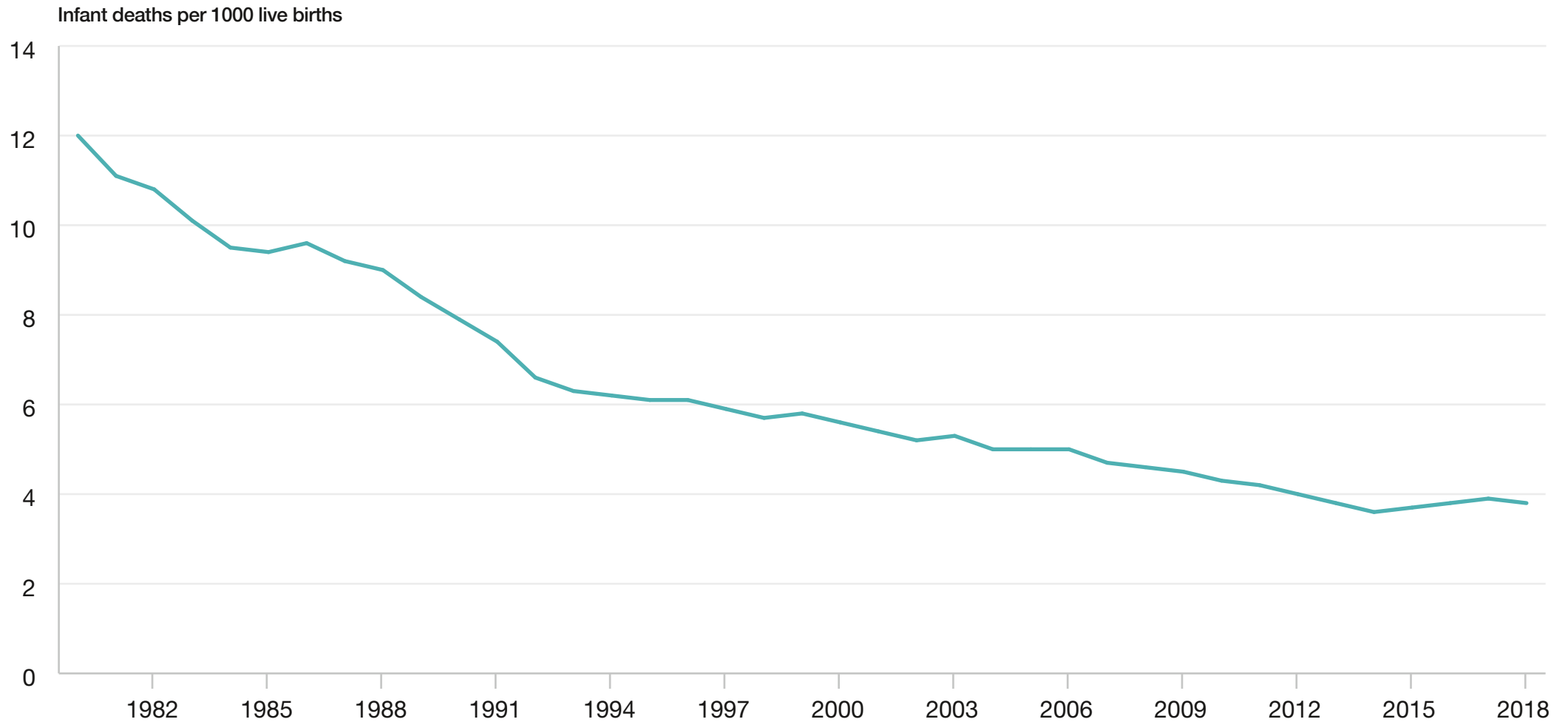
Infant mortality rate for England and Wales, 1980 to 2018

Source: Office for National Statistics (2020), *Child and infant mortality in England and Wales: 2018*

Similar trends in infant mortality have been seen in many developed countries.

3.3 Infant mortality – international comparison

Deaths per 1,000 live births

Legend: UK, Canada, France, Germany, Italy, Japan, USA

Infant mortality rate, deaths per 1000 live births, for G7 countries

Source: OECD (2020), _Infant mortality rates (indicator)_

Infant mortality is higher in deprived areas and in some ethnic minority groups.

3.4 Infant mortality by deprivation

Infant deaths per 1,000 live births

— 10% least deprived areas
— 10% most deprived areas
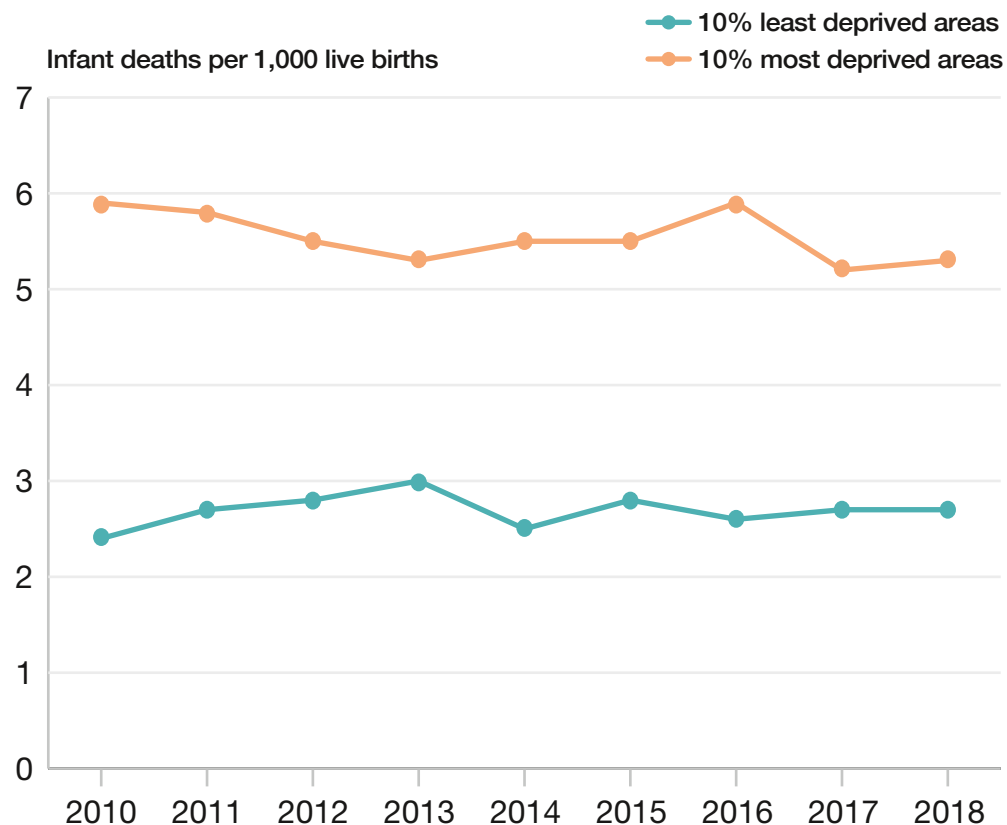
Infant mortality rate by deprivation (IMD decile), England

Source: Office for National Statistics (2020), *Child and infant mortality in England and Wales: 2018*

3.5 Infant mortality by ethnicity
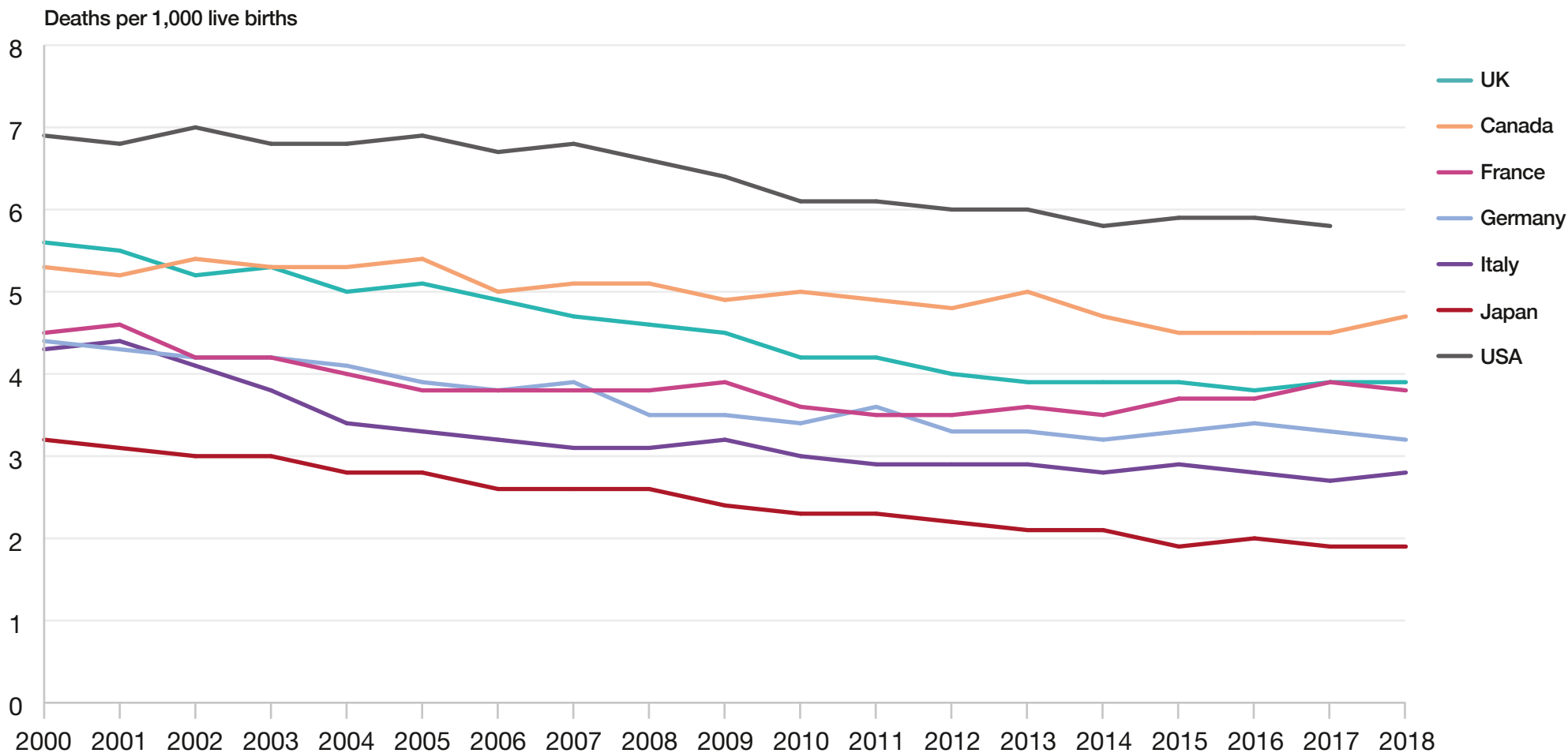

Infant deaths per 1,000 live births

2006   2017
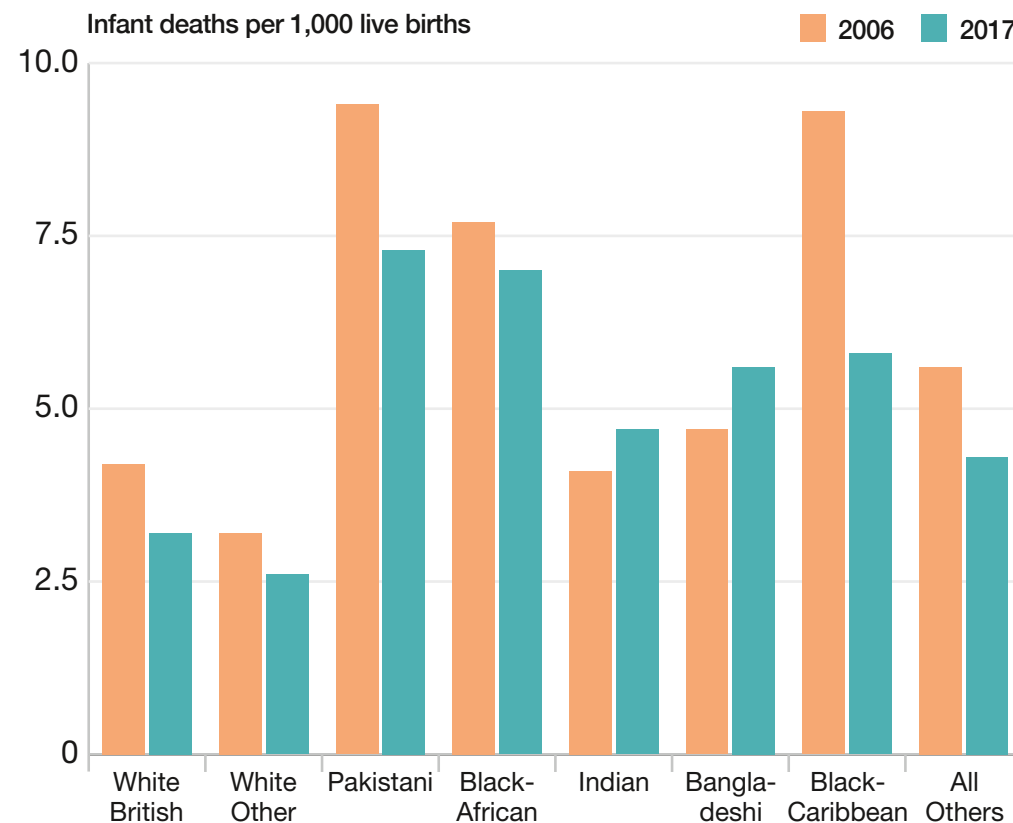
Infant mortality rates by ethnicity, England and Wales

Source: Office for National Statistics (2020), *Child and infant mortality in England and Wales: 2018*

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Childhood obesity levels are higher in deprived areas, and the social gradient has widened.

3.6 Childhood obesity trends
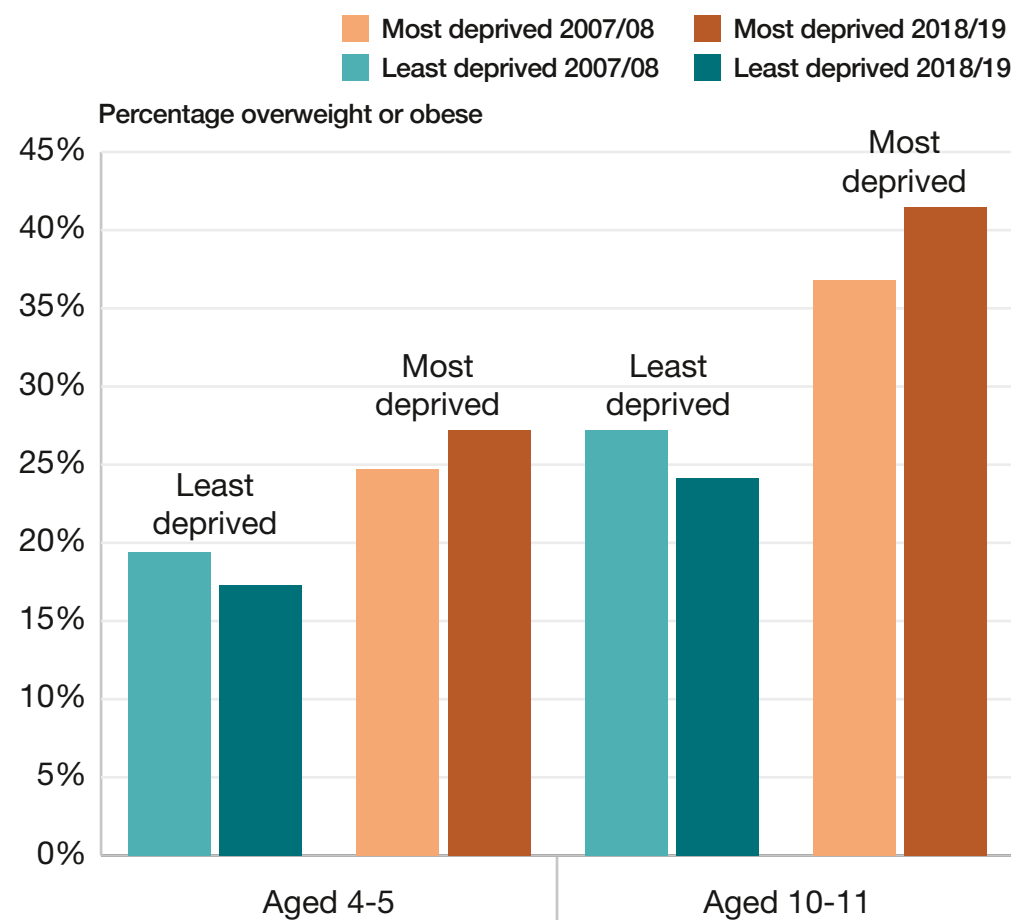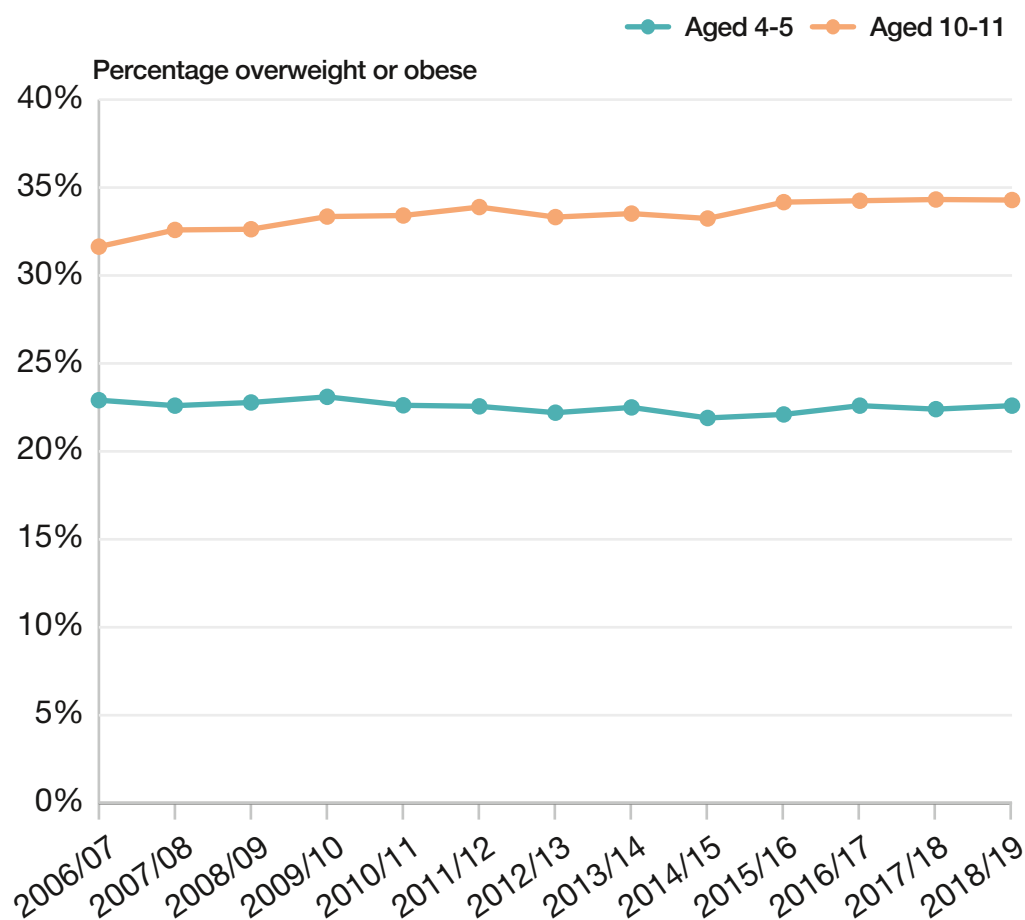
Proportion of children overweight or obese in Reception Year and Year 6 in England, over time (left) and by deprivation category (right)

Source: Royal College of Paediatrics and Child Health (2020), *State of Child Health, Healthy Weight*

Smoking rates have declined in adolescents.

3.7 Smoking trends in young people
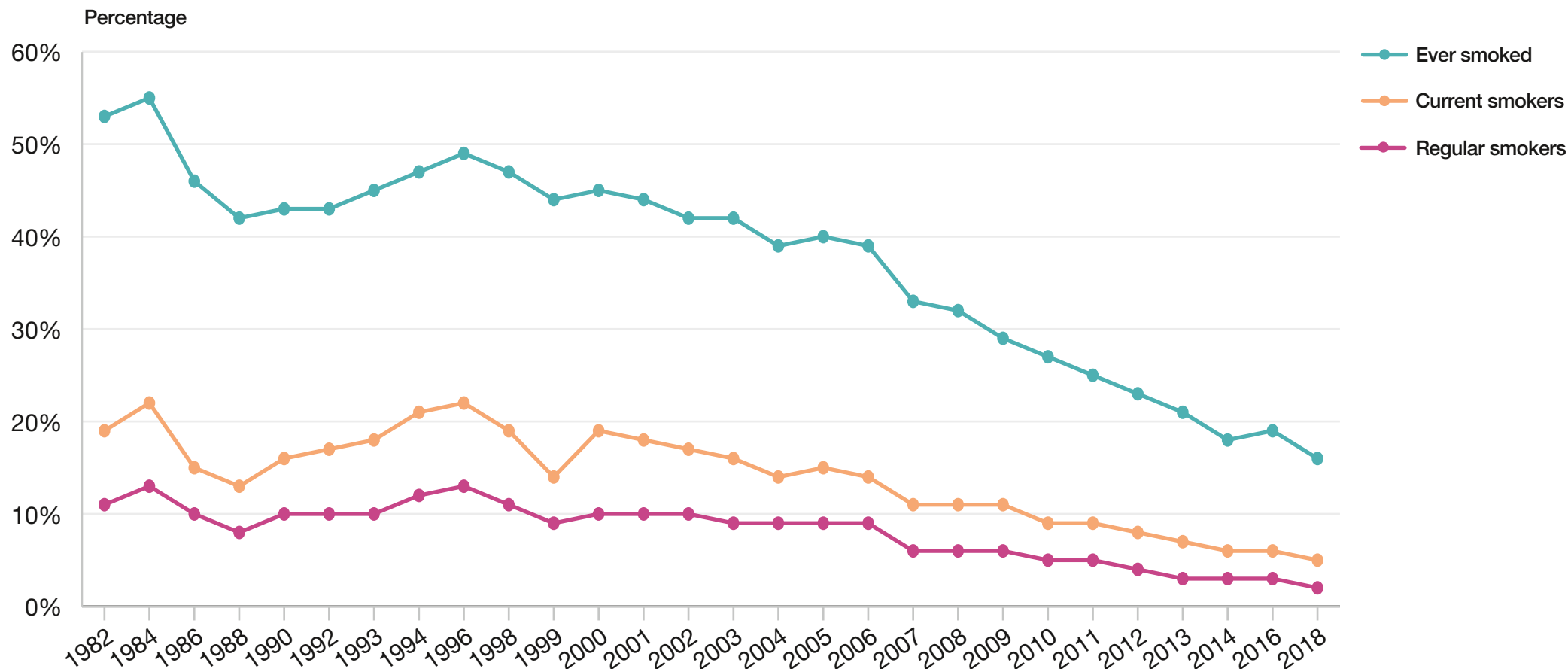
Pupils in Years 7 to 11 (mostly aged 11 to 15 years) who are current smokers, by year. Regular smokers = at least one cigarette per week.
Current smokers = regular or occasional smokers (less than one cigarette per week)

Source: NHS Digital (2019), _Smoking, Drinking and Drug Use among Young People in England 2018_

E-cigarette use in adolescents increases with age, and use overall has increased slightly since 2014.

3.8 E-cigarette trends in young people
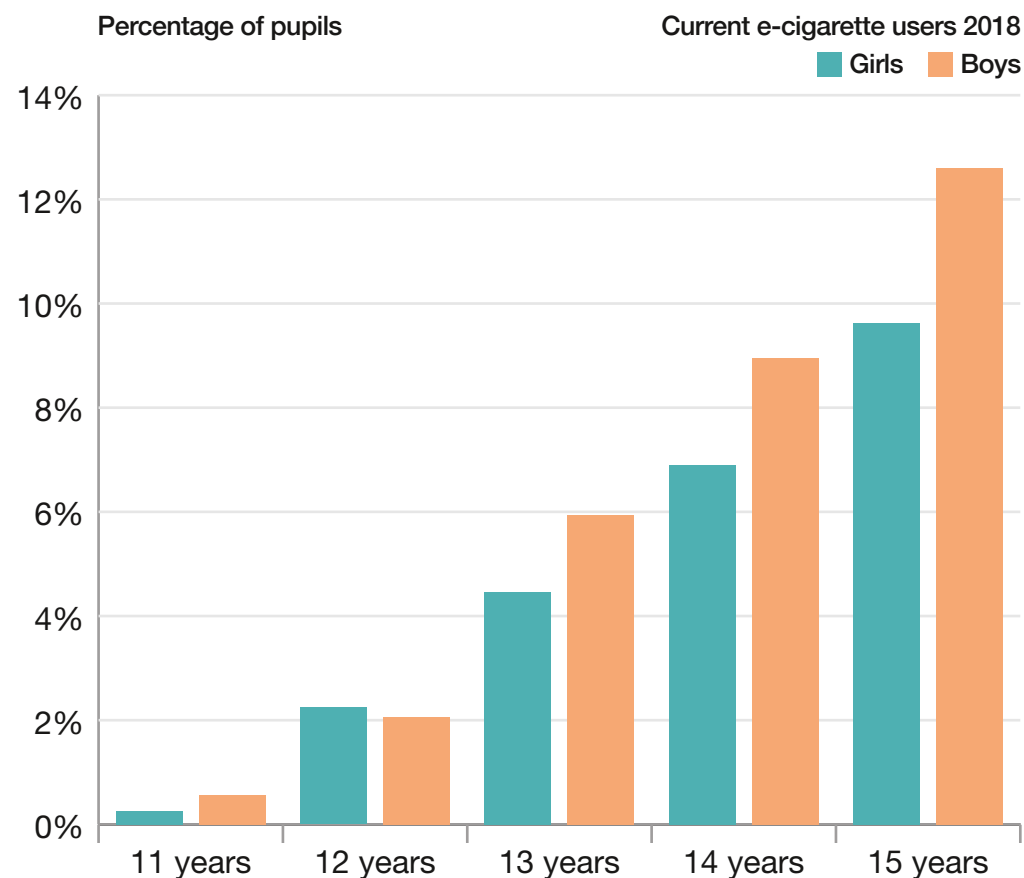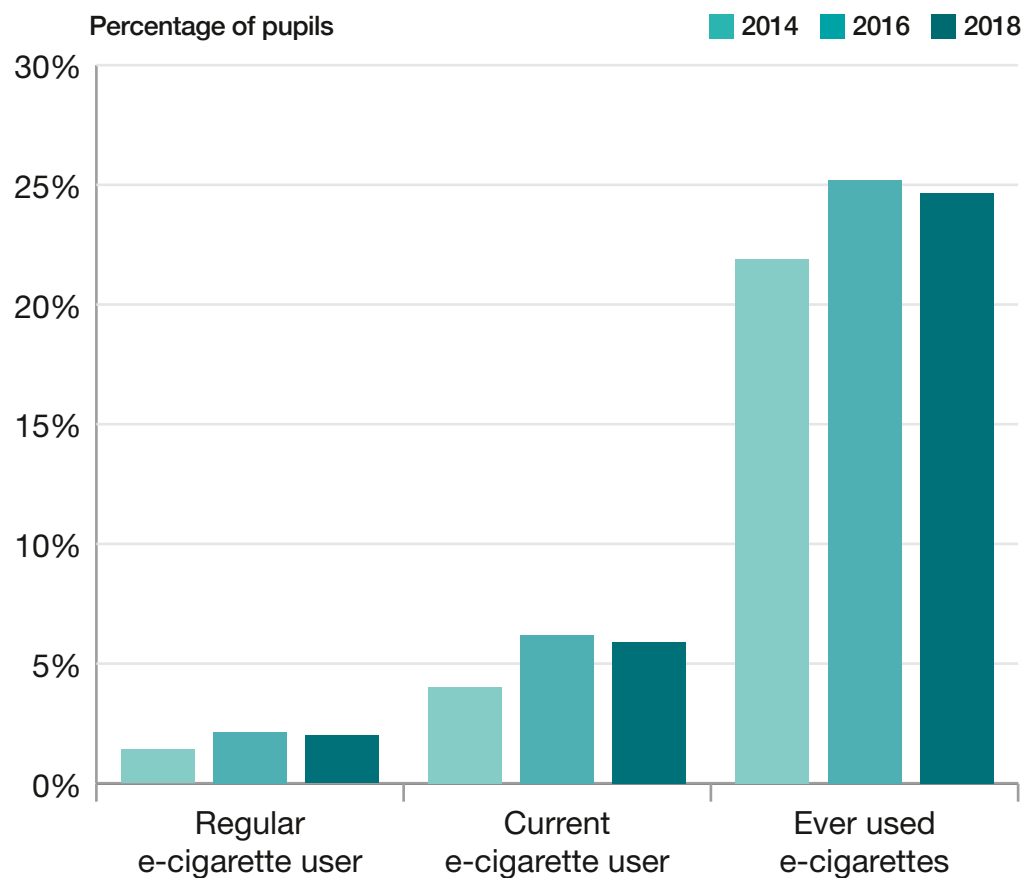
E-cigarette prevalence in pupils in England in Years 7 to 11 (mostly aged 11 to 15 years). Regular user = at least once per week.
Current user = regular or occasional user (less than one cigarette per week)

Source: NHS Digital (2019), *Smoking, Drinking and Drug Use among Young People in England 2018*

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Alcohol intake in children and young people has decreased.

3.9 Alcohol drinking in children

8-10 years   11-12 years   13-15 years   All children

Percentage who have ever had a proper alcoholic drink
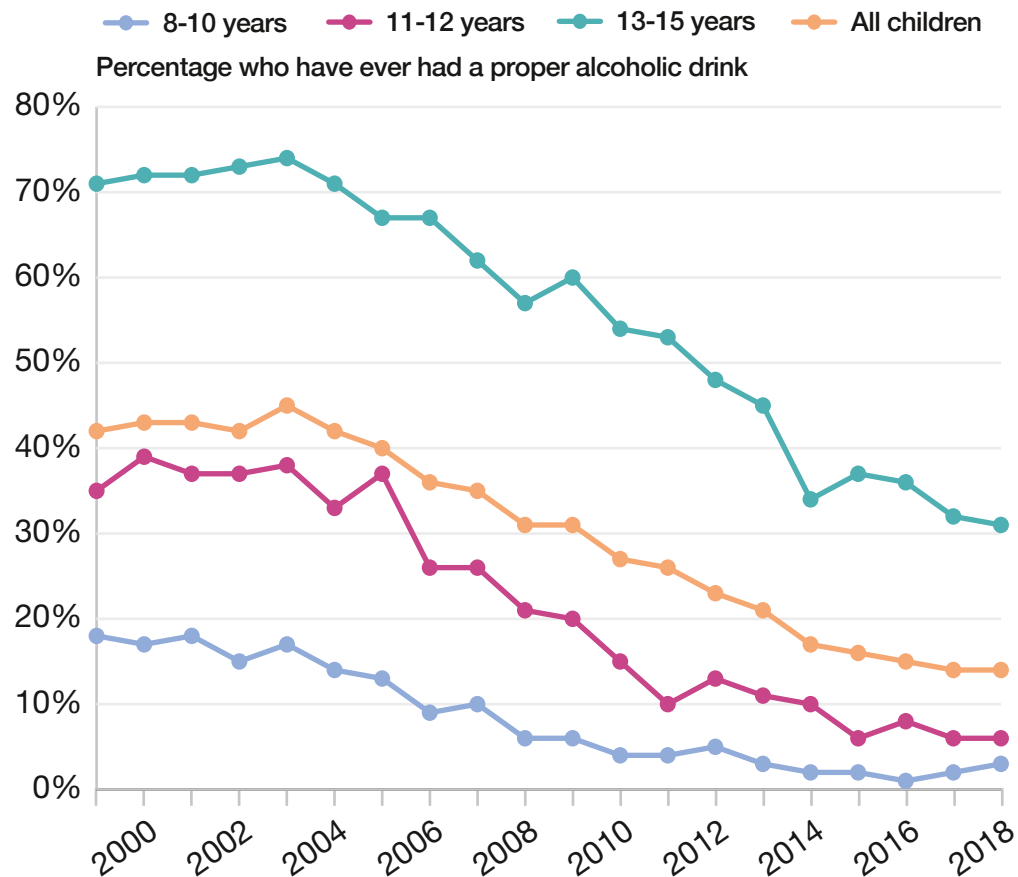
Proportion of children aged 8 to 15 who have ever had a proper alcoholic drink

Source: NHS Digital (2019), _Health Survey for England 2018, Childrens' health report_

3.10 Alcohol behaviour in adolescents

Females   Males

Percentage of 15 year olds who have been drunk 2-3 times
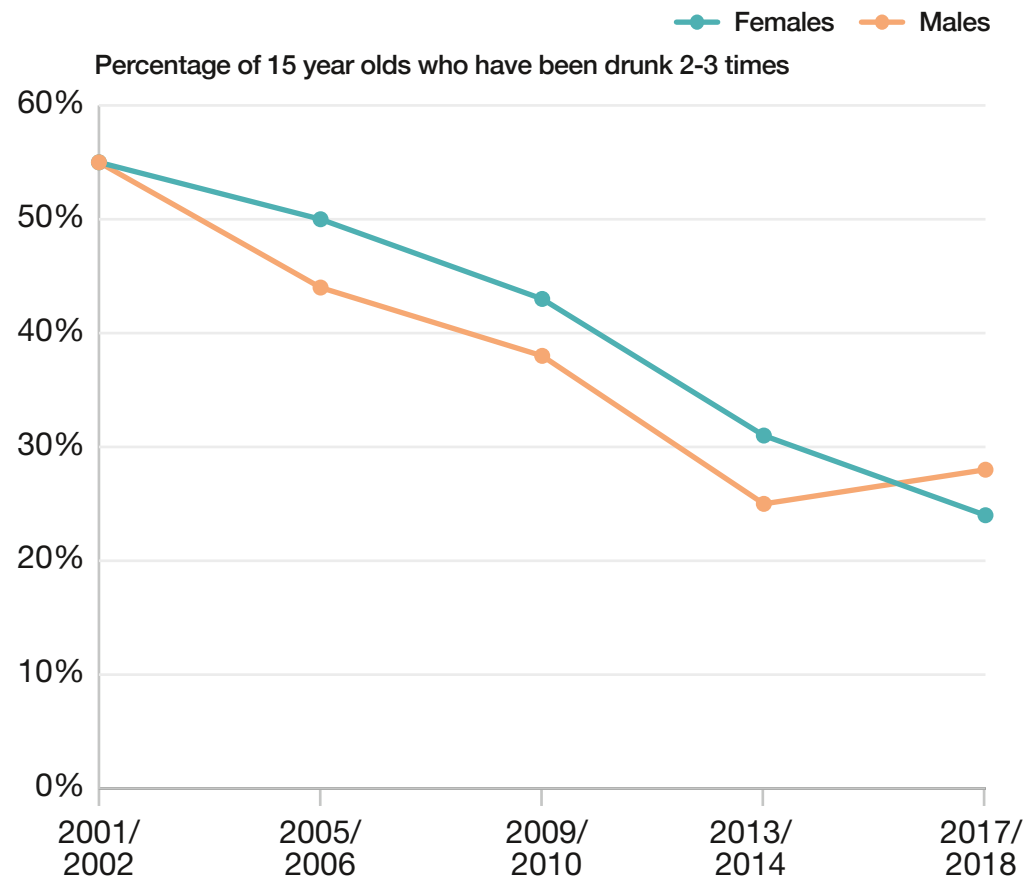
Proportion of 15-year-olds in England who have been drunk 2-3 times (WHO, Health Behaviour in School-aged Children Survey)

Source: Source: Royal College of Paediatrics and Child Health (2020), _State of Child Health, Health behaviours_

Chief Medical Officer's
Annual Report **2020**

Exec Summary   **Life Expectancy**   **Mortality & Morbidity**   **Children**   **Wider Determinants**   **Risk Factors**   **Healthcare**

Prevalence of mental health disorders in children has increased.

3.11 Mental illness in children
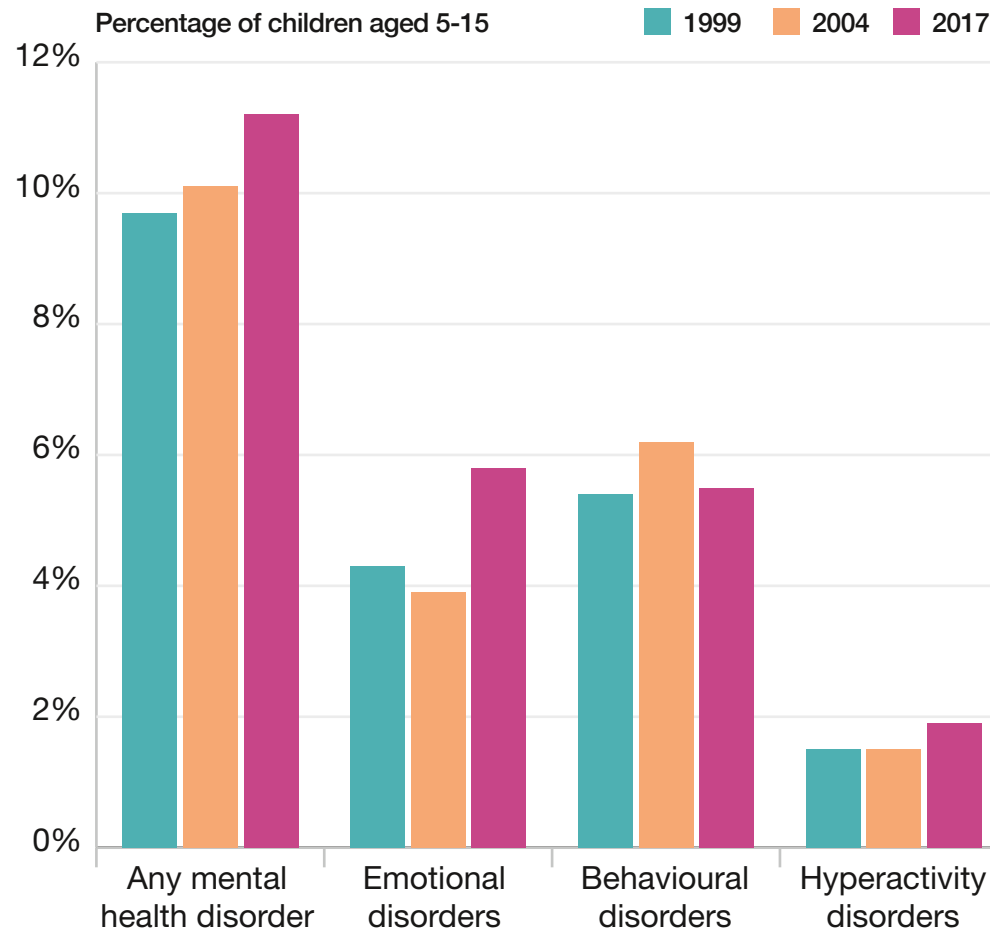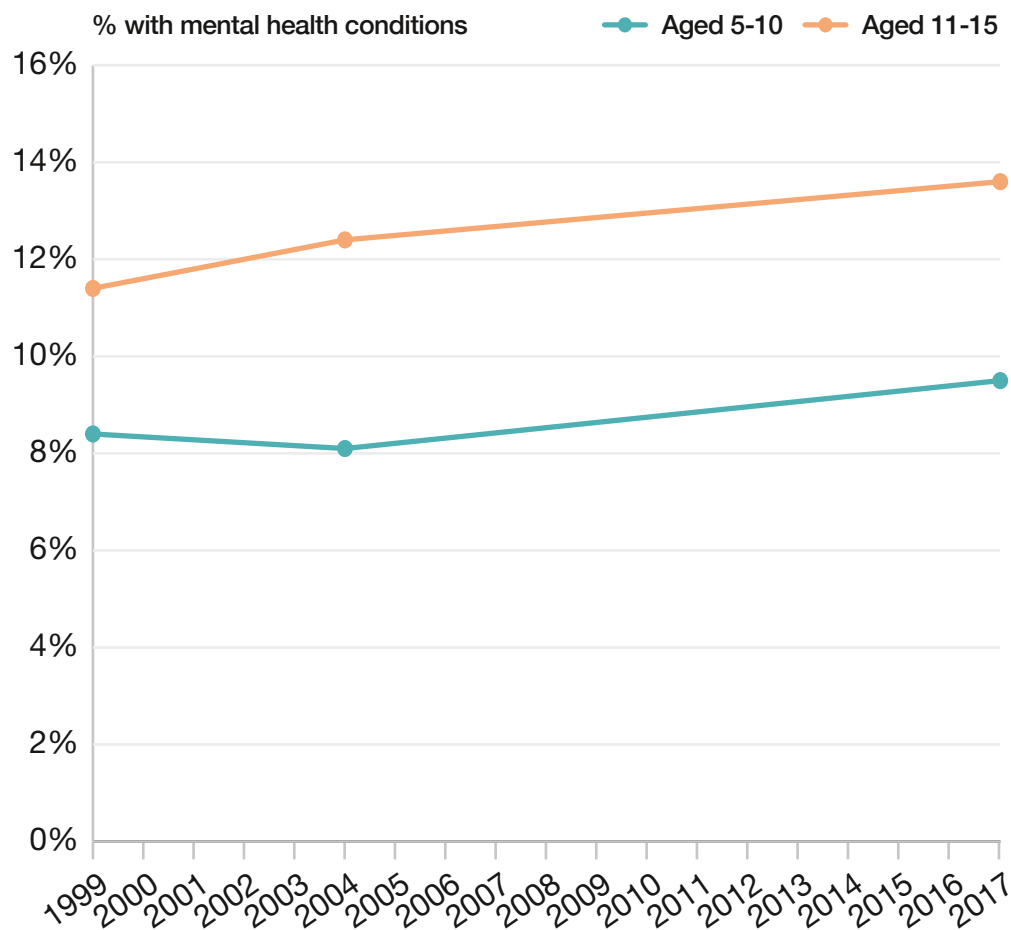
Proportion of children aged 5-15 years with mental health conditions over time (left) and by condition (right), England, (Mental Health of Children and Young People Survey)

Source: Royal College of Paediatrics and Child Health (2020), _State of Child Health, Mental Health_

Hospital admissions due to self harm in young people have increased.

3.12 Self-harm in young people
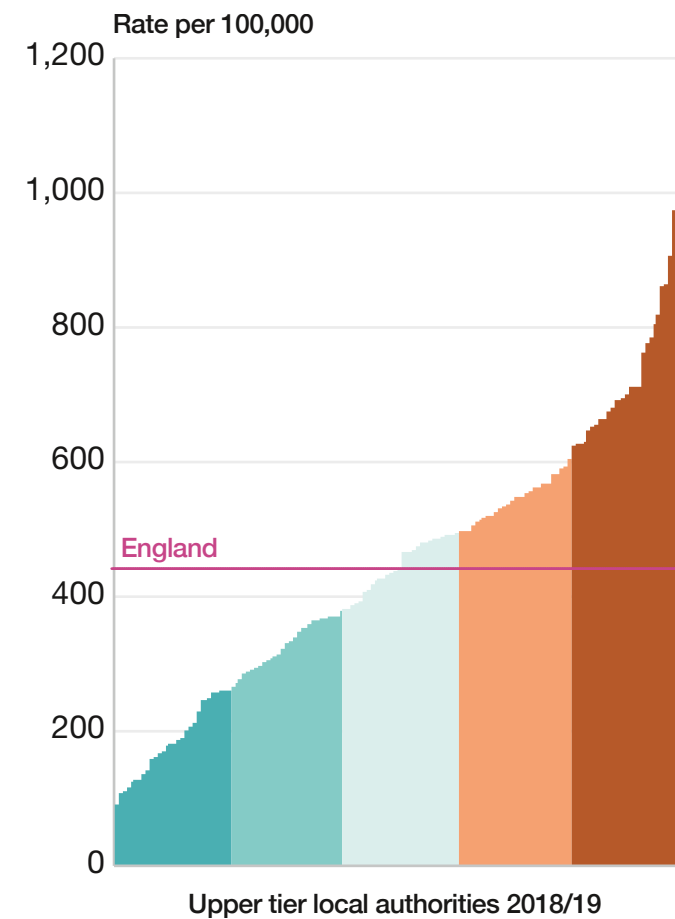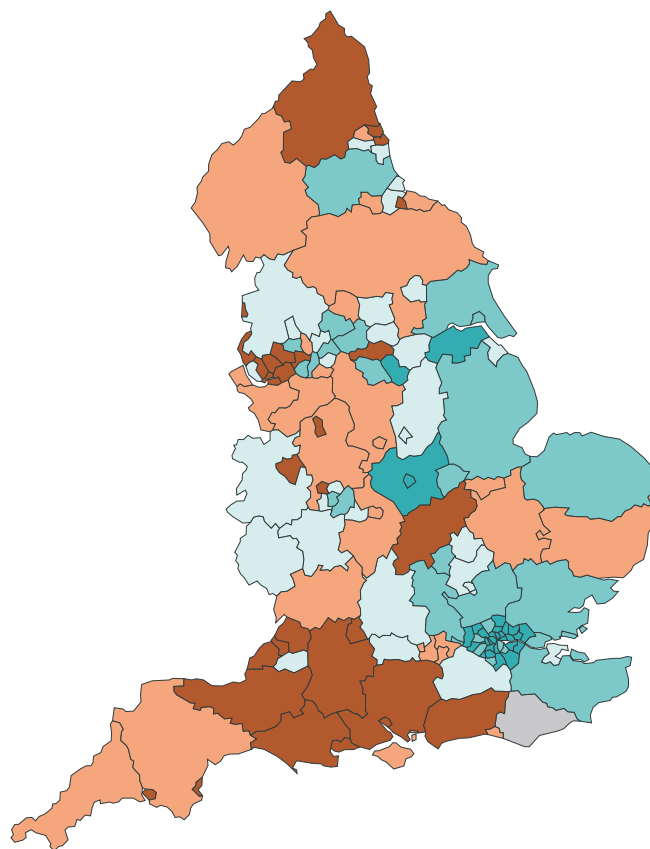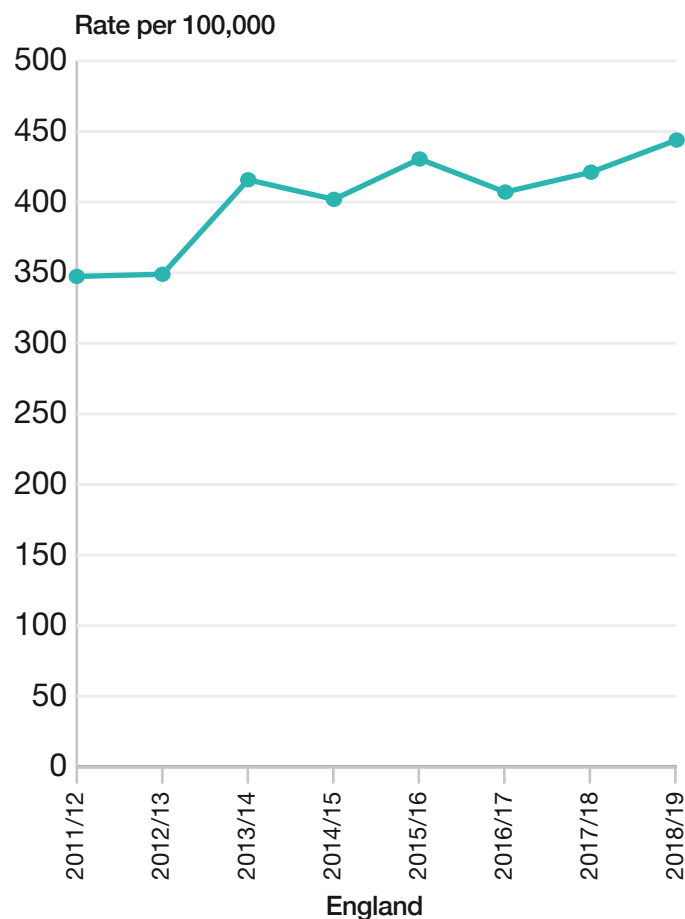
Hospital admissions as a result of self-harm (10-24 years). Directly age-standardised rate of finished hospital admission episodes for self-harm per 100,000 population aged 10-24 years, for England, 2011/12 to 2018/19 (left) and for upper tier local authorities, 2018/19 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Child and Maternal Health*

Child and adolescent mortality has generally fallen since 2001.

3.13 Child and adolescent mortality
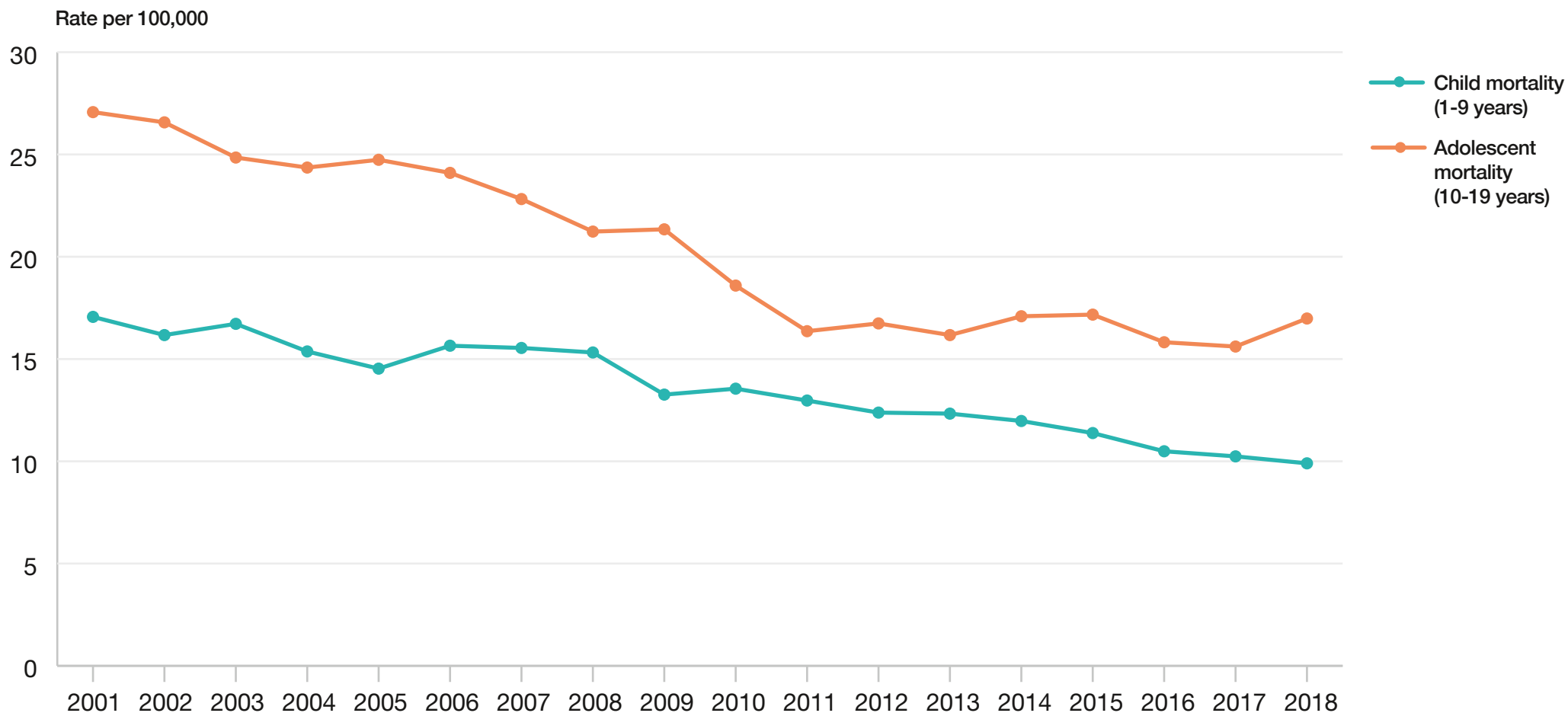
Rate per 100,000

Child mortality rate (1-9 years) and adolescent mortality rate (10-19 years) per 100,000 population, England and Wales, 2001-2018

Source: Royal College of Paediatrics and Child Health (2020), *State of Child Health, Mortality*

Cancer and accidents are now the leading cause of death in children.

3.14 Leading causes of death in children
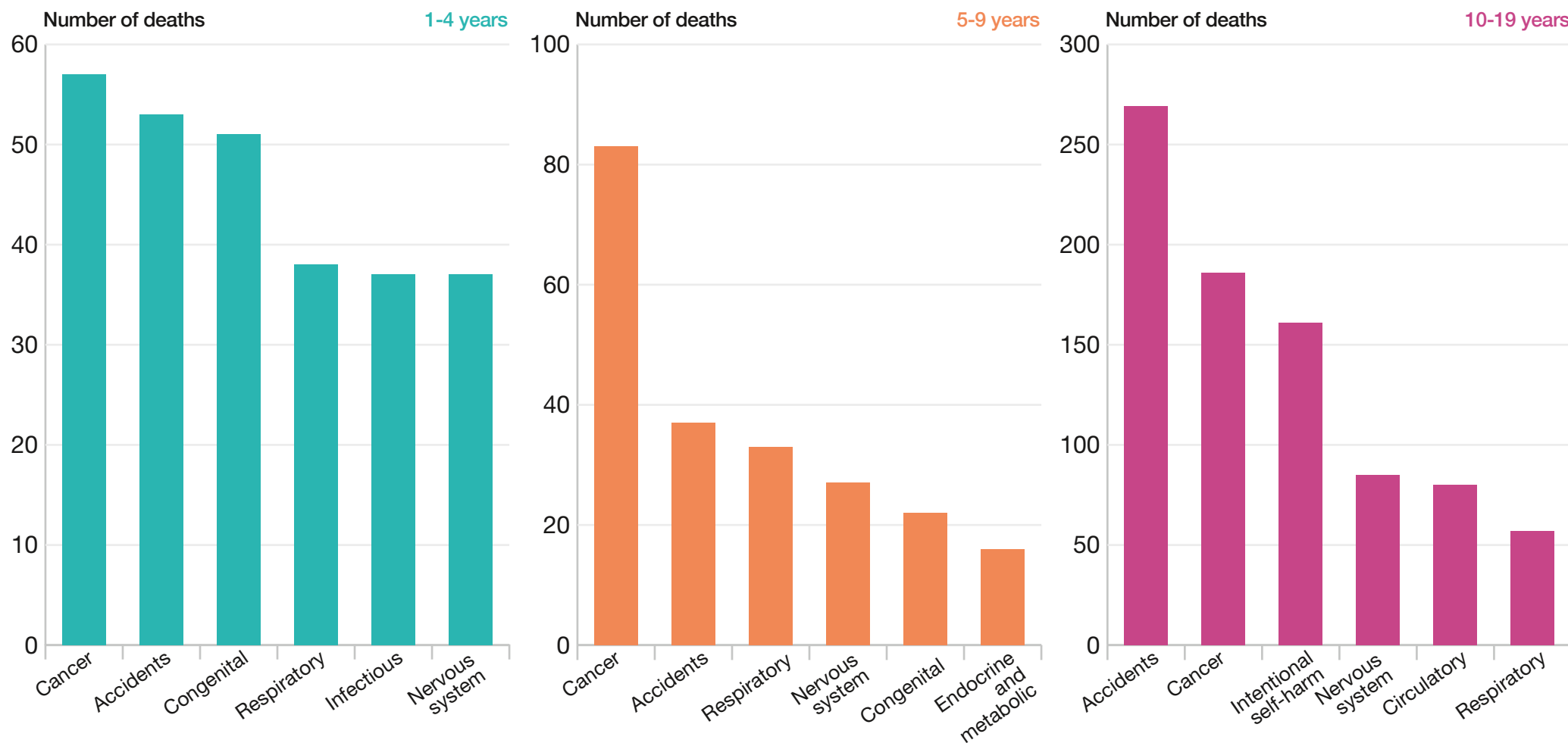
Leading causes of death in children by age group, England and Wales, 2018

Source: Royal College of Paediatrics and Child Health (2020), _State of Child Health, Mortality_

Cancer survival in children has gradually improved over time.

3.15 Cancer survival in children
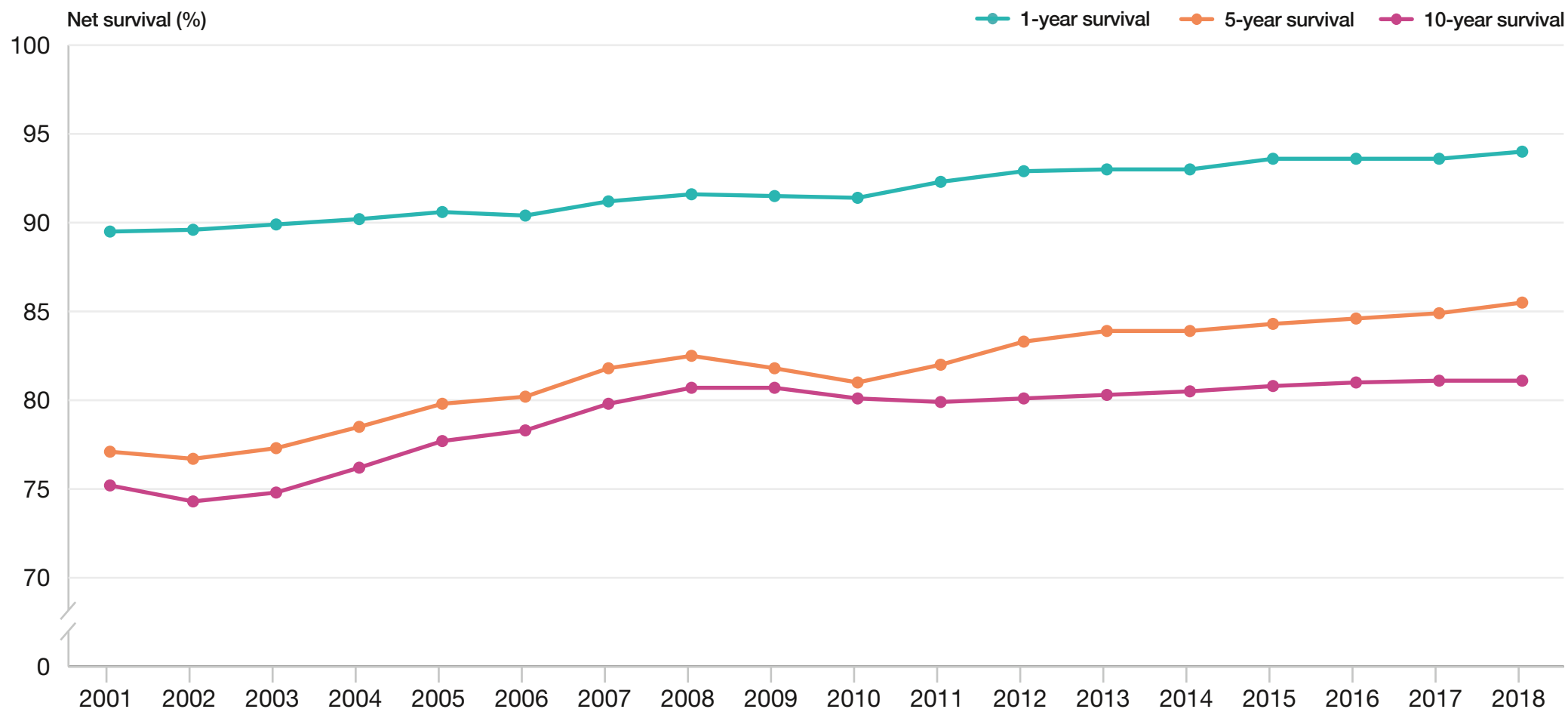
Smoothed trends in 1-, 5- and 10-year age-standardised survival (%) for children (aged 0 to 14 years) diagnosed with cancer in England between 2001 and 2018

Source: Office for National Statistics (2019), *Cancer survival in England: adult, stage at diagnosis and childhood – patients followed up to 2018*

Chapter 4.
Wider determinants of health

Chart List

Chief Medical Officer's
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Exec Summary   **Life Expectancy**   **Mortality & Morbidity**   **Children**   **Wider Determinants**   **Risk Factors**   **Healthcare**

Higher levels of socioeconomic deprivation are generally seen in urban areas, but rural and coastal deprivation is often hidden.

4.1 Deprivation by geographical level

Upper tier LA
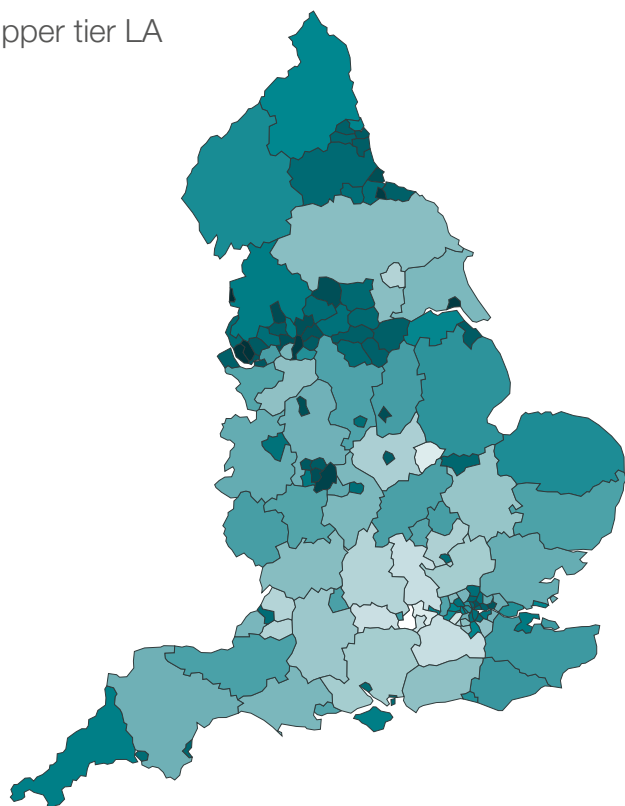
Lower tier LA
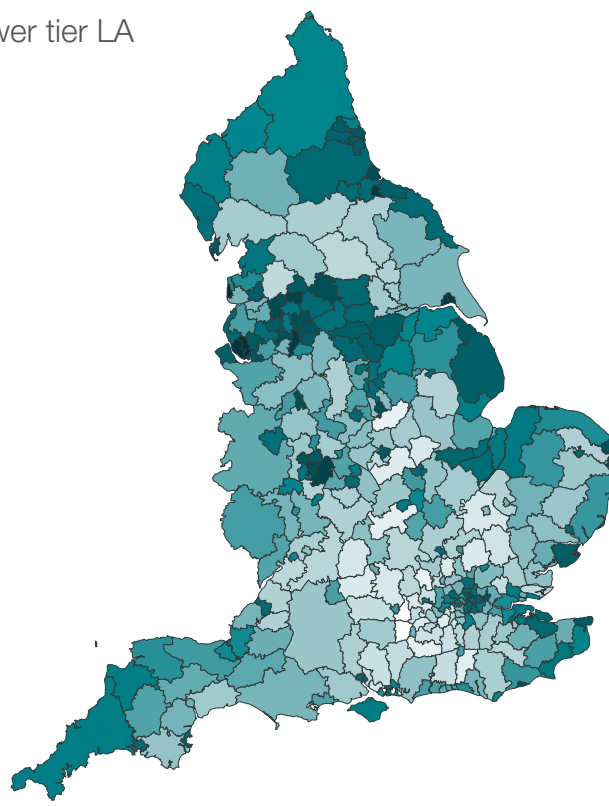
LSOA

Least Deprived (Lowest average IMD Score) — Most Deprived (Greatest average IMD Score)

Index of Multiple Deprivation (2019) scores for upper tier local authorities (left), lower tier local authorities (centre) and lower super output areas (LSOAs) (right)

Source: Department of Health and Social Care analysis of ONS data – *English Indices of Deprivation 2019*

Life expectancy is lower in more deprived areas. In recent years, life expectancy has improved at a faster rate in affluent areas than in deprived areas.

4.2 Trend in life expectancy by deprivation
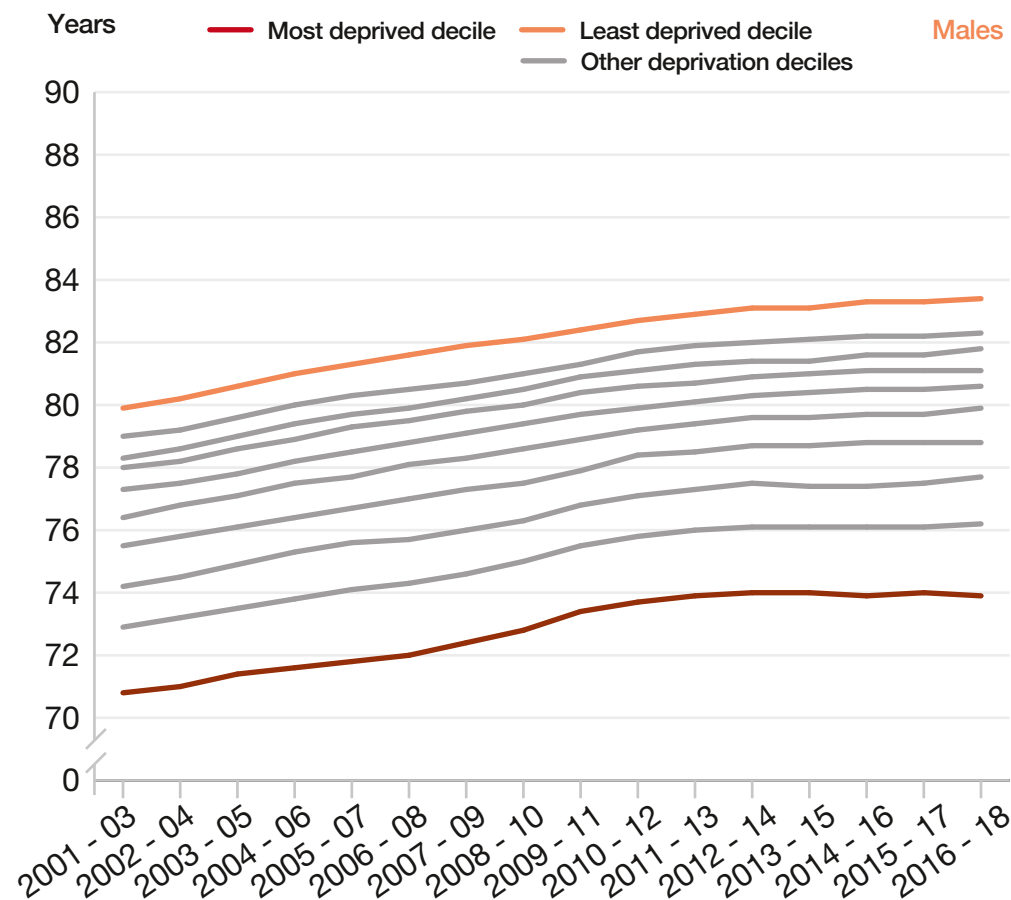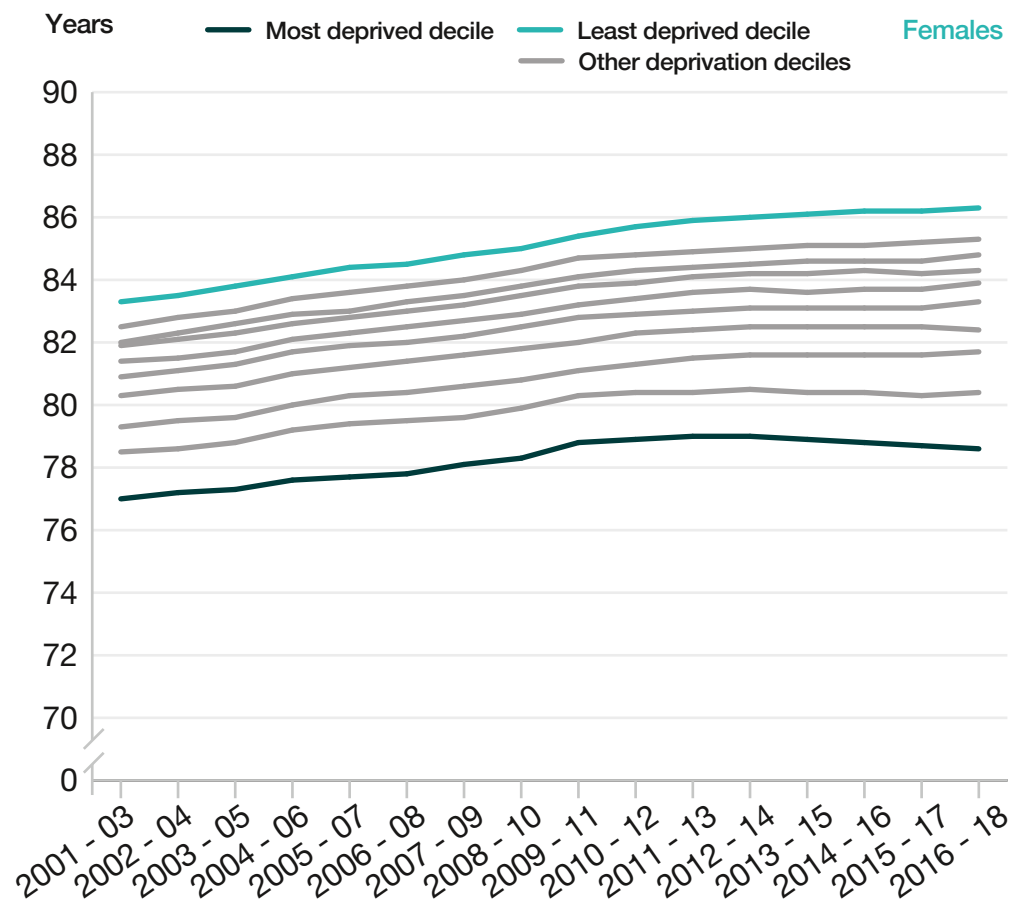
Life expectancy at birth by deprivation decile (IMD trend at LSOA level) for females (left) and males (right), England, 2001-03 to 2016-18

Source: Public Health England (2019), *Public Health Profiles, Wider Determinants of Health*

The overall gap in life expectancy between the most and least deprived areas has increased.

4.3 Inequality in life expectancy

Gap in life expectancy (years)
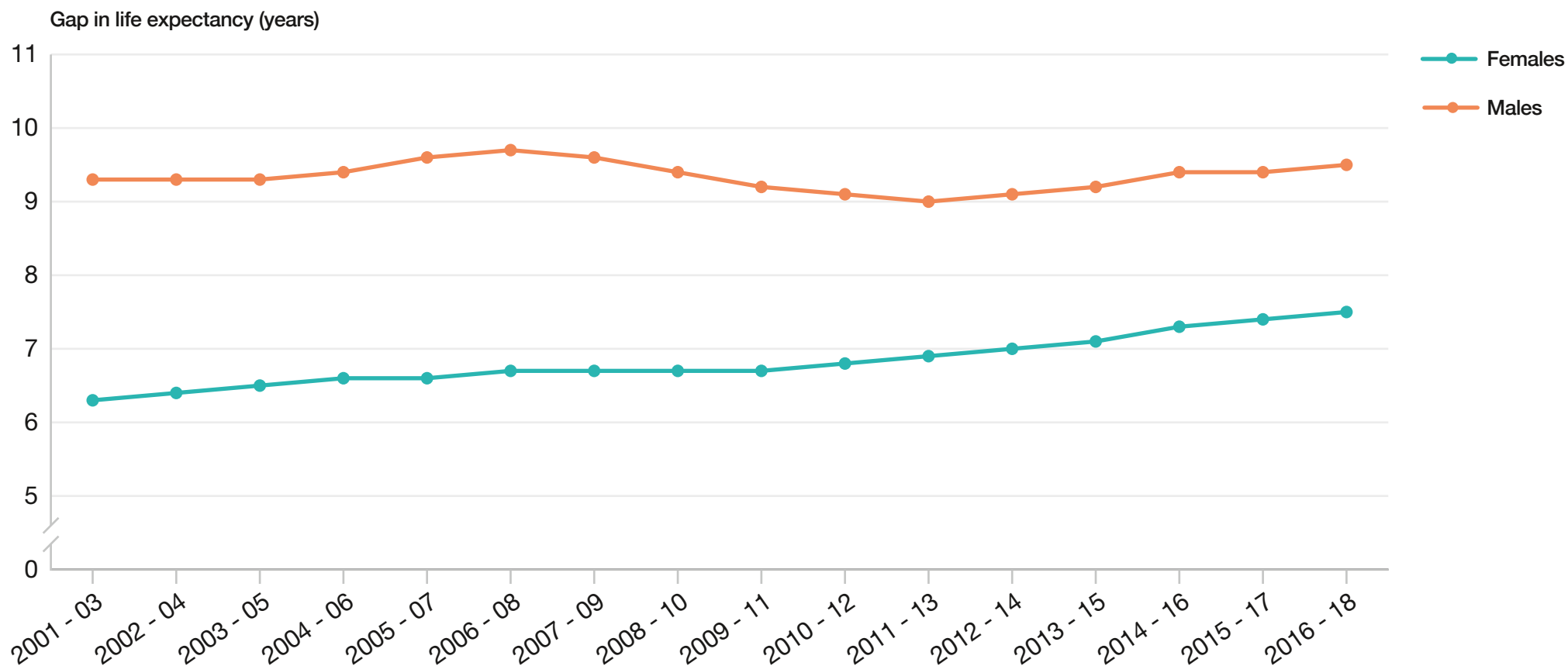
Inequality in life expectancy at birth (gap between the most and least deprived) based on the sloped index of inequality (SII) for deprivation deciles (IMD2019) at lower super output area (LSOA) level, for males and females, England

Source: Public Health England (2019), *Public Health Profiles, Wider Determinants of Health*

More deprived populations also spend a greater proportion of their life in poor health.

4.4 Healthy life expectancy by deprivation
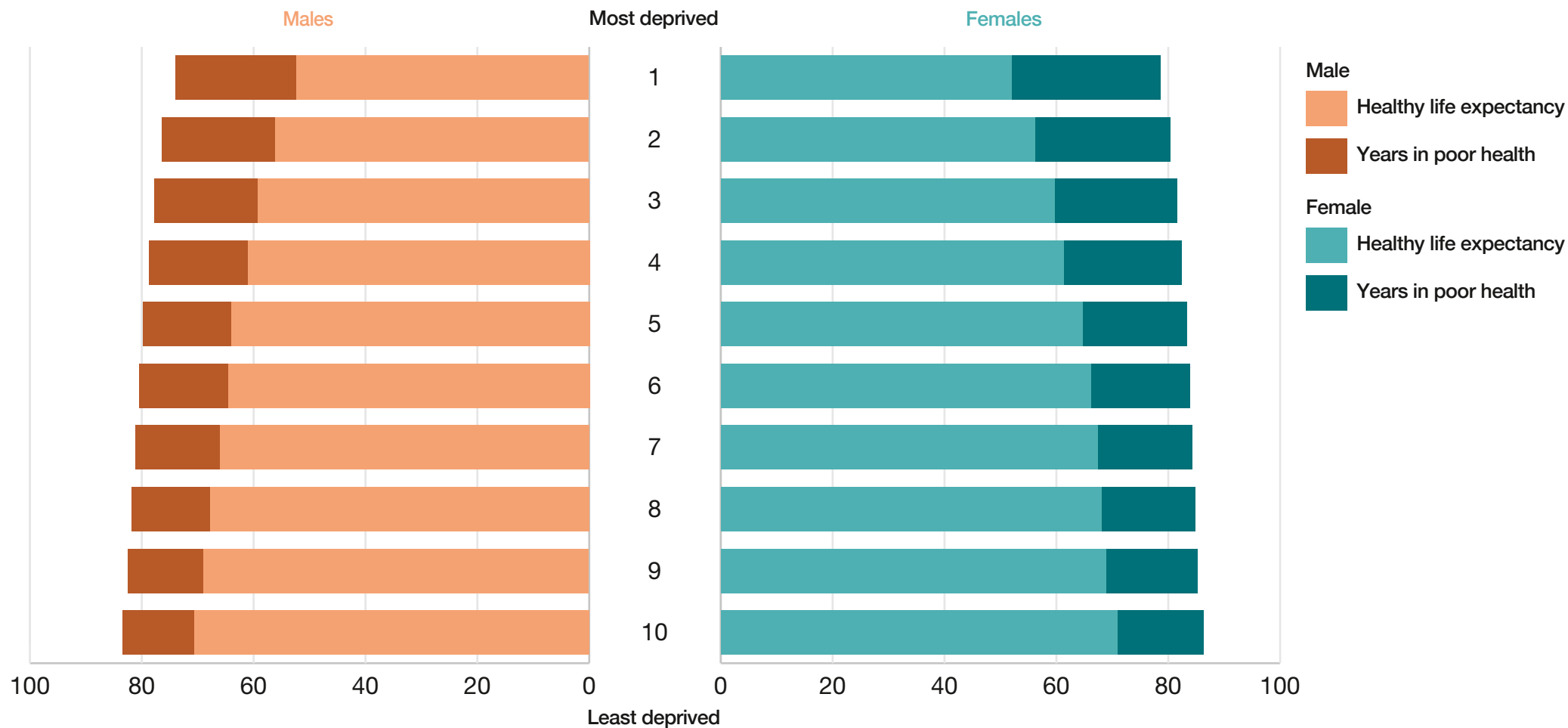
Life Expectancy and healthy life expectancy in years by age, sex and deprivation decile in England, 2016-2018

Source: Office for National Statistics (2020), *Health state life expectancies by national deprivation deciles, England 2016 to 2018*

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Health risks and outcomes vary by ethnic group.

4.5 Ethnicity and health

Indicator	Asian					Mixed					Black				White						Other			
	Indian	Bangladeshi	Pakistani	Asian – Other	Asian	Mixed – White and African	Mixed – White and Caribbean	Mixed – White and Asian	Mixed – Other	Mixed	Black Caribbean	Black African	Black – Other	Black	White British	White Irish	Gypsy/Roma	Travellers of Irish Heritage	White – Other	White	Chinese	Other	Not stated	Unknown
Infant Mortality																								
Low birthweight of term babies																								
Proportion of five year old children with dental decay																								
Child excess weight in 4-5 year olds																								
Child excess weight in 10-11 year olds																								
Alcohol related hospital admissions (male)																								
Alcohol related hospital admissions (female)																								
Prevalence of smoking (male aged 18 years and over)																								
Prevalence of smoking (female aged 18 years and over)																								
Incidence of tuberculosis (TB) (UK born)																								
Incidence of tuberculosis (TB) (non-UK born)																								
Percentage reporting self harm																								
Percentage reporting suicide attempts																								
Percentage reporting suidical thoughts																								
Self reported wellbeing – low life satisfaction																								
Children in low income families (aged under 20)																								
Readiness for school																								
Employment rate																								

Legend:
- Significantly better than England
- No significant difference
- Significantly worse than England
- Worse than England (no significance could be calculated)
- Better than England (no significance could be calculated)
- Data not available

Summary of health indicators by ethnic group

Source: Public Health England (2017), *Public Health Outcomes Framework: Health Equity Report, focus on ethnicity*

The proportion of children achieving a good level of development by the end of Reception Year (age 4-5) has increased, but variation remains.

4.6 Early years development – school readiness
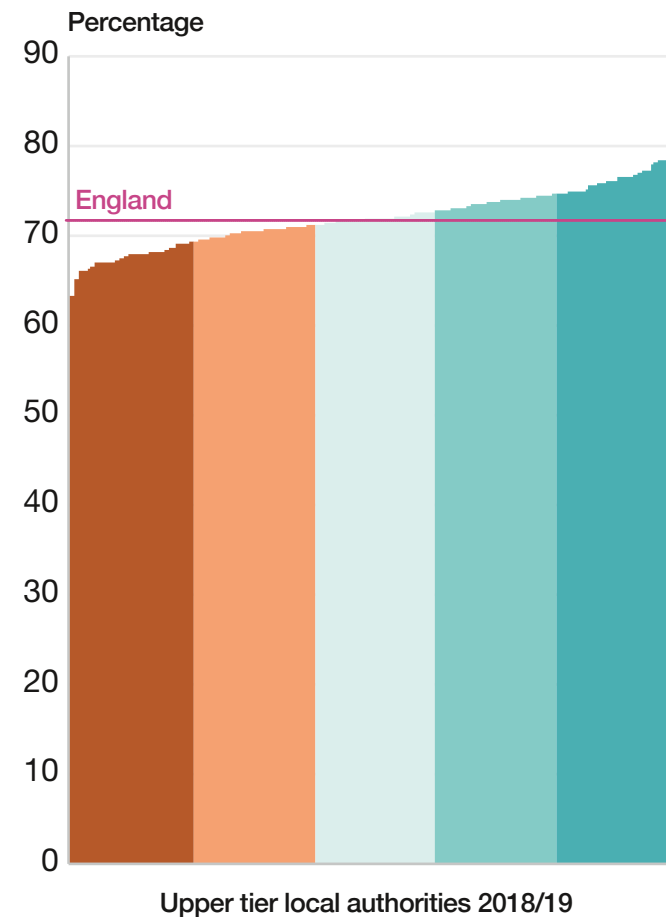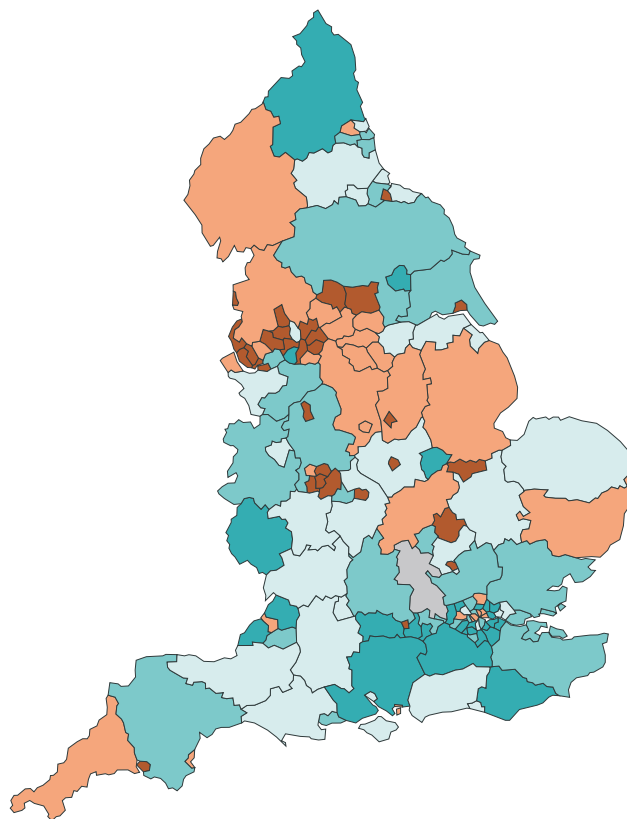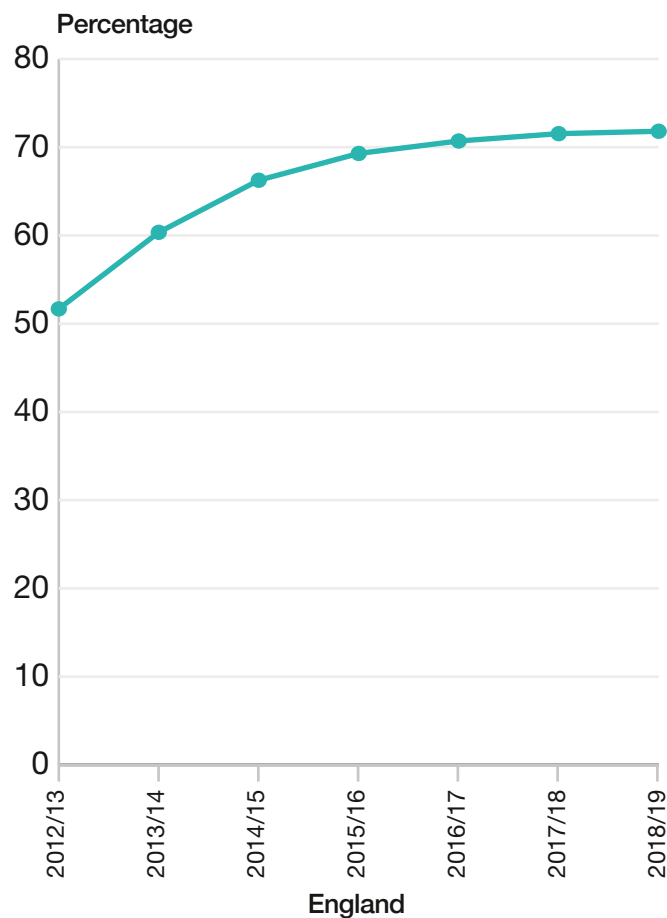
School readiness. The percentage of children achieving a good level of development at the end of Reception, for England, 2012/13 to 2018/19 (left) and for upper tier local authorities, 2018/19 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Wider Determinants of Health*

People with lower incomes are more likely to experience poor health.

4.7 Income and health

Percentage reporting health is not good

Self-rated health:
- Very bad
- Bad
- Fair

X-axis: Deciles of net household income after housing costs (1st (poorest) to 10th (richest))
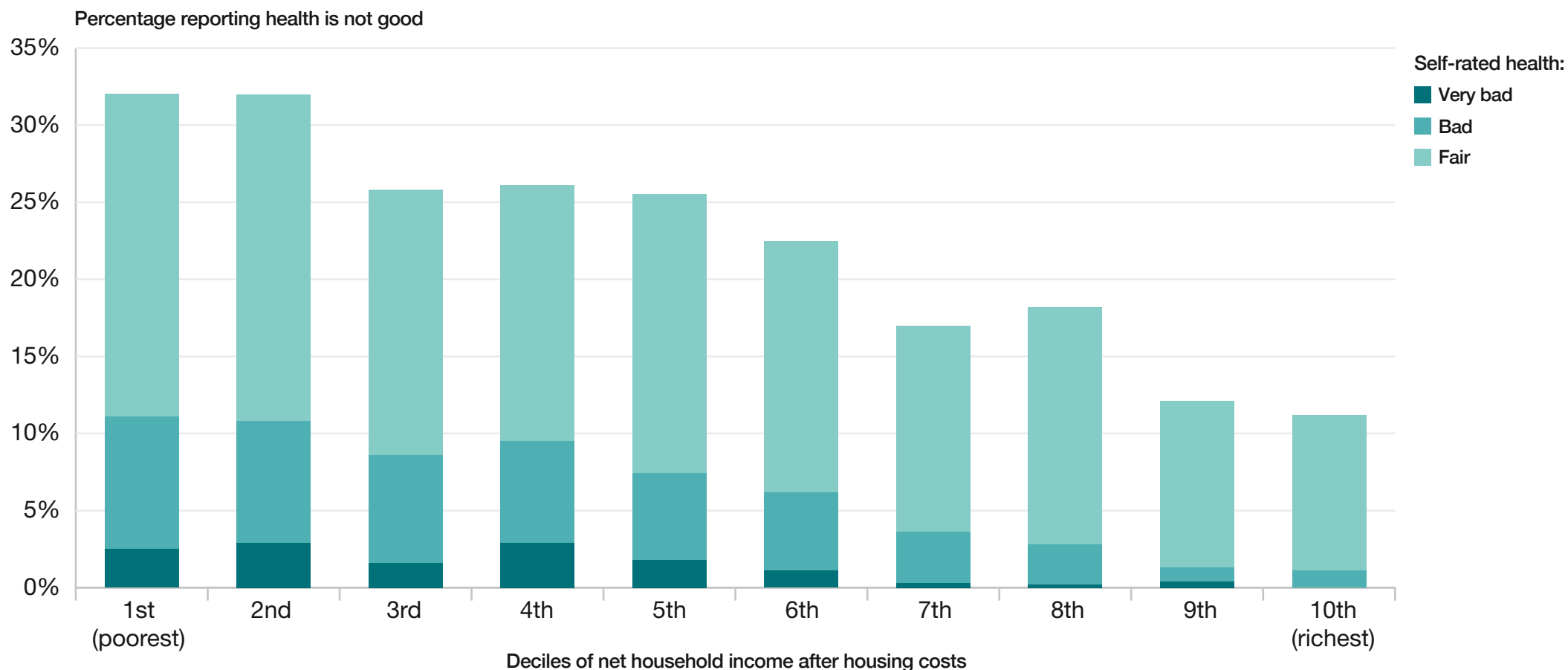
Self-rated health by household income 2018/19 (adults under 55 years of age). Analysis of DWP data

Source: The Health Foundation (2020), *Living in poverty was bad for your health long before COVID-19*

Trends in working-age and childhood poverty have remained relatively flat. Pensioner poverty has decreased since the 1990s.

4.8 Poverty trends

Percentage of people in households below 60% of median income after housing costs
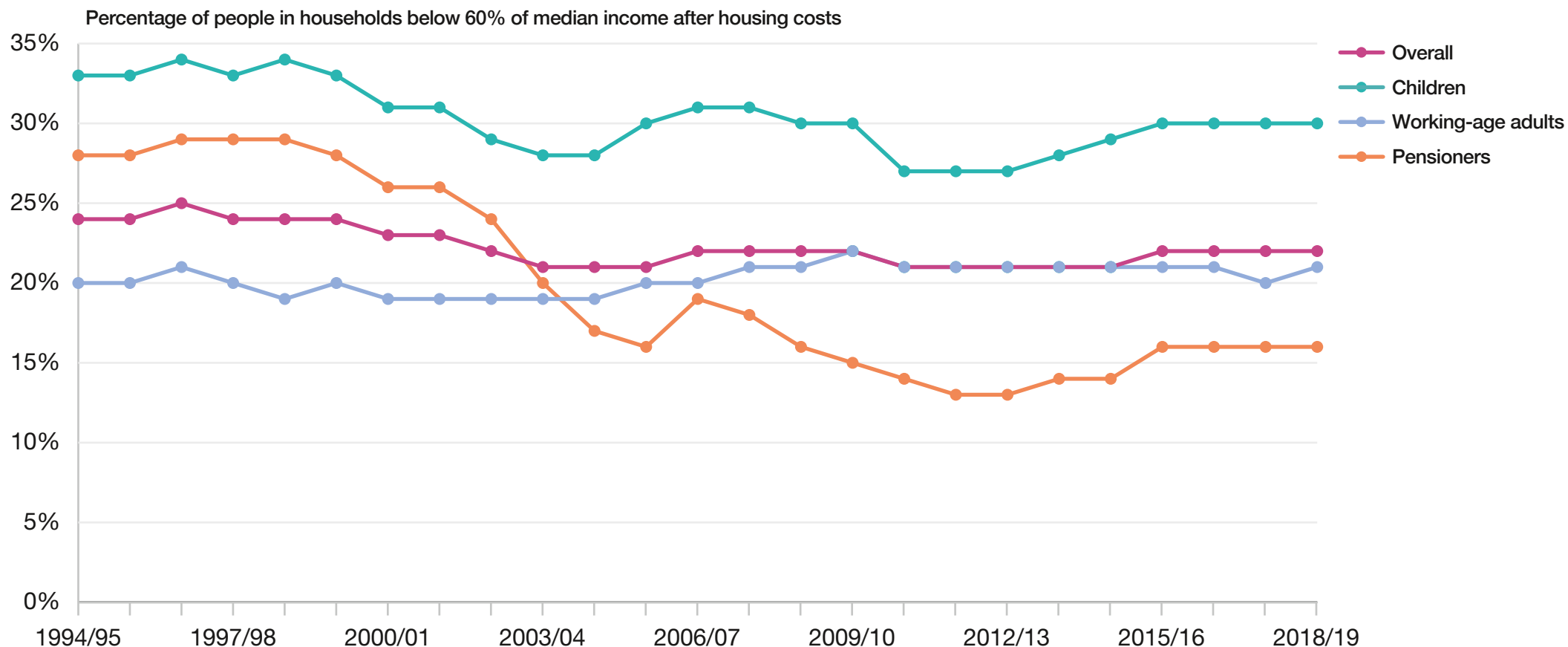
Poverty rates by household type (percentage of households below 60% of median income). Analysis of DWP data

Source: The Health Foundation (2020), _Living in poverty was bad for your health long before COVID-19_

Low job quality is associated with poorer health.

4.9 Job quality and health

Percentage of employees aged 18-55

Legend: Poor health, Fair health

Categories: All employees, Low pay, Low job autonomy, Low job wellbeing, Low job security, Low job satisfaction
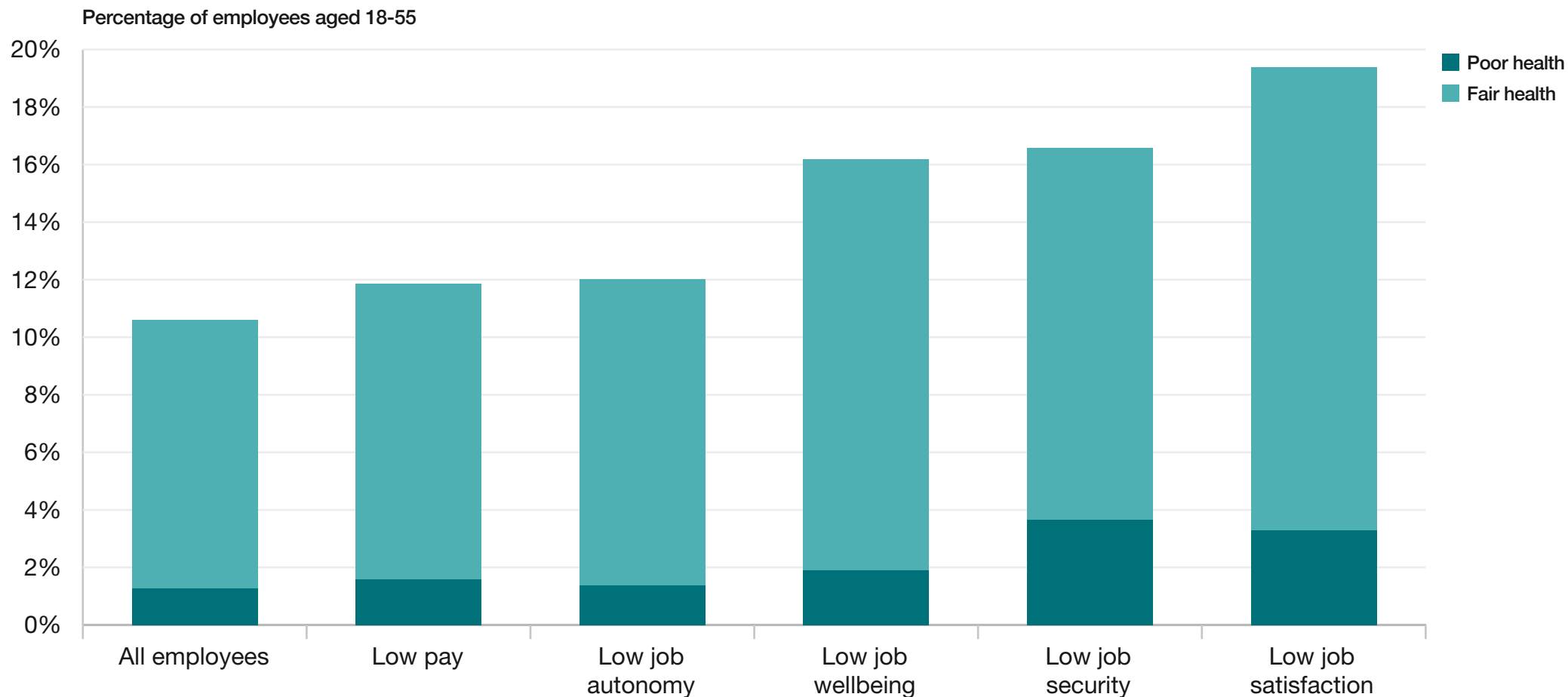
Proportion of employees aged 18-55 years with different low quality job aspects reporting non-good health, UK, 2016/17. Analysis from the UK Household Longitudinal Study

Source: The Health Foundation (2020), *What the quality of work means for our health*

The employment rate in people with a mental illness has increased, narrowing the gap with the general population.

4.10 Mental illness and employment
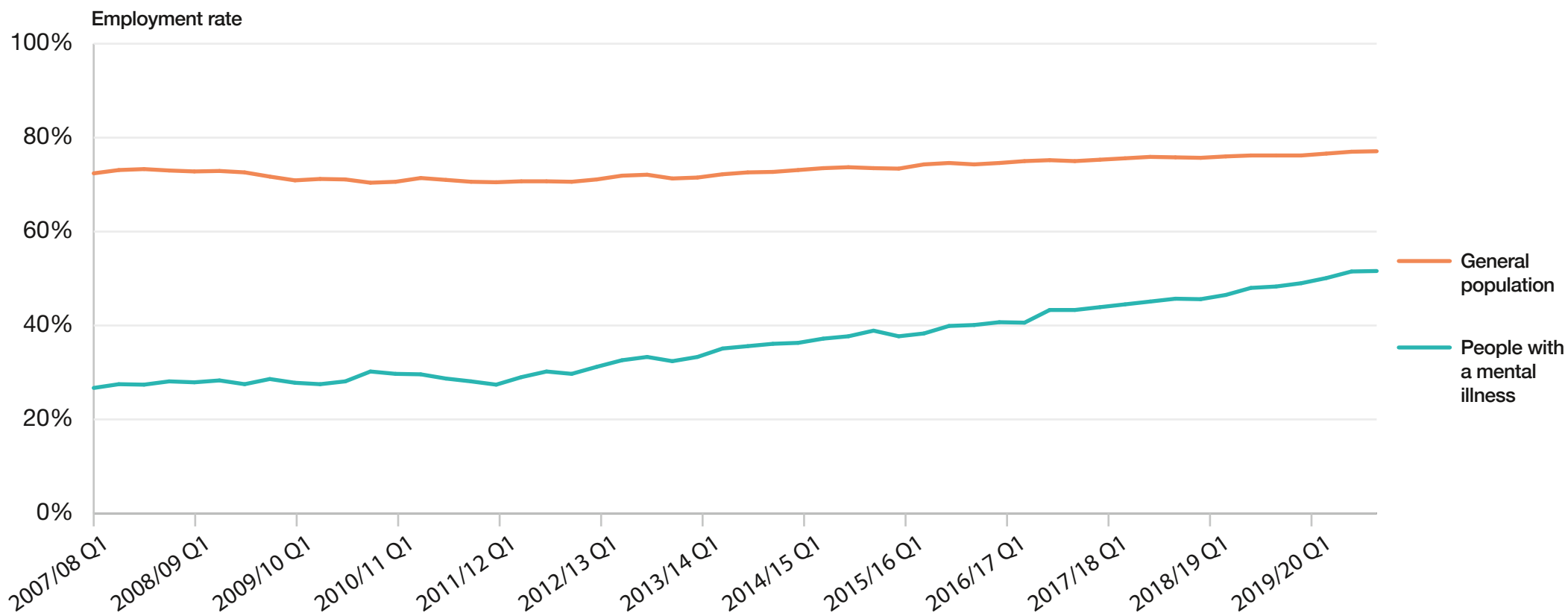
Employment rate

Employment rate in those with a mental illness compared to that in the general population (as self-reported in the Labour Force Survey) among adults aged 16-64, England. Analysis of NHS Digital, NHS Outcomes Framework Indicators, 2.5.i Employment of people with mental illness

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Supporting people in employment*

The employment rate is lower for people with long term conditions, and the gap has remained relatively stable over time.

4.11 Morbidity and employment
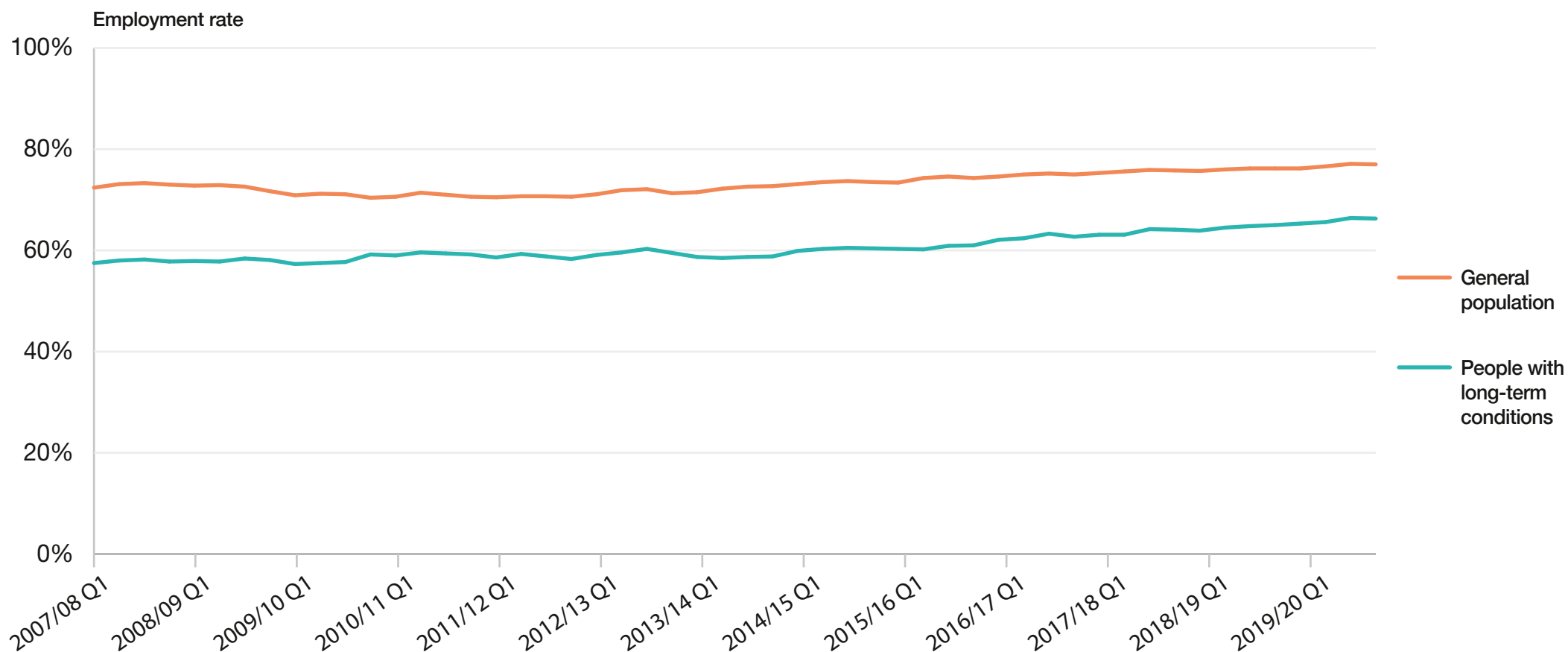
Employment rate in people with a long term condition compared to the general population, in adults of working age (16-64 years), England.

Analysis of NHS Digital, NHS Outcomes Framework Indicators, 2.2 Employment of people with long-term conditions

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Supporting people in employment*

Statutory homelessness has increased and is particularly high in London and the south east.

4.12 Homelessness
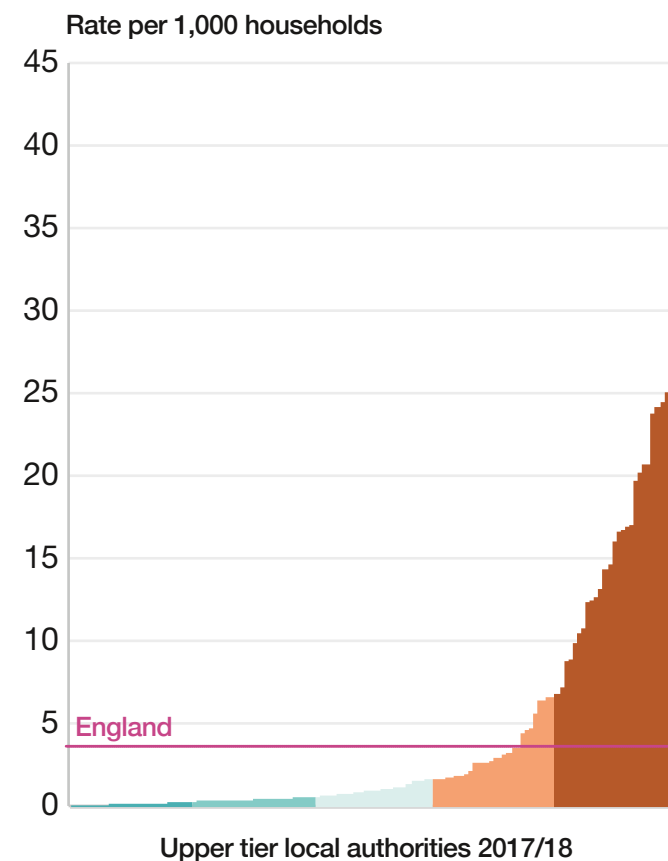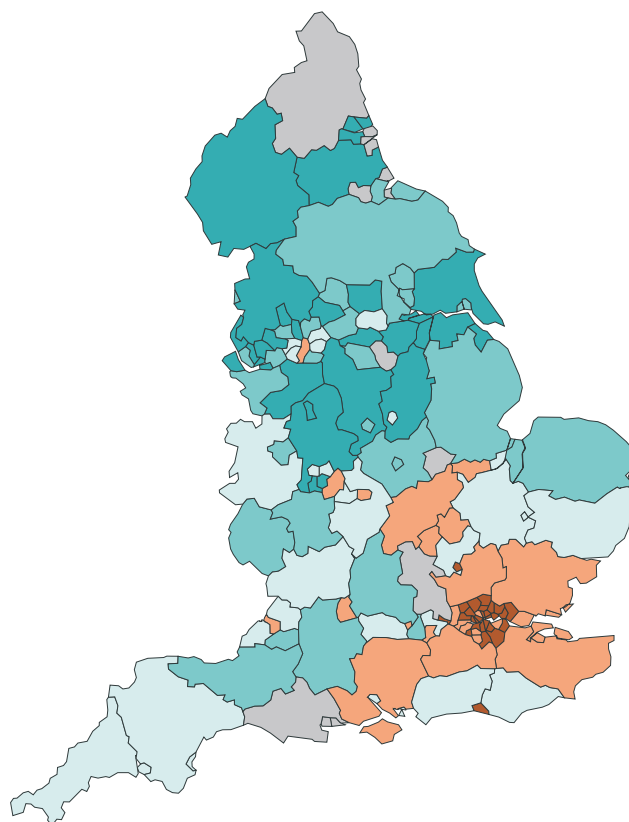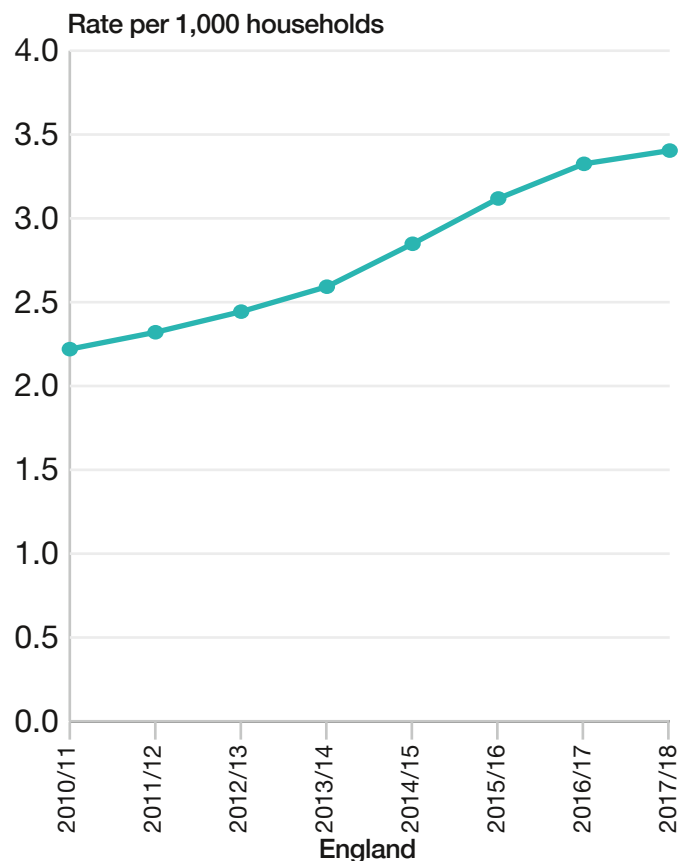
Statutory homelessness: Households in temporary accommodation, crude rate per 1,000 estimated total households, for England, 2010/11 to 2017/18 (left) and for upper tier local authorities, 2017/18 (centre and right)

Source: Public Health England (2018), *Public Health Profiles, Wider Determinants of Health*

Excess winter deaths fluctuate from year to year. There had been a long term declining trend, which has stabilised.

4.13 Excess winter deaths
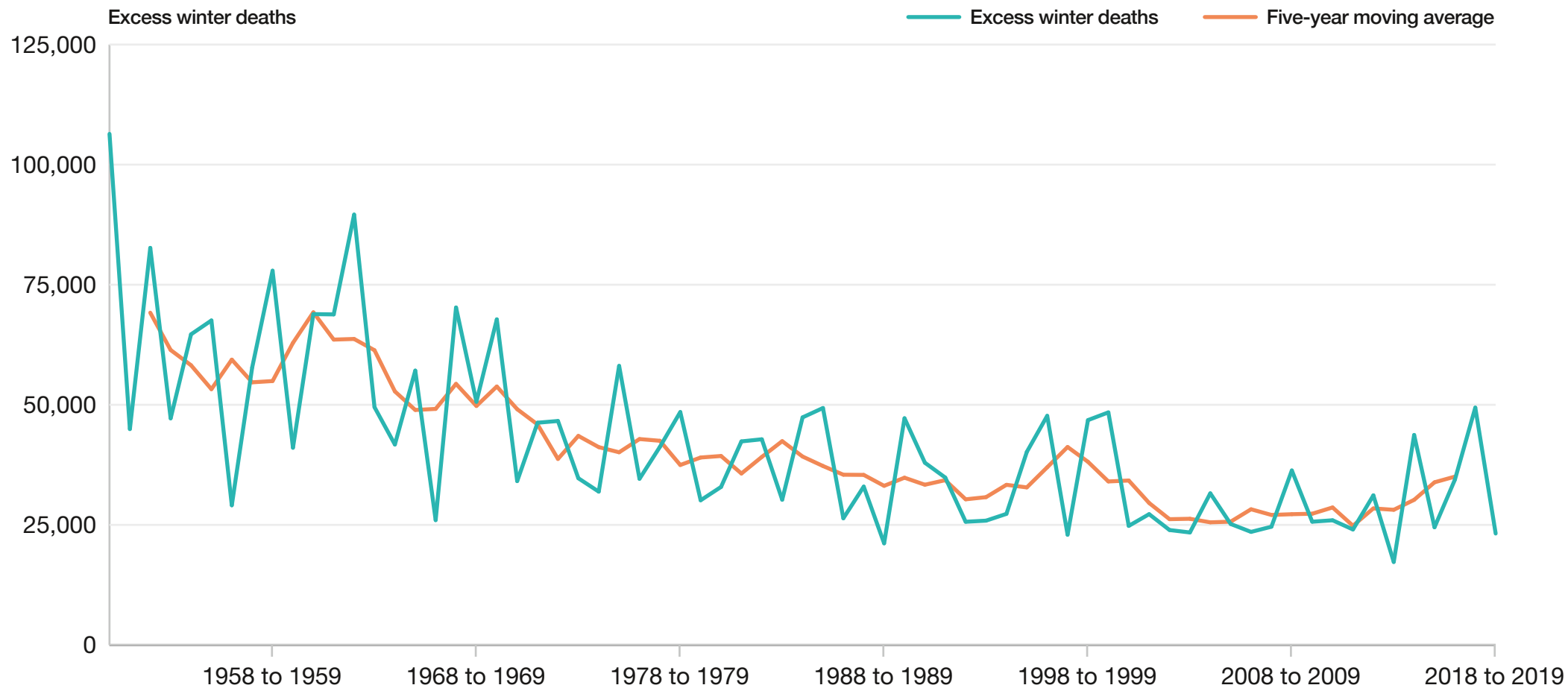
Excess winter deaths and five-year central moving average (based on death occurrences), England and Wales, 1950-1951 to 2018-2019

Source: Office for National Statistics (2019), *Excess winter mortality in England and Wales: 2018 to 2019 (provisional) and 2017 to 2018 (final)*

Air pollution levels are particularly high around London and the south east.

4.14 Air pollution

PM2.5 – micrograms per cubic metre (µg/m3)
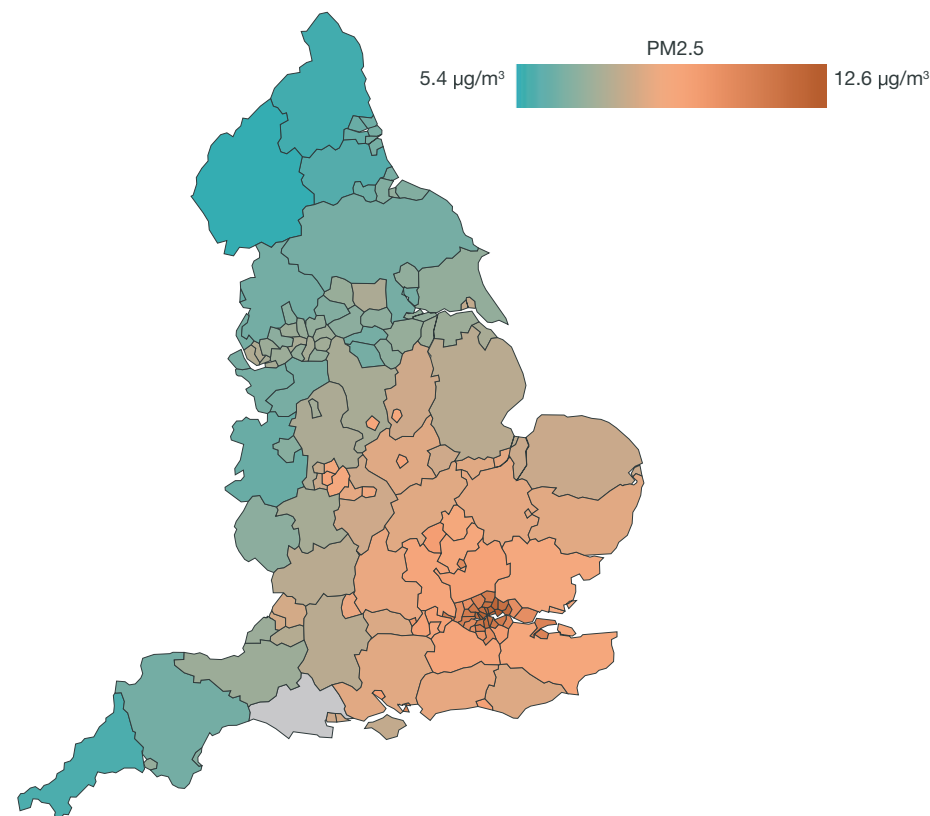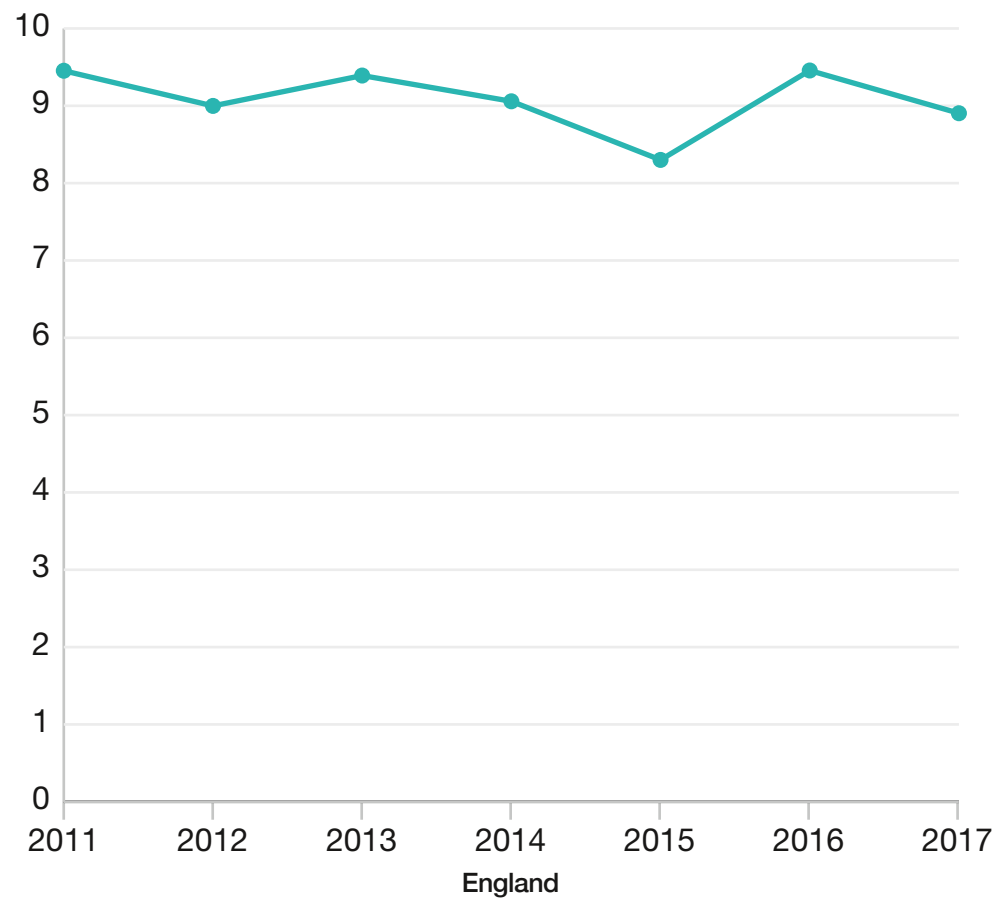
Air pollution: fine particulate matter (PM2.5) in micrograms per cubic metre (µg/m3, for England, 2011-2017 (left) and for upper tier local authorities, 2017 (right)

Source: Public Health England (2019), *Public Health Profiles, Wider Determinants of Health*

Over the long term, the level of pollutants in the atmosphere has fallen substantially over the last 50 years.

4.15 Air pollution trends by pollutant
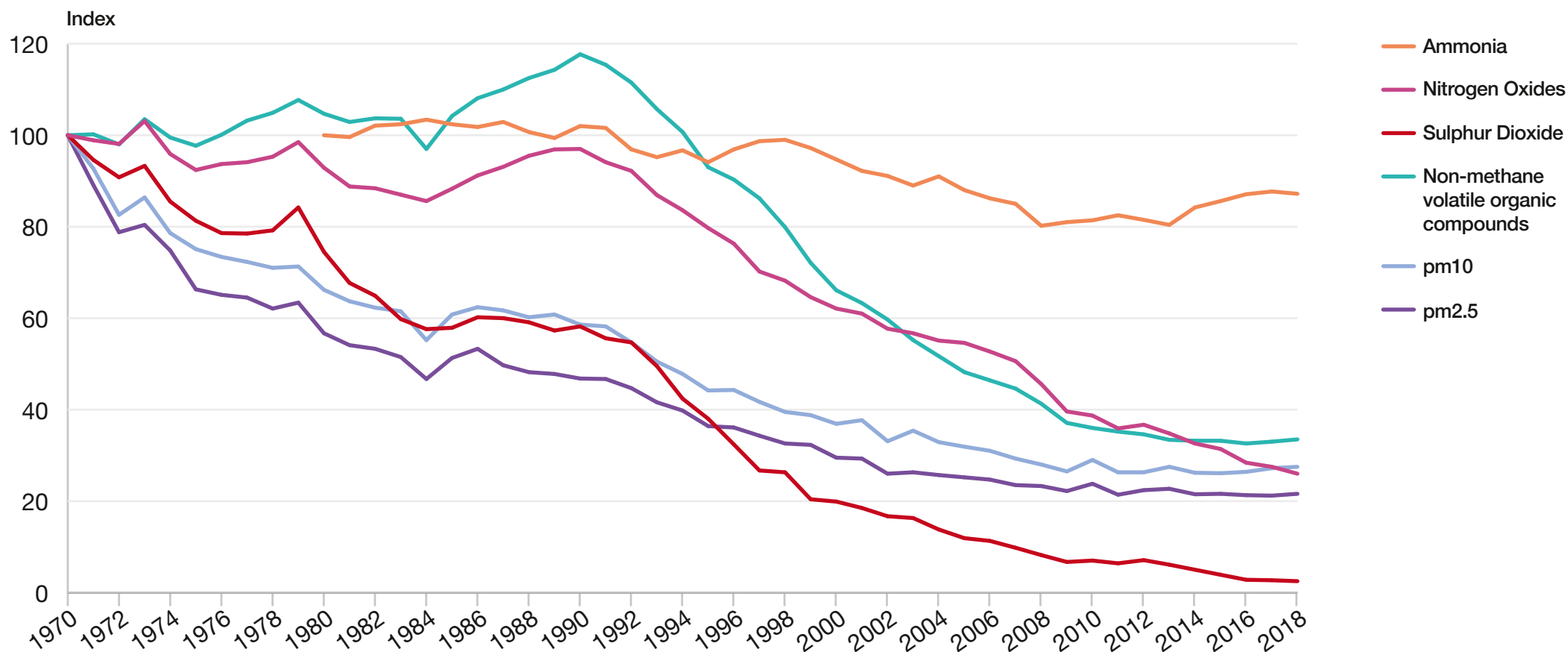
Trends in UK sulphur dioxide, nitrogen oxides, non-methane volatile organic compounds, ammonia and particulate matter (PM10, PM2.5) emissions, 1970-2018

Source: Department for Environment, Food & Rural Affairs (2020), _ENV01 – Emissions of air pollutants_

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Road traffic accident fatalities and casualties have decreased markedly over time.

4.16 Road traffic accidents
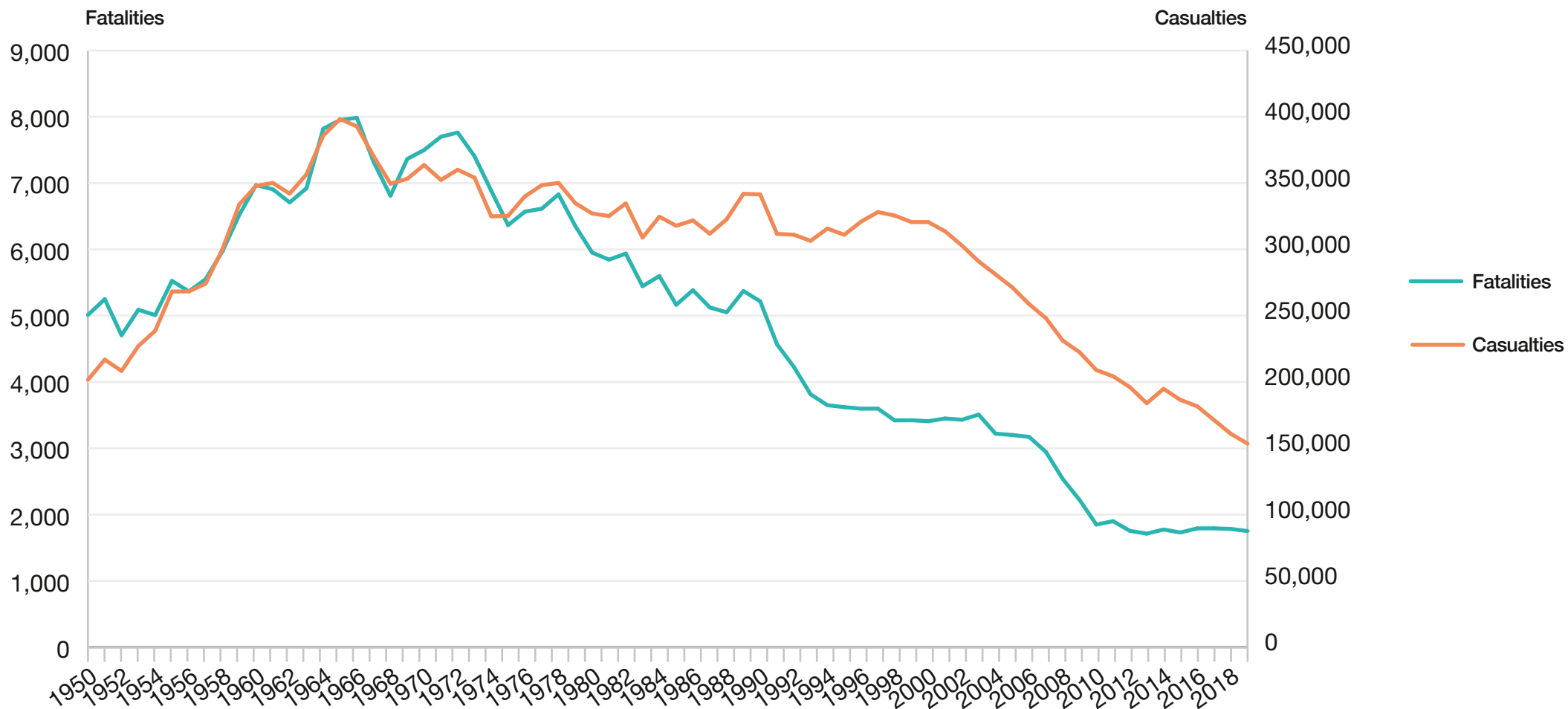
Fatalities and casualties in reported road accidents: GB, 1979-2019

Source: Department for Transport (2020), *Reported road casualties Great Britain, provisional results: 2019*

Chapter 5.
Risk factors and health promotion

Chart List

Smoking rates have continued to fall, though there is still wide geographic variation.

5.1 Smoking prevalence in adults
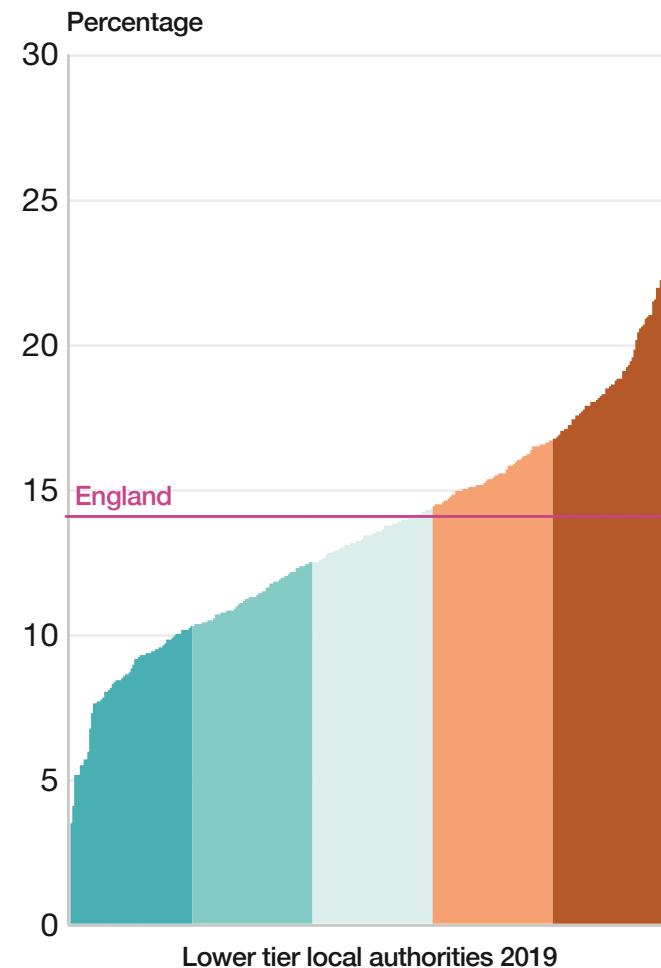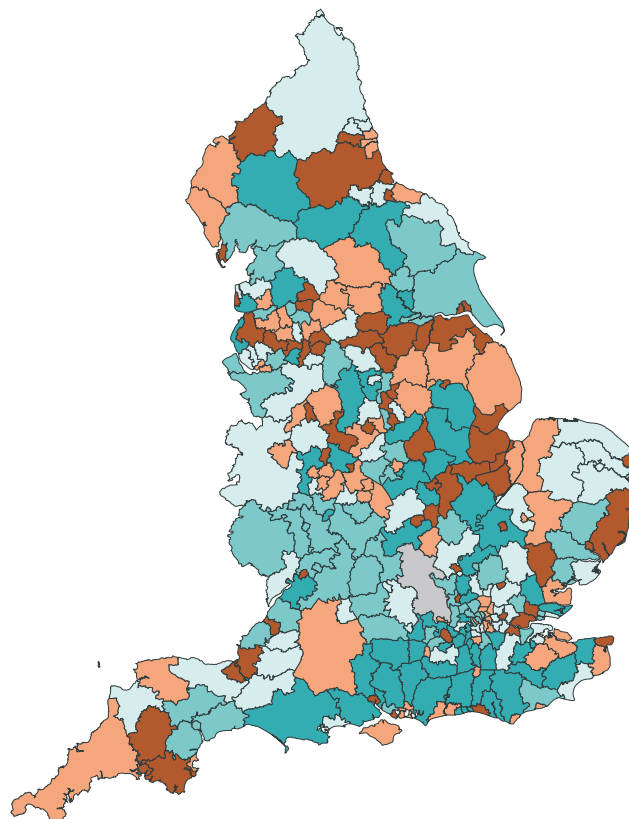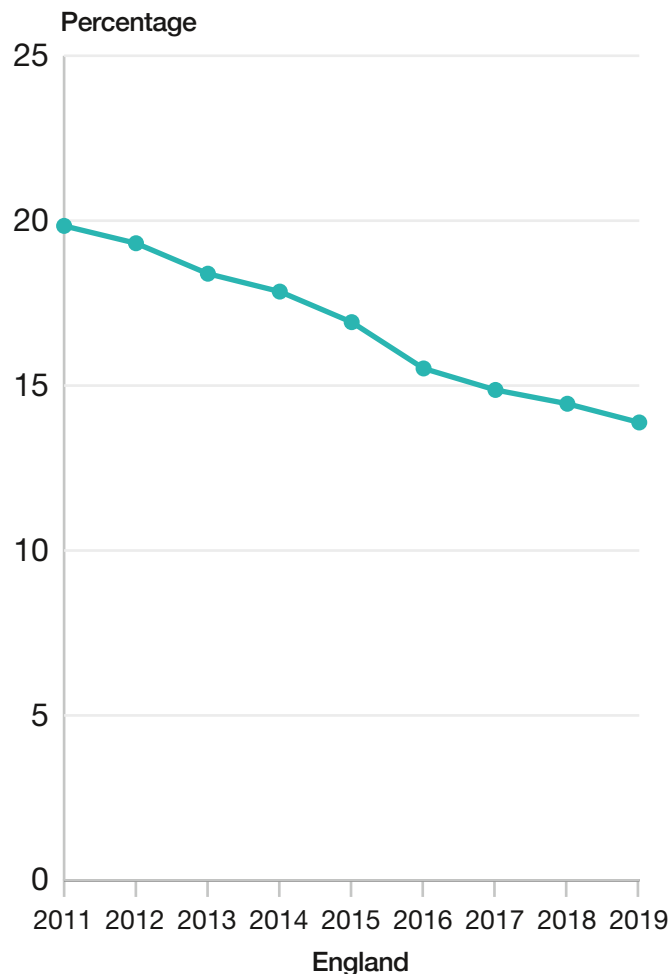
Smoking prevalence in adults: current smokers among persons 18 years and over from the Annual Population Survey, for England, 2011-2019 (left) and for lower tier local authorities, 2019 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Local Tobacco Control Profiles*

Smoking rates have also fallen in most comparable developed nations.

5.2 Smoking trends – international comparison
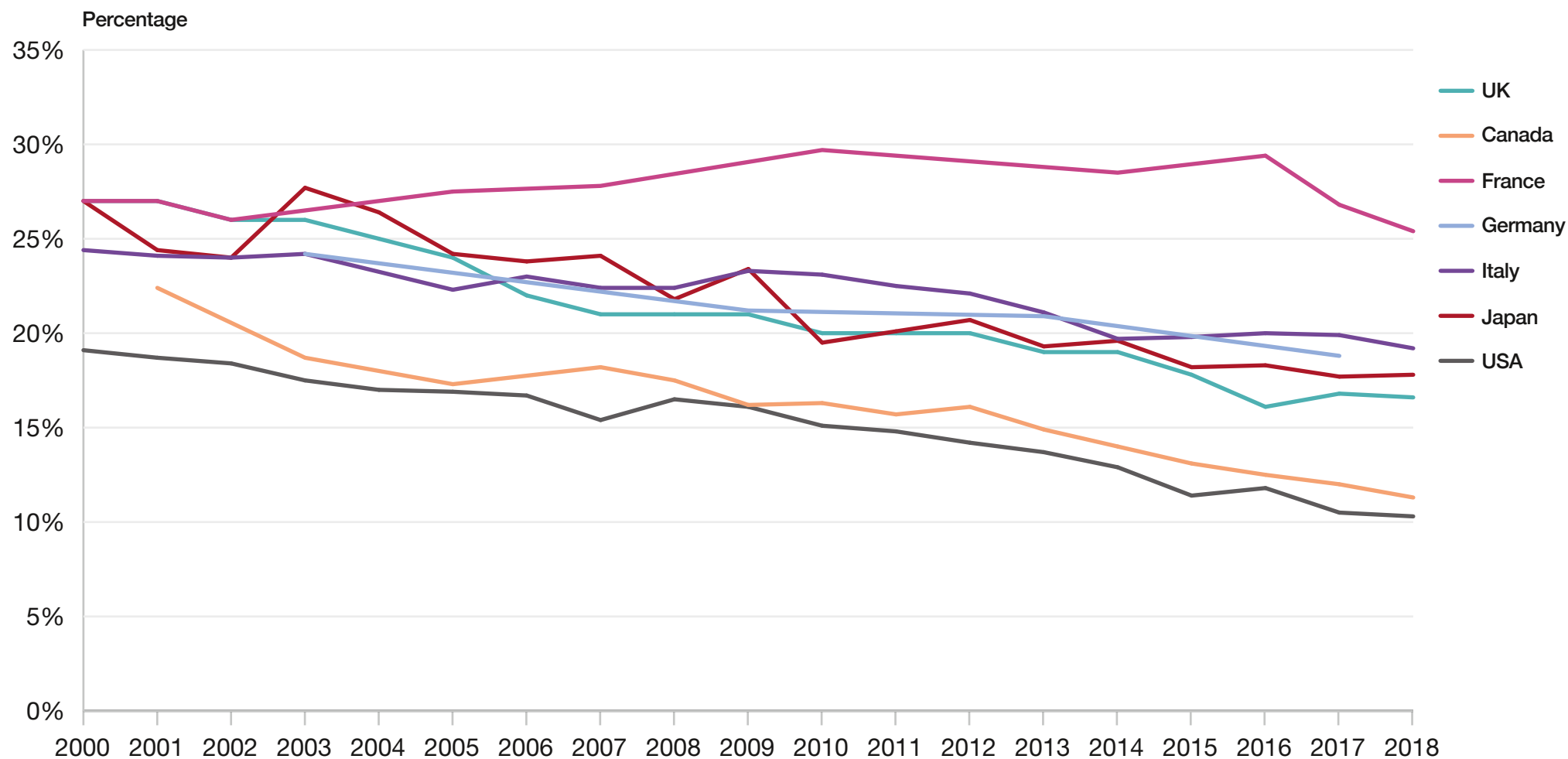
Percentage of the population aged 15+ that report smoking at least once a day, for G7 countries

Source: OECD (2020), *Daily smokers (indicator)*

Smoking rates have fallen in all age groups, with the largest reduction seen in 18-24 year olds.

5.3 Smoking trends by age
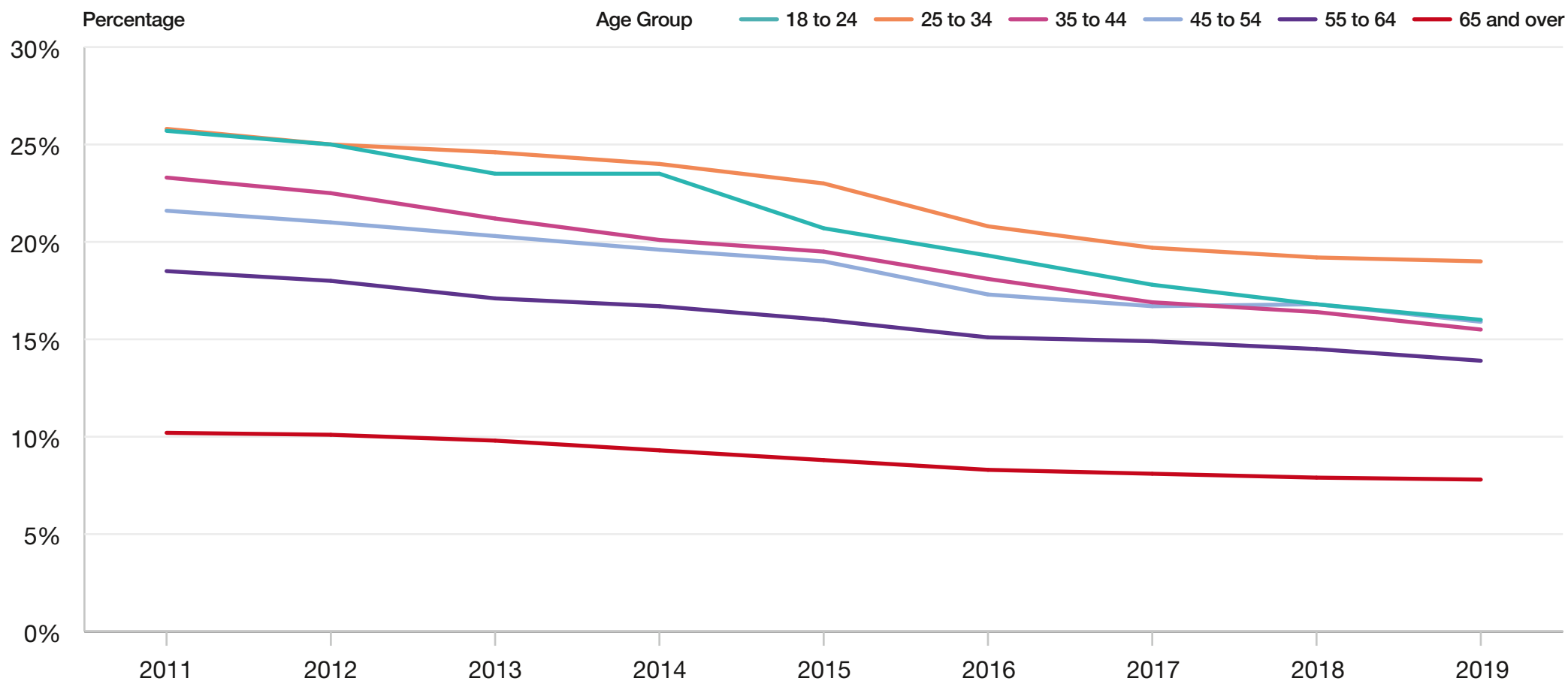
Proportion who were current smokers, all persons by age group, UK, 2011 to 2019

Source: Office for National Statistics (2020), *Adult smoking habits in the UK: 2019*

The proportion of adults drinking at increased risk (over 14 units per week) is higher among middle-aged adults and in more affluent areas.

5.4 Alcohol risk by age group
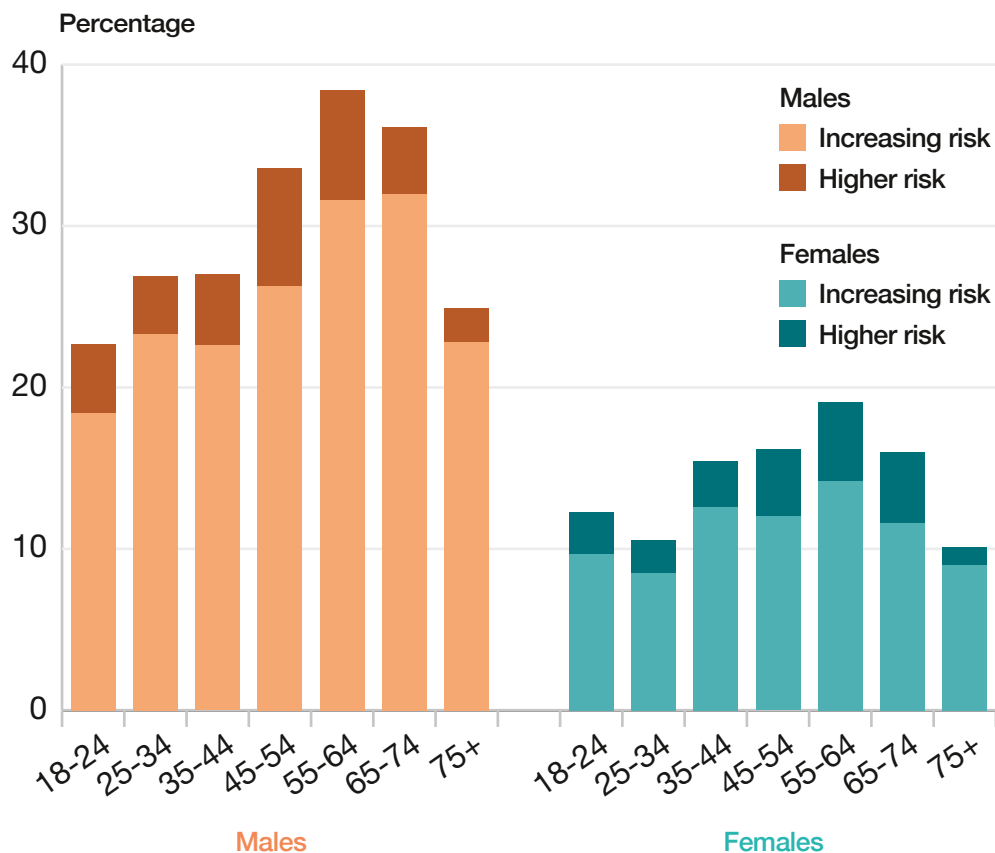
5.5 Alcohol risk by deprivation
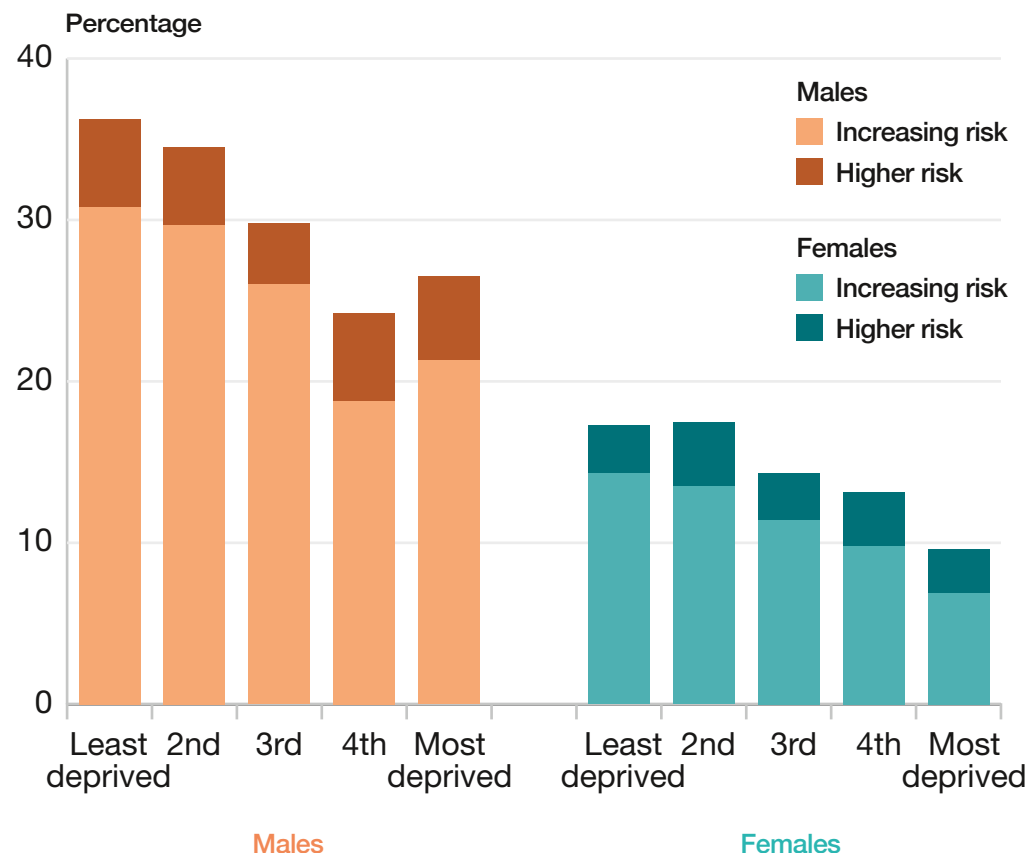
Proportion of adults drinking at increased or higher risk of harm in England, by age (left) and deprivation quintiles (right). Increasing risk is 14-50 units per week in men, 14-35 units per week in women. Higher risk is >50 units in men, >35 units in women

Source: NHS Digital (2019), _Health Survey for England, 2018: Adults' health-related behaviours data tables_

Heavy drinking of alcohol has fallen in young people.

5.6 Heavy drinking by age group
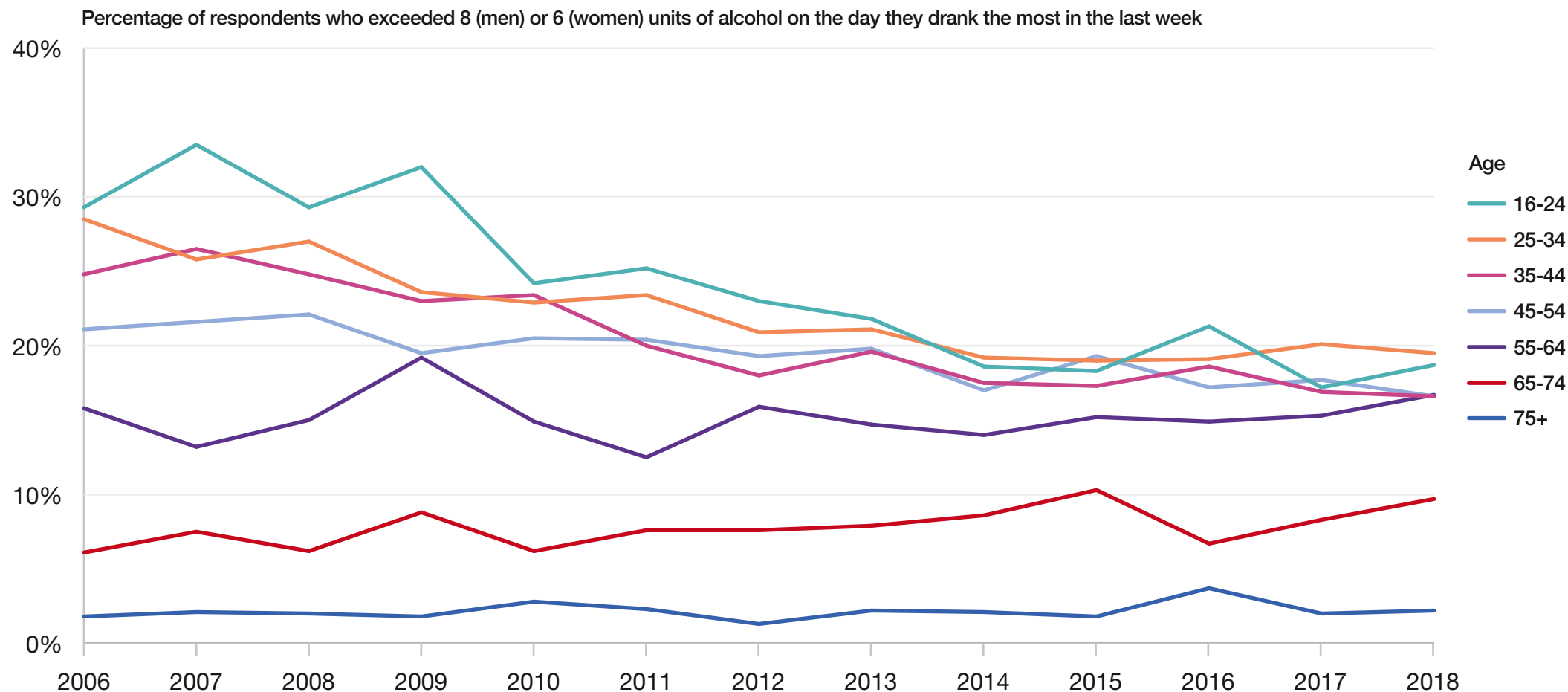
Percentage of respondents who exceeded 8 (men) or 6 (women) units of alcohol on the day they drank the most in the last week

Percentage of respondents who exceeded 8 (men) or 6 (women) units of alcohol on the day they drank the most in the last week, adults aged 16 and over. Analysis of NHS Digital, Health Survey for England

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Alcohol-related harm and drinking behaviour*

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Deaths from drug misuse have increased.

5.7 Drug misuse deaths
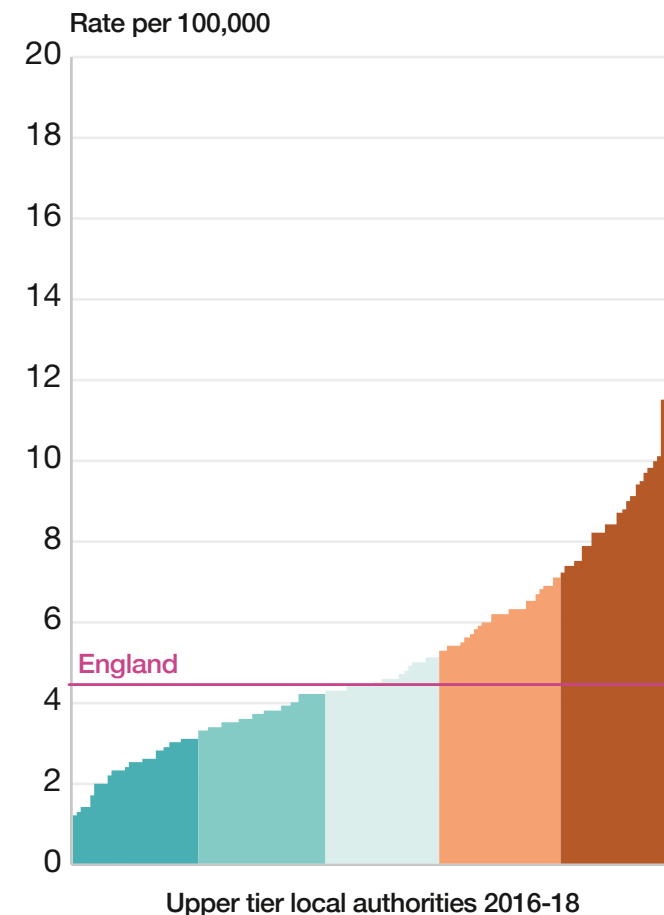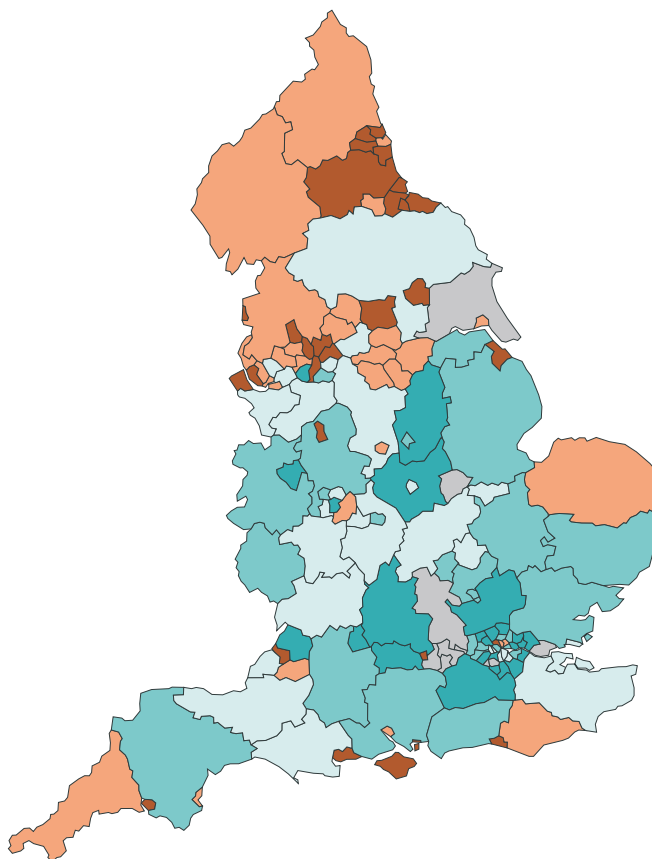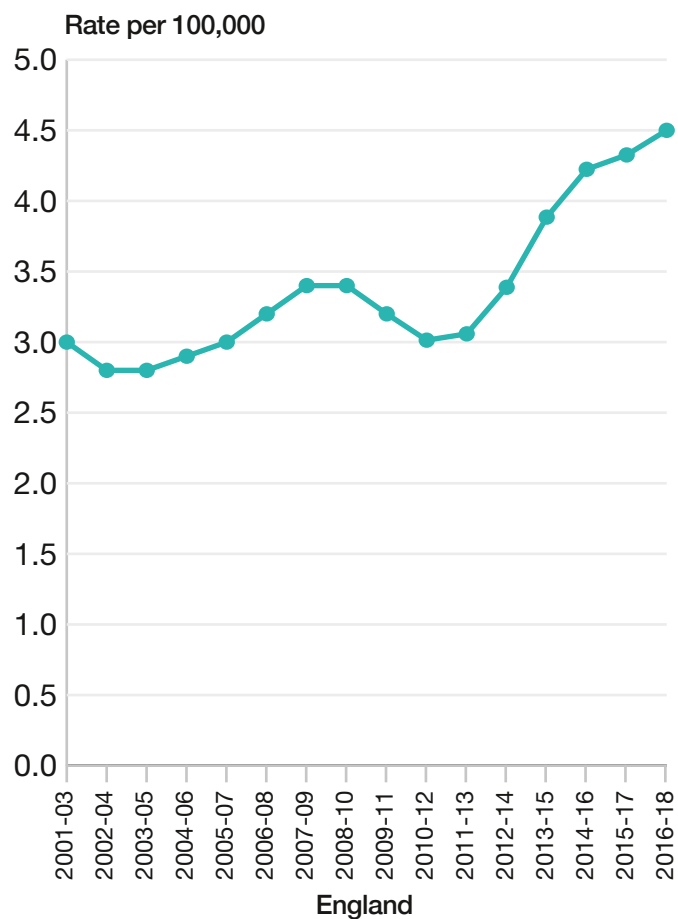
Deaths from drug misuse. Directly age-standardised rate per 100,000 population, for England, 2001-03 to 2016-18 (left) and for upper tier local authorities, 2016-18 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Mortality Profile*

Obesity levels in adults have increased gradually.

5.8 Obesity in adults

Percentage of adults aged 16 and over

Proportion of adults who are overweight, obese or underweight as measured by body mass index (BMI) in adults aged 16 and over. Analysis of NHS Digital, Health Survey for England

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Obesity*

Around two thirds of adults are physically active, but activity levels are lower in more deprived areas and in older people.

5.9 Physical activity in adults
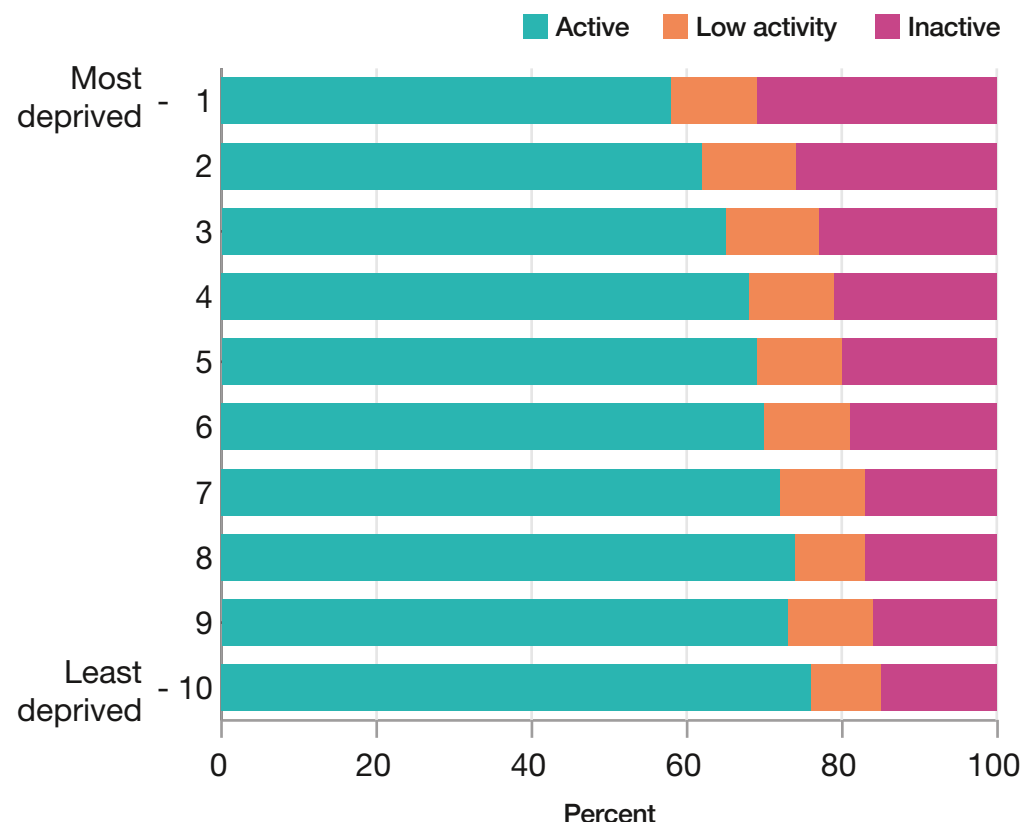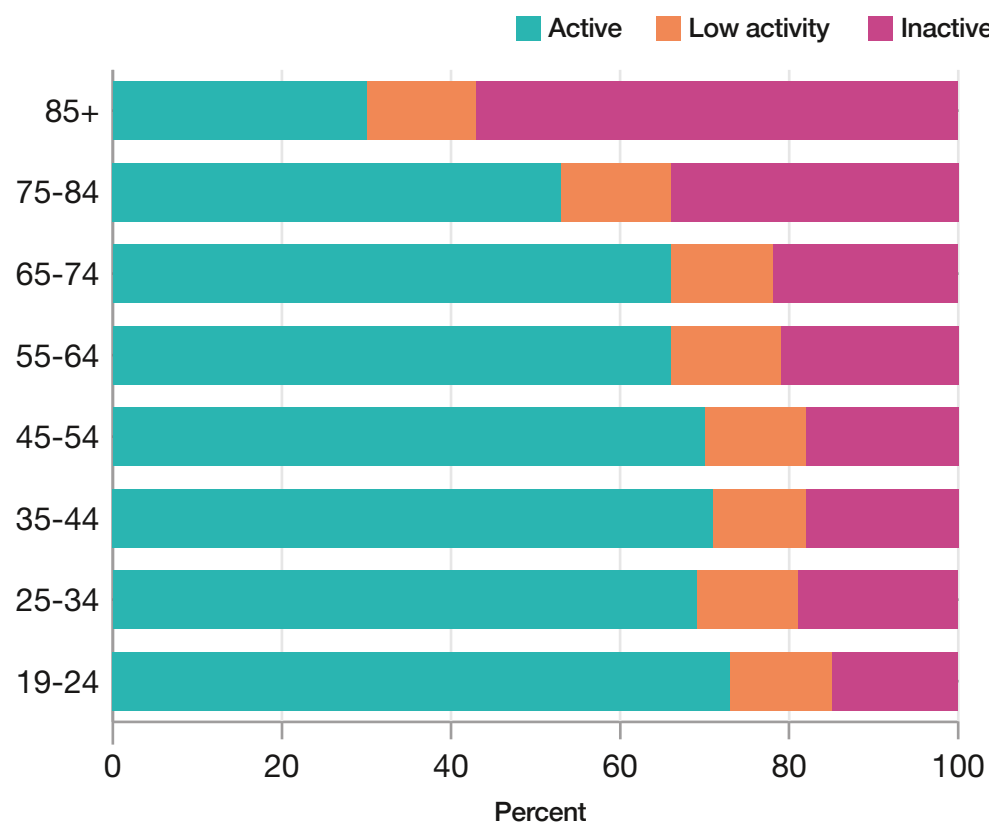
Adult physical activity in 2018/19 by age (left) and by deprivation deciles (right). Active is >150 mins of moderate intensity or >75 mins of vigorous intensity activity per week. Inactive is <30 mins activity per week

Source: NHS Digital (2020), *Statistics on Obesity, Physical Activity and Diet, England, 2020*

Cycling used to be a more common form of transport but declined after mass motor vehicle adoption.

5.10 Cycling trends

Billion vehicle kilometres
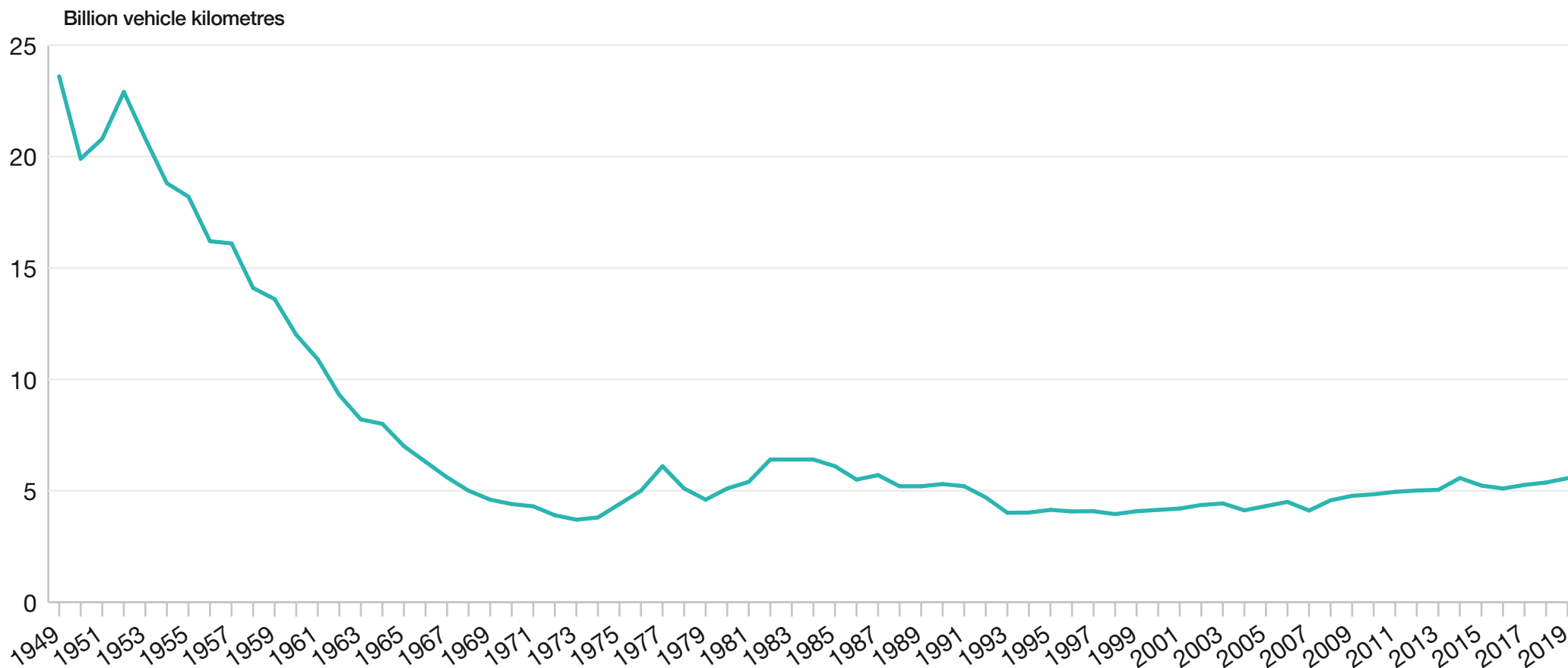
Pedal cycle traffic (vehicle kilometres) in Great Britain, annual from 1949

Source: Department for Transport (2020), _Road traffic estimates in Great Britain: 2019_

Untreated hypertension has fallen, particularly in men. Hypertension levels overall have remained relatively stable.

5.11 Hypertension
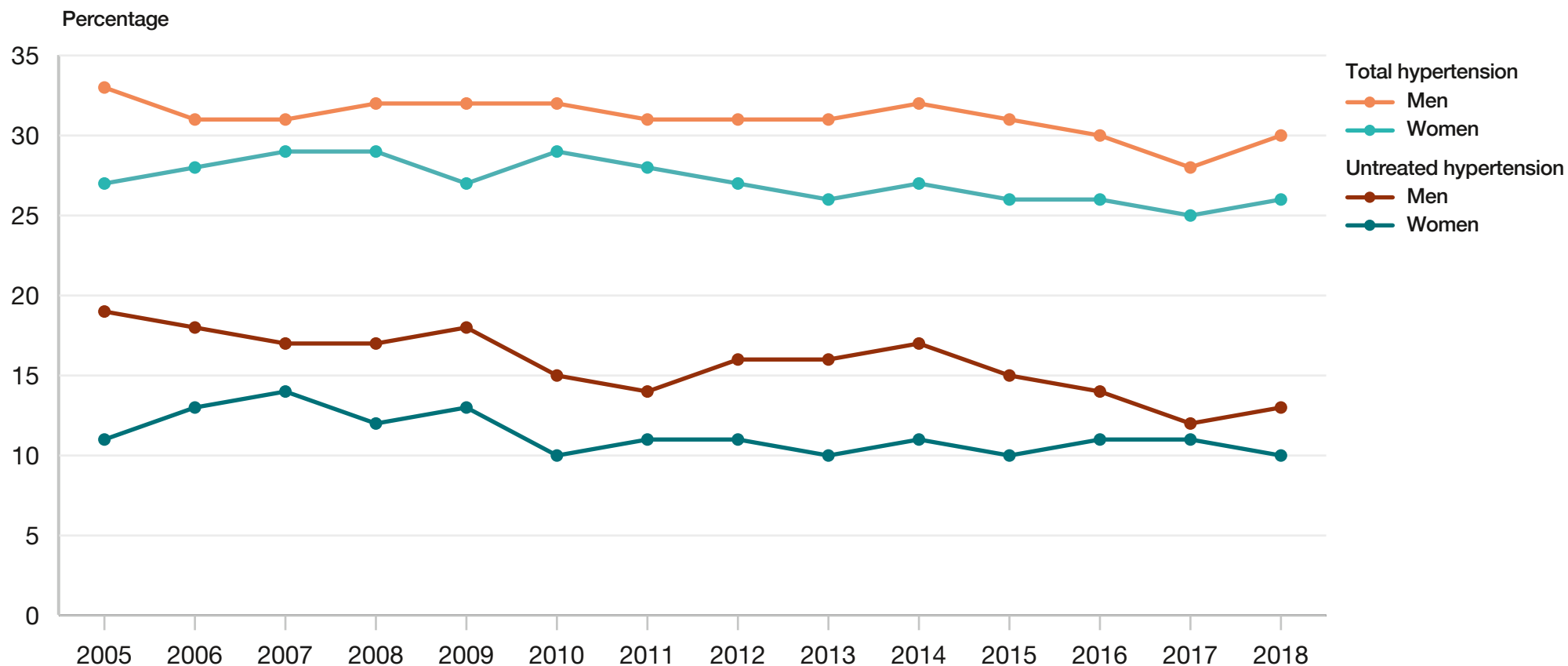
Estimated total and untreated hypertension by sex, 2003-2018 in adults aged 16 years and over with a valid blood pressure reading and data on medication from the Health Survey for England

Source: NHS Digital (2019), *Health Survey for England, 2018: Adults' health report*

The proportion of adults with raised total cholesterol has fallen across all age groups, with the largest reductions in those aged over 65.

5.12 High cholesterol
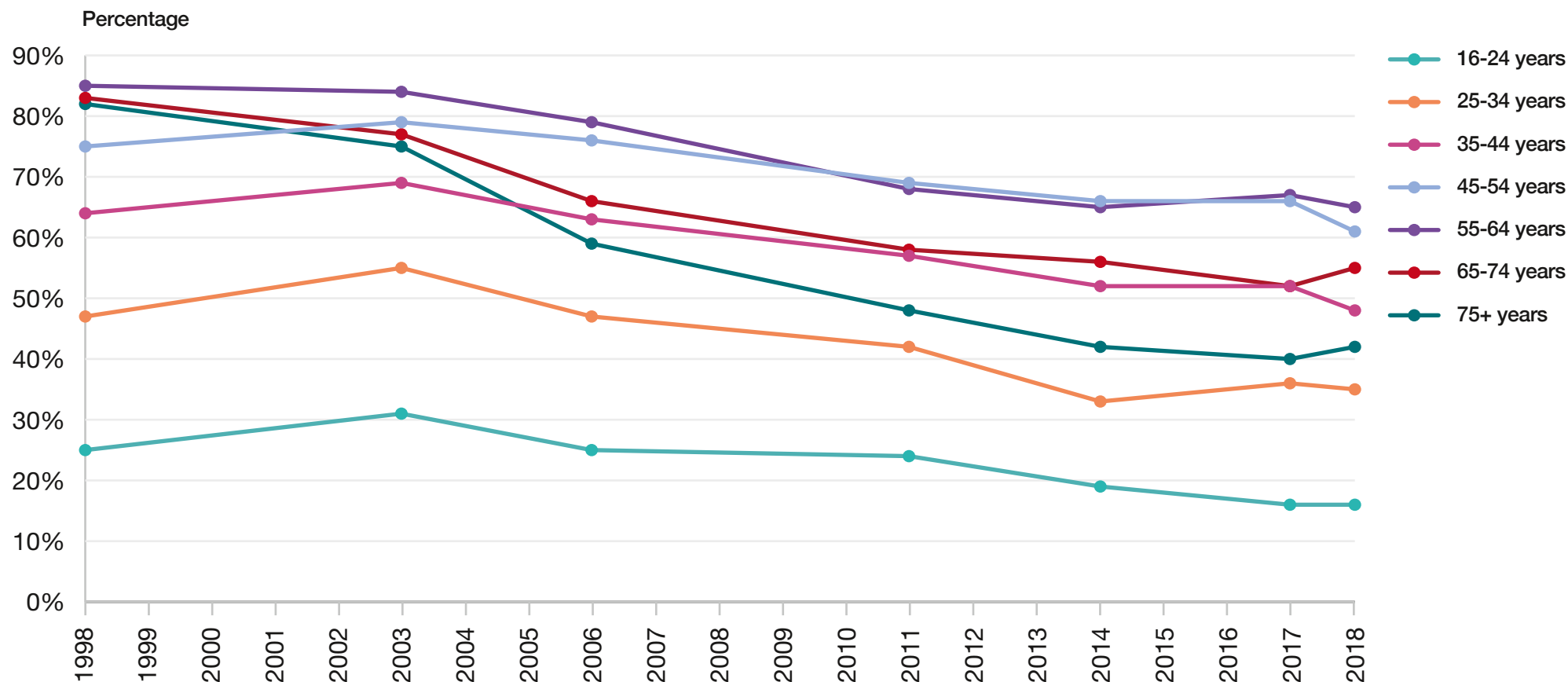
Estimated proportion of adults with raised total cholesterol, by age, England, 1998-2018. Cholesterol levels measured via blood samples in the Health Survey for England. Raised total cholesterol is defined as total cholesterol equal to or greater than 5 mmol/L

Source: NHS Digital (2019), *Health Survey for England, 2018: Adults' health data tables*

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Teenage pregnancy rates have fallen substantially over the last two decades.

5.13 Teenage pregnancy
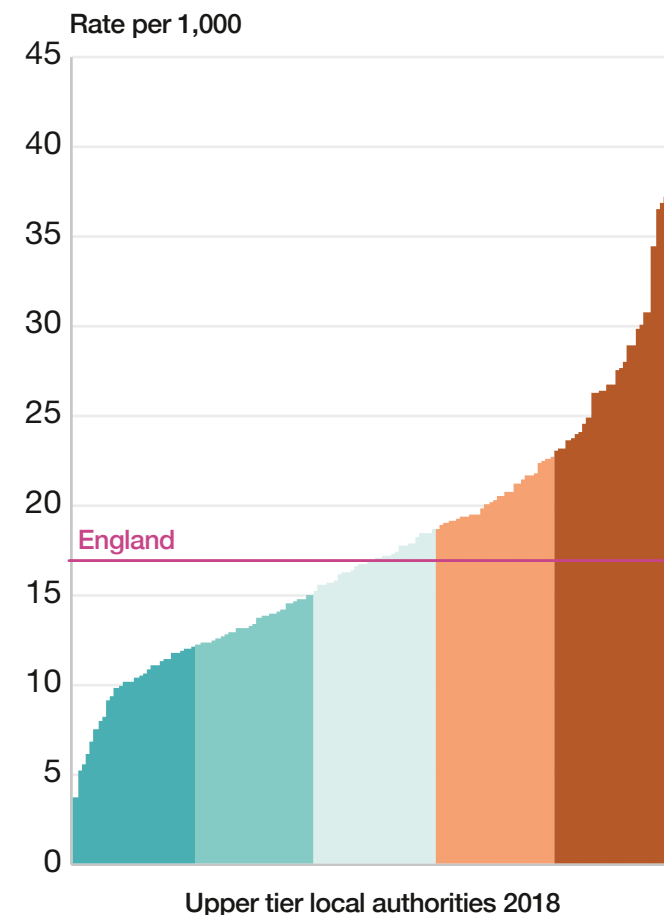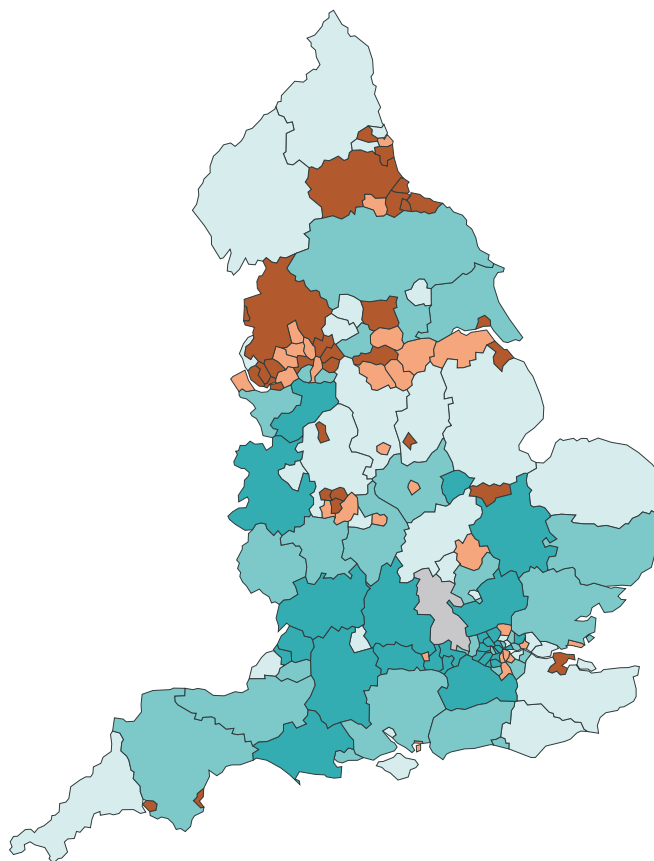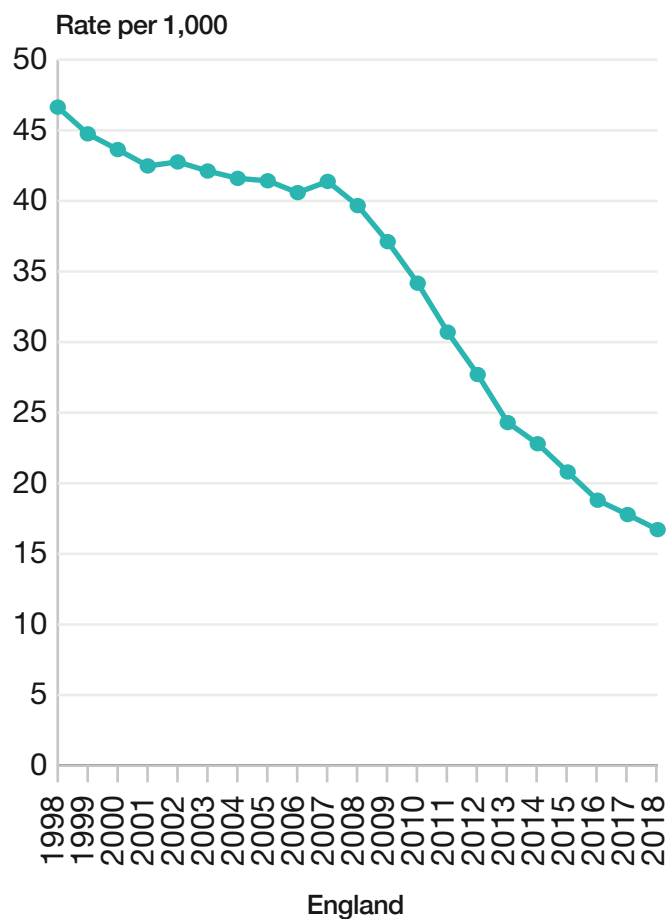
Conceptions in women aged under 18. Crude rate per 1,000 females aged 15-17 years, for England 1998-2018 (left) and for upper tier local authorities, 2018 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Sexual and Reproductive Health Profiles*

The rate of new sexually transmitted infection diagnoses has begun to increase recently, with higher rates in urban areas.

5.14 Sexually transmitted infections
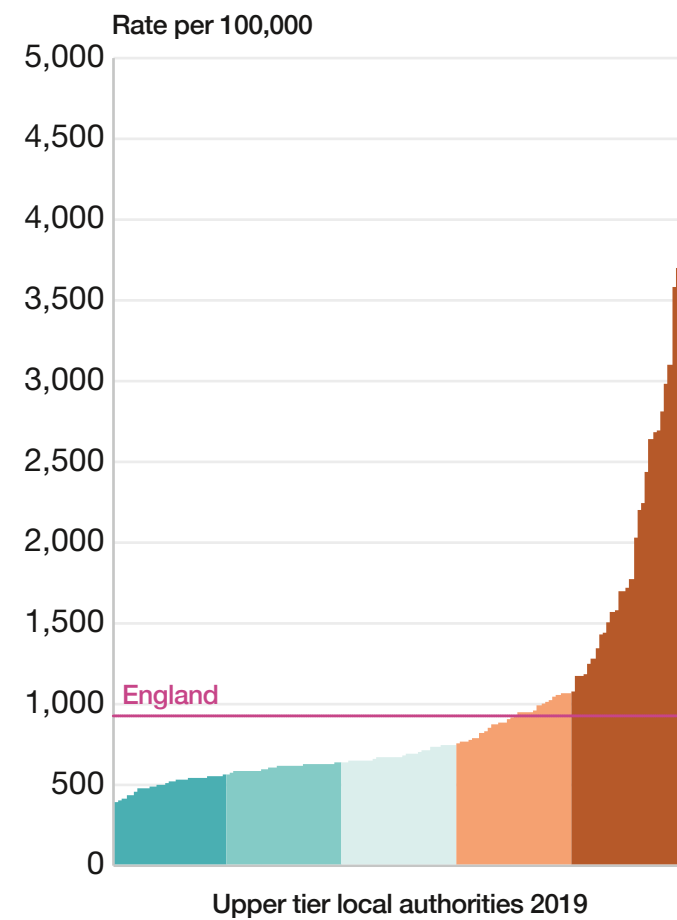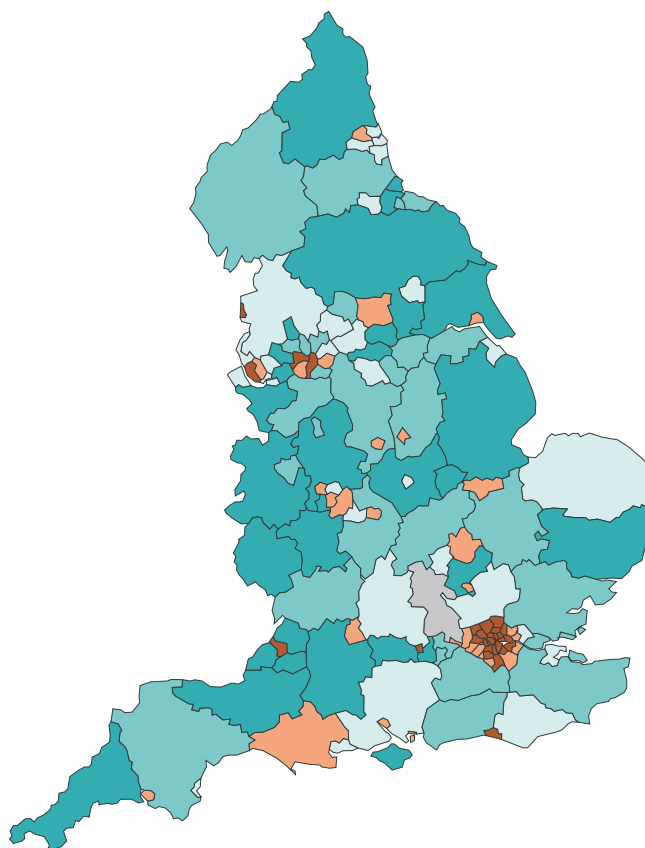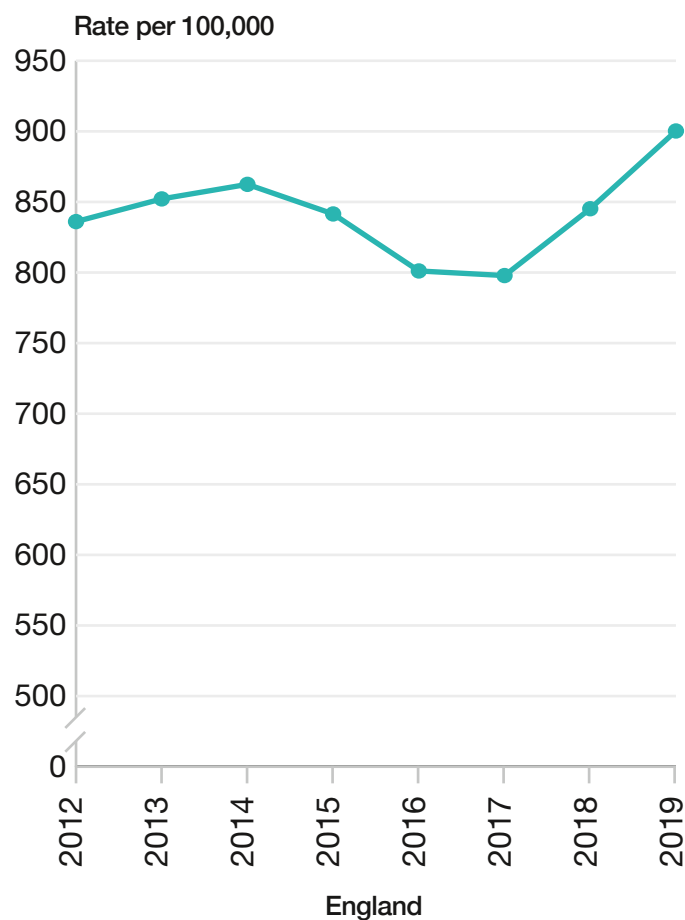
STI diagnoses (excluding chlamydia in under 25 year olds). Crude rate per 100,000 population aged 15 to 64 years, for England, 2012-2019 (left), and for upper tier local authorities, 2019 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Sexual and Reproductive Health Profiles*

Rates of new diagnoses of gonorrhoea, chlamydia, syphilis and genital herpes have increased.

5.15 Sexually transmitted infections by organism

Rate of new STI diagnoses per 100,000 population

Legend:
- Chlamydia
- Genital herpes
- Gonorrhoea
- Syphilis
- Genital warts
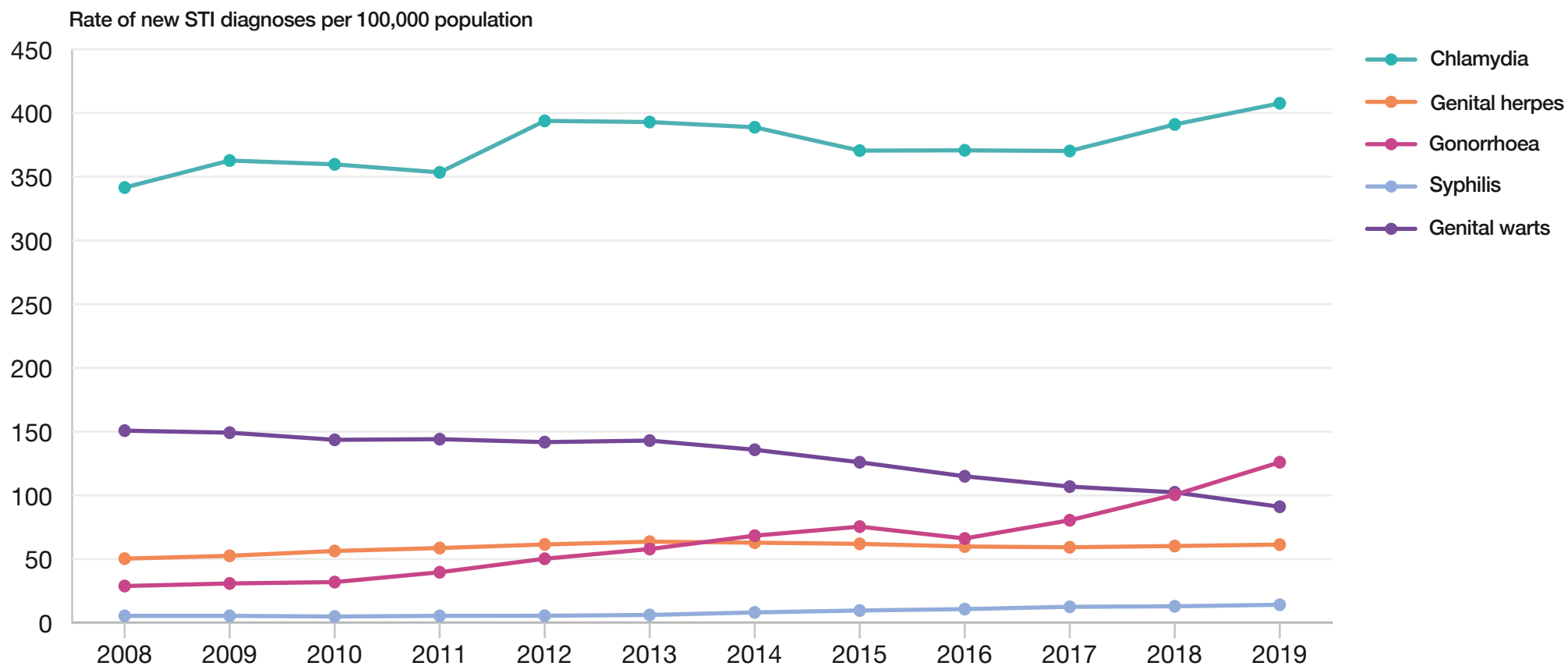
Rates of new STI diagnoses in England per 100,000 population, 2008-2019. Analysis of Public Health England, Sexually transmitted infections (STIs): annual data tables

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Effectiveness of sexual health services*

The proportion of late HIV diagnoses has increased slightly recently.

5.16 Late HIV diagnoses

Percentage of HIV diagnoses which were late
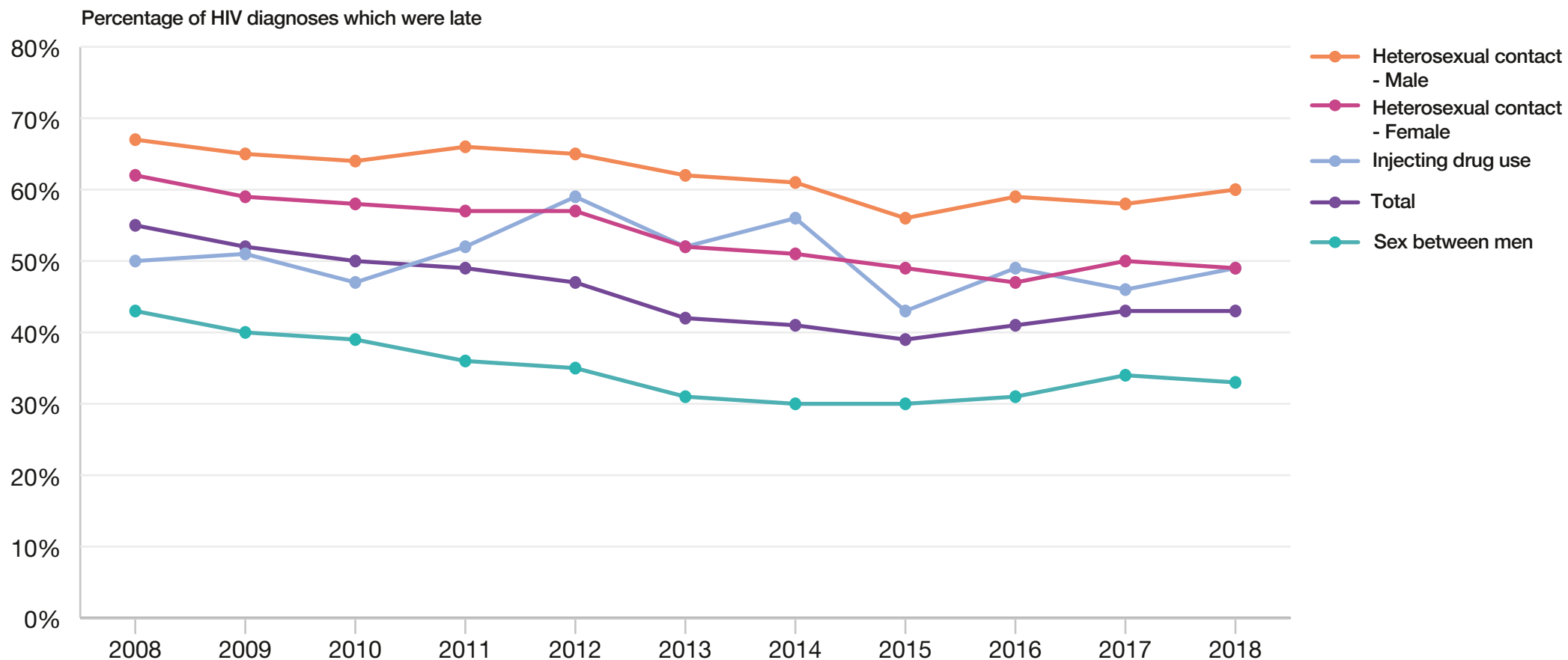
Percentage of adults (aged 15 years and above) diagnosed with a CD4 cell count <350 within 91 days of diagnosis in the UK, by demographic group: 2008-2018. Analysis of Public Health England, HIV: annual data tables

Source: Nuffield Trust and The Health Foundation (2020), QualityWatch. Effectiveness of sexual health services

Chapter 6.
Preventative care and healthcare

Chart List

Childhood vaccination rates have declined across all vaccines, and all are below the 95% World Health Organization target.

6.1 Childhood vaccination

Percentage of children vaccinated by their 1st or 2nd birthday

Legend:
- Diphtheria, Tetanus, Polio, Pertussis, Hib (DTaP/IPV/Hib) 1st birthday
- Diphtheria, Tetanus, Polio, Pertussis, Hib (DTaP/IPV/Hib) 2nd birthday
- Pneumococcal Disease (PCV)
- Pneumococcal Disease (PCV) booster
- Measles, Mumps, Rubella (MMR) 2nd birthday
- Hib/MenC vaccine
- WHO target
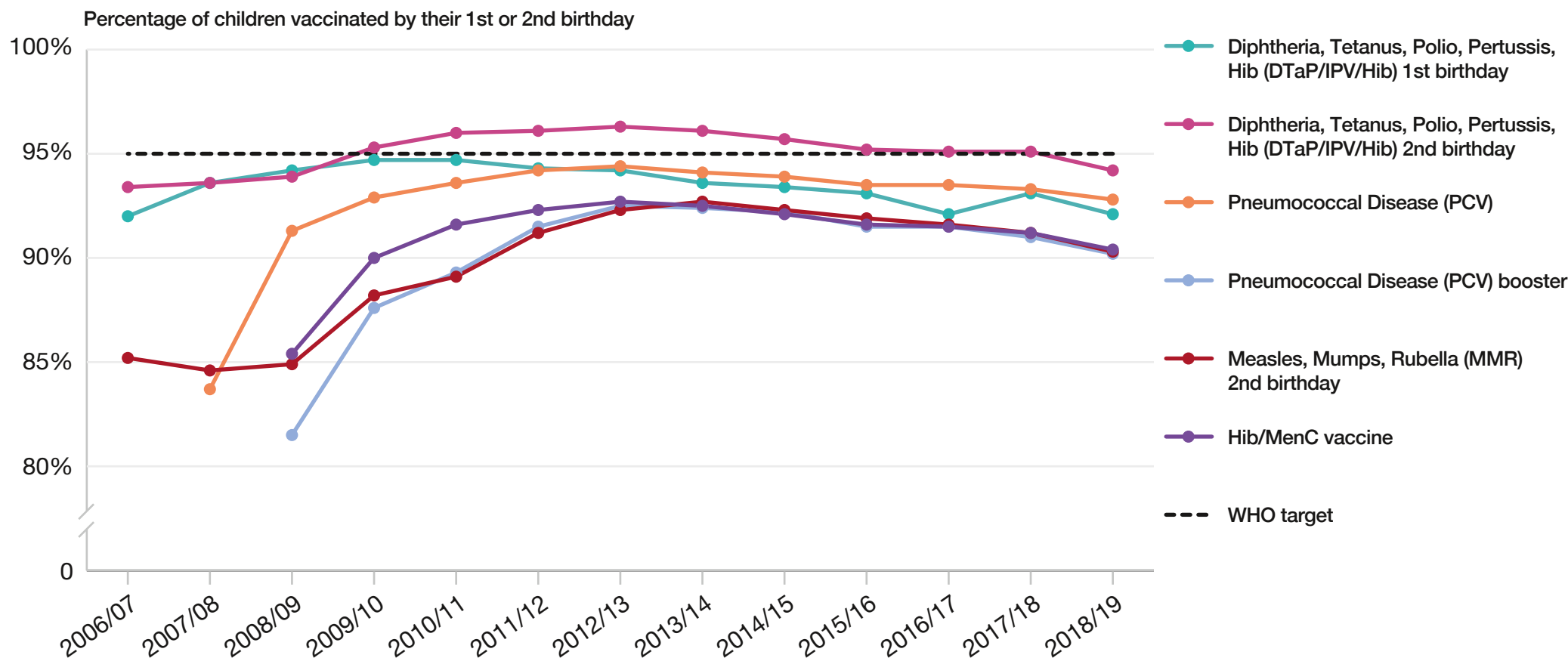
Percentage of children vaccinated in England by their first or second birthday, 2006/07 to 2018/19. Analysis of NHS Digital and Public Health England, Childhood Vaccination Coverage Statistics

Source: Nuffield Trust and The Health Foundation (2020), _QualityWatch. Vaccination coverage for children and mothers_

Flu vaccination uptake has remained relatively flat in at-risk individuals, while increasing among healthcare workers.

6.2 Flu vaccination in at-risk groups
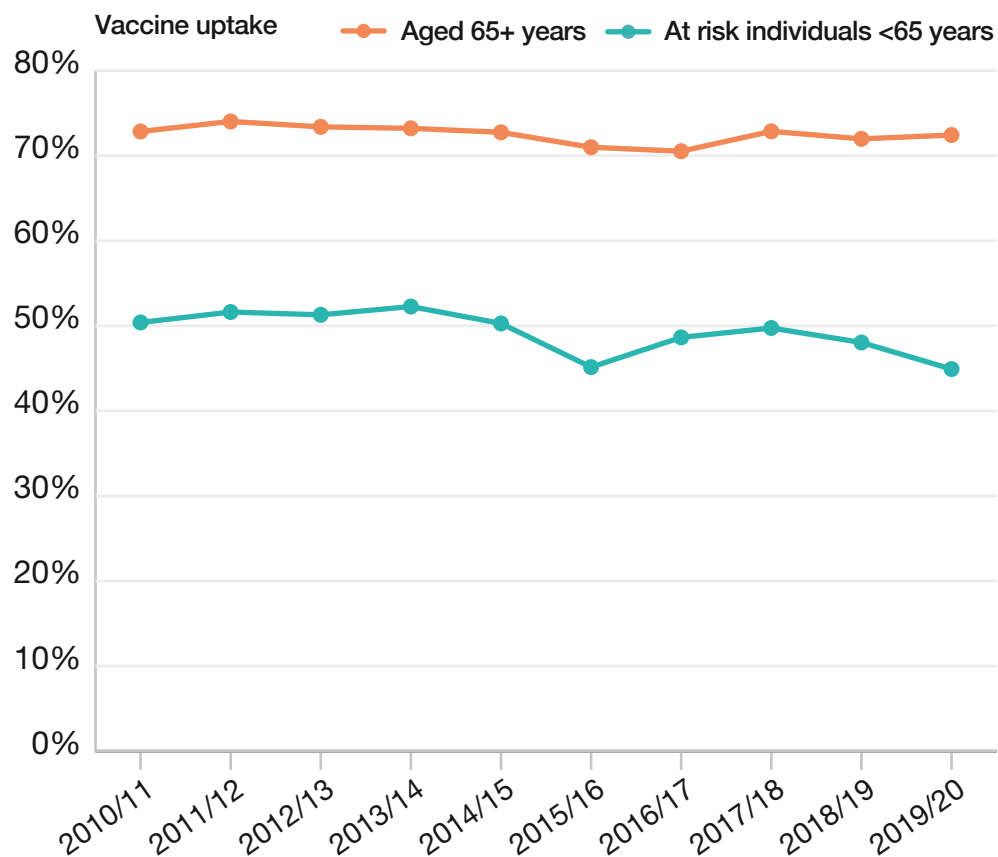
Flu vaccine uptake in adults aged 65+ and at-risk individuals aged 6 months to 65 years, England
Source: Public Health England (2020), *Public Health Profiles, Health Protection*

6.3 Flu vaccination in healthcare workers
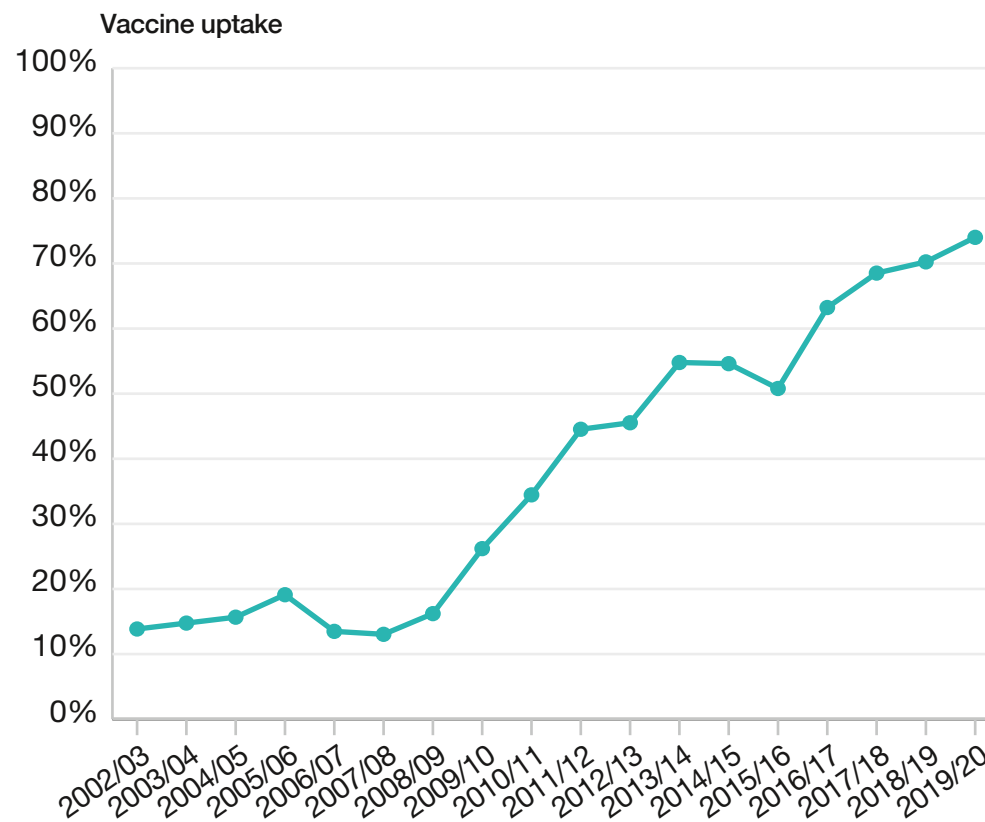
Seasonal influenza vaccine uptake in healthcare workers, England
Source: Public Health England (2020), *Seasonal influenza vaccine uptake in healthcare workers (HCWs) in England: winter season 2019 to 2020*

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Newborn blood spot screening has increased over time, and is over 97.5%.

6.4 Newborn blood spot screening
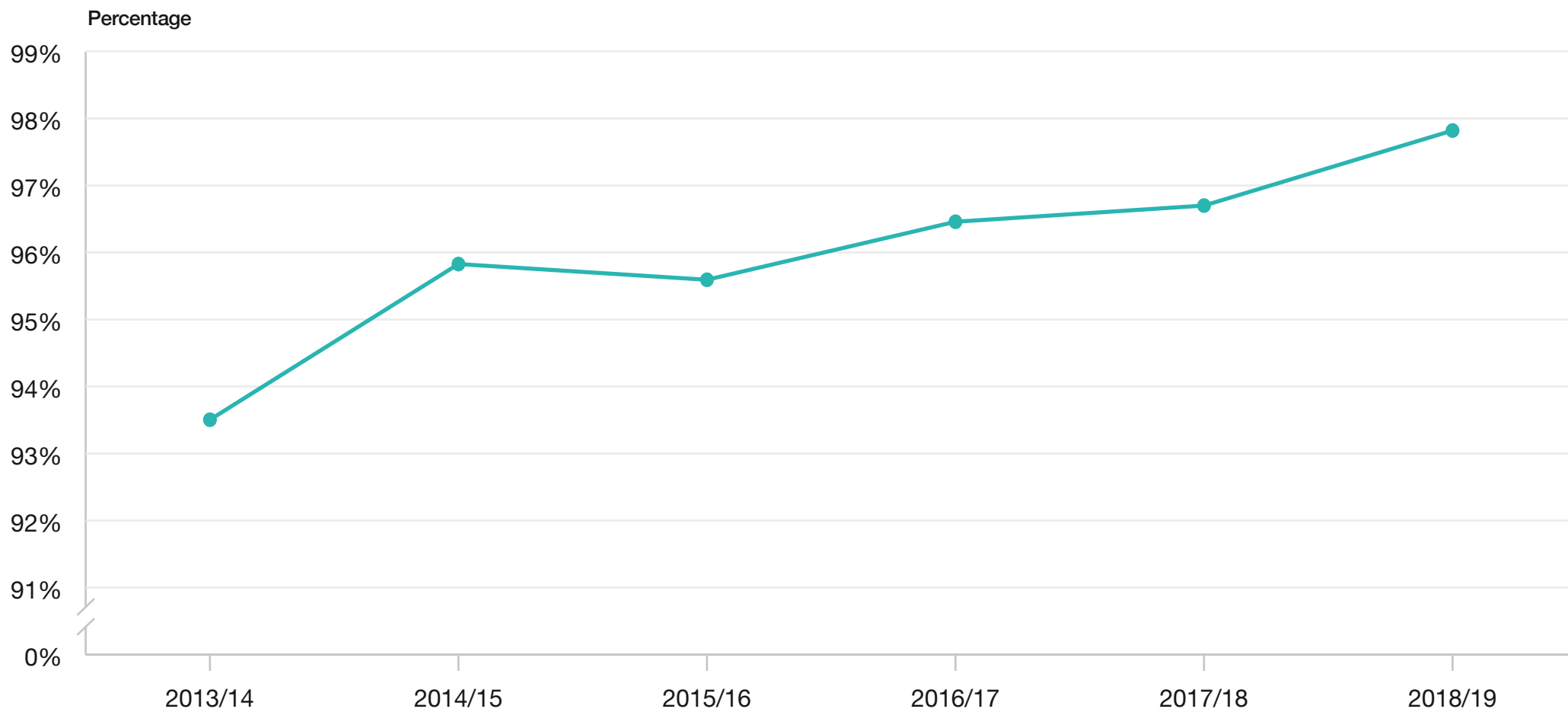
Newborn blood spot screening coverage. The proportion of babies who are eligible for newborn blood spot (NBS) screening and have a conclusive result recorded on the child health information system (CHIS)

Source: Public Health England (2019), *Public Health Profiles, Child and Maternal Health*

Cancer screening coverage has decreased for breast and cervical cancer, and has increased for bowel cancer.

6.5 Cancer screening coverage
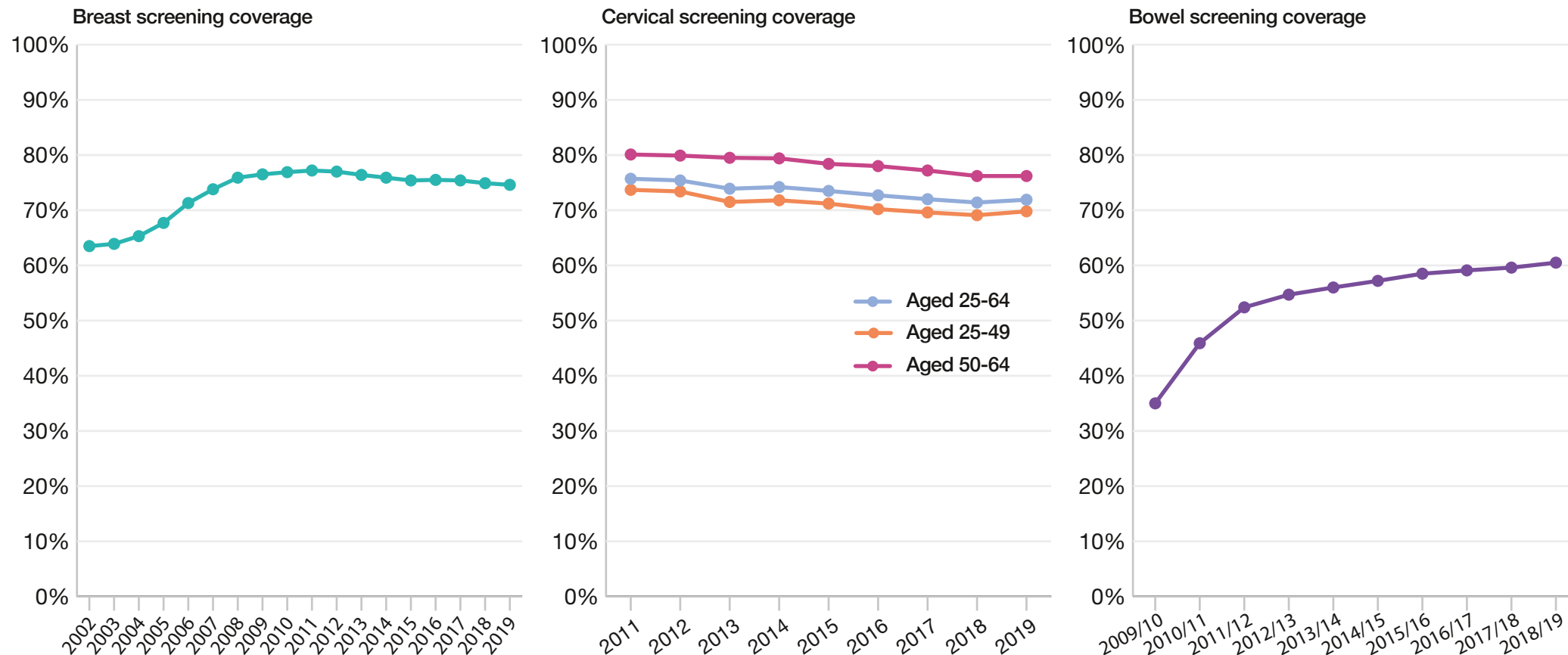
Cancer screening coverage in England for breast screening (women aged 53-70), cervical screening (women aged 25-64) and bowel screening (people aged 60-74). Analysis of NHS Digital, Breast Screening Programme; NHS Digital, Cervical Screening Programme; Public Health England, Cancer Services, Demographics, Screening and Diagnostics

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Cancer screening*

Screening coverage for abdominal aortic aneurysms has increased.

6.6 Abdominal aortic aneurysm screening
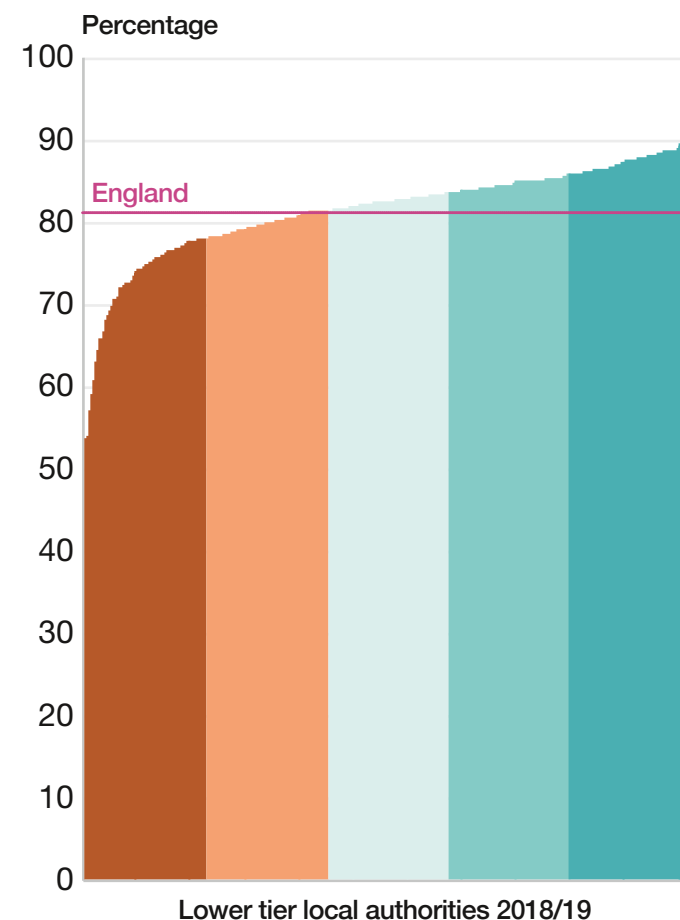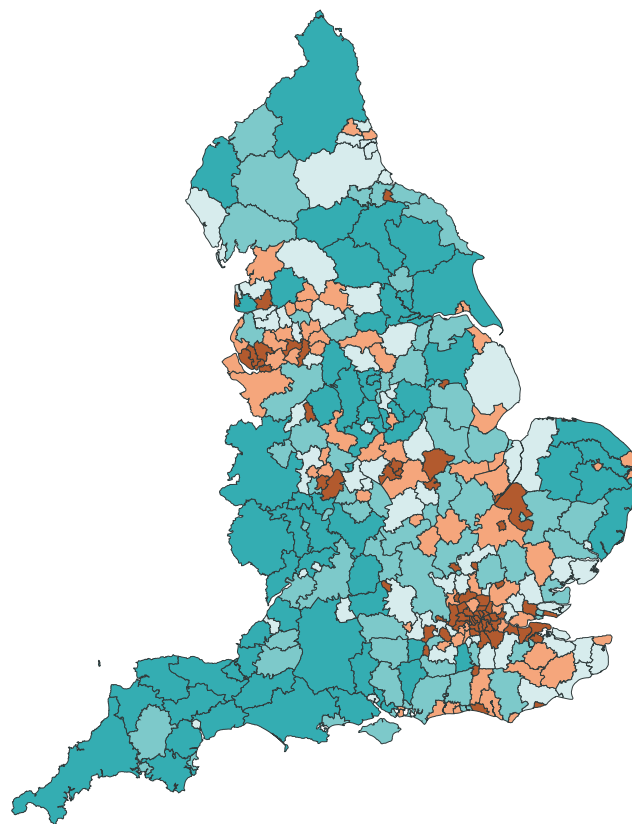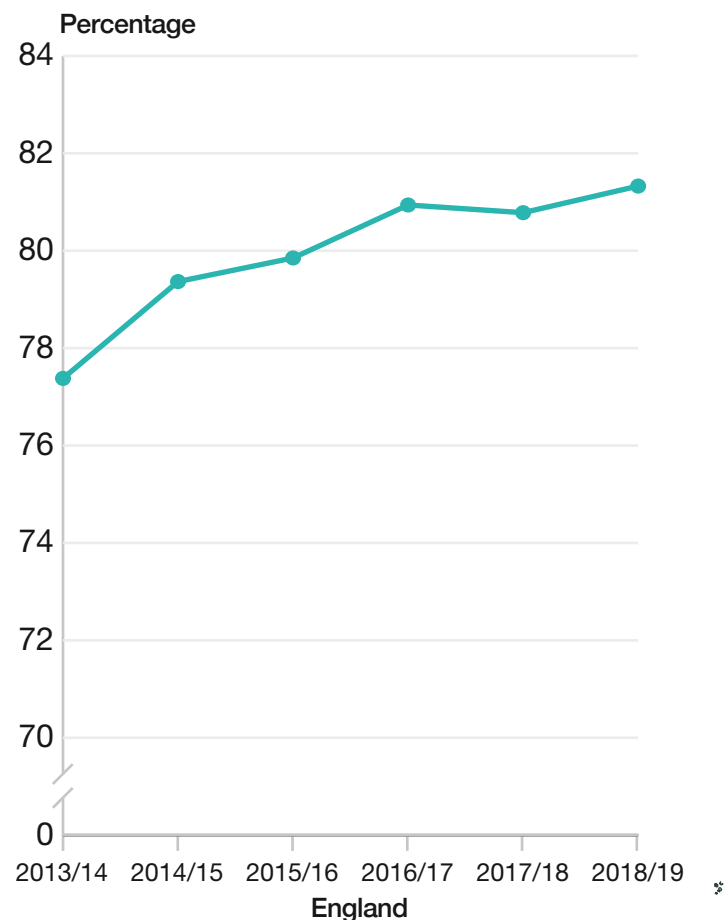
Abdominal aortic aneurysm screening coverage. The percentage of eligible men aged 65 years who are conclusively tested, for England, 2013/14 to 2018/19 (left) and for upper tier local authorities, 2018/19 (centre and right)

Source: Public Health England (2020), *Public Health Profiles, Productive Healthy Ageing Profile*

Antibiotic prescribing has fallen due to a fall in prescribing in primary care.

6.7 Antibiotic prescribing

DDDs per 1,000 inhabitants per day

Legend:
- General Practice
- Other Community
- Dentist
- Hospital Inpatient
- Hospital Outpatient
- Primary Care
- Secondary Care
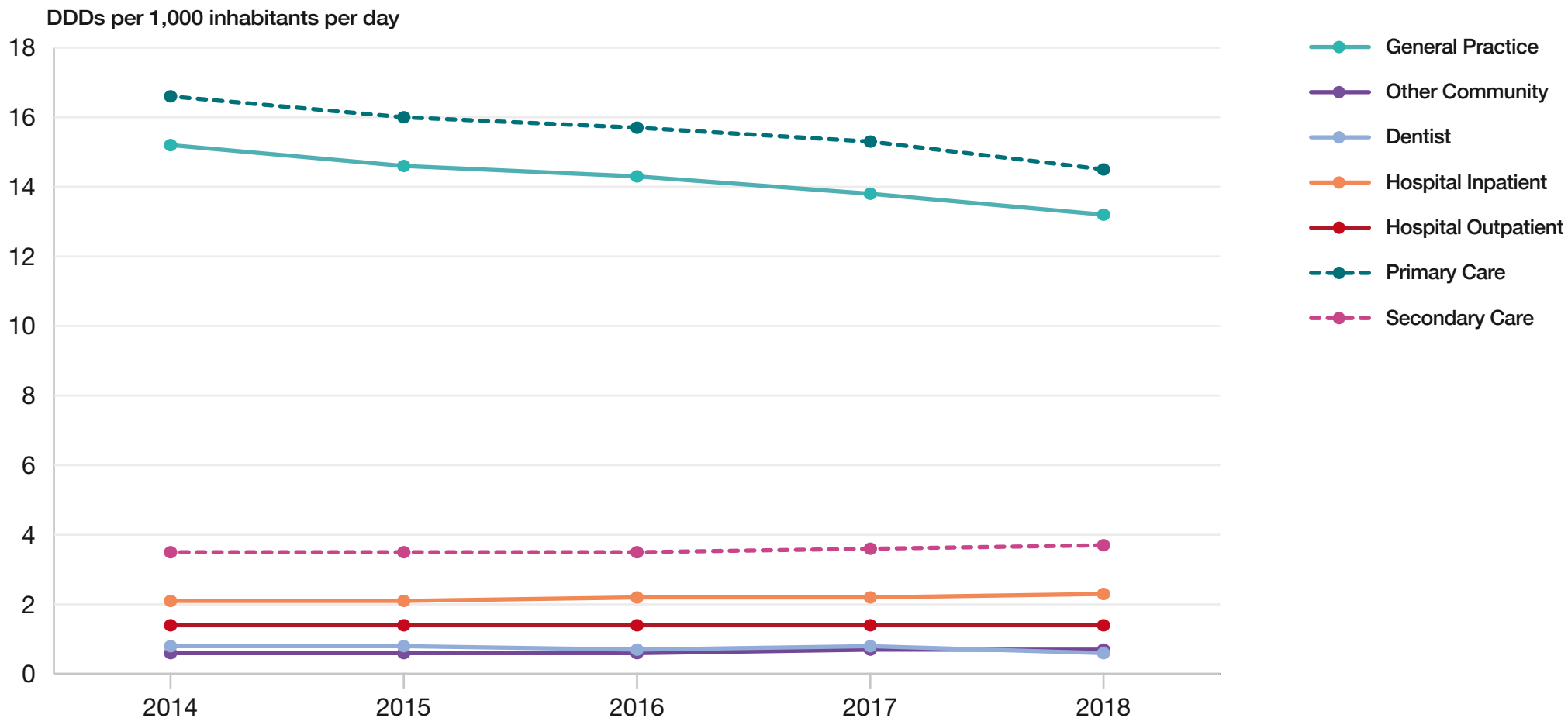
Total antibiotic consumption by prescriber setting, expressed as Defined Daily Doses (DDDs) per 1000 inhabitants per day, England. Analysis of Public Health England, English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) report.

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Antibiotic prescribing*

Healthcare-associated infections such as MRSA and C Difficile have fallen and remained stable.

6.8 Healthcare-associated infections
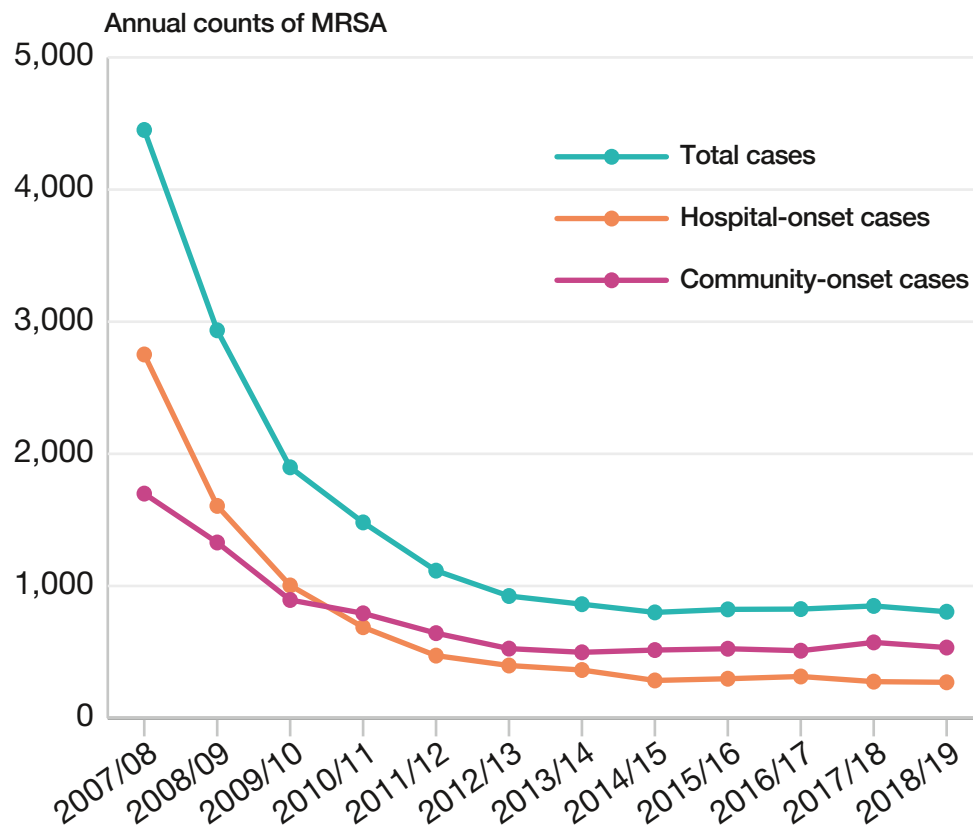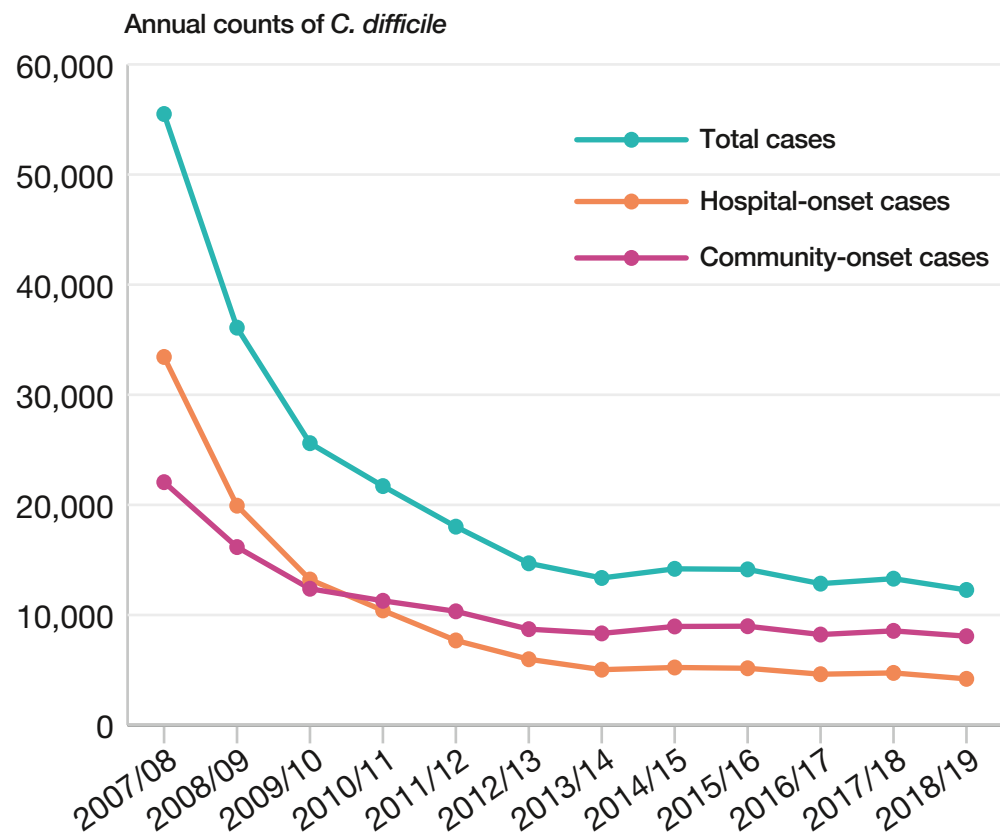
Annual counts of Clostridioides difficile (C. difficile) and methicillin-resistant Staphylococcus aureus (MRSA) infections in England. Analysis of Clostridioides difficile (C. difficile) infection: annual data and MRSA bacteraemia: annual data.

Source: Nuffield Trust and The Health Foundation (2020), *QualityWatch. Healthcare-associated infections*

Chief Medical Officer's
Annual Report **2020**

Exec Summary   **Life Expectancy**   **Mortality & Morbidity**   **Children**   **Wider Determinants**   **Risk Factors**   **Healthcare**

The percentage of patients identified for palliative care support has increased.

6.9 Palliative care
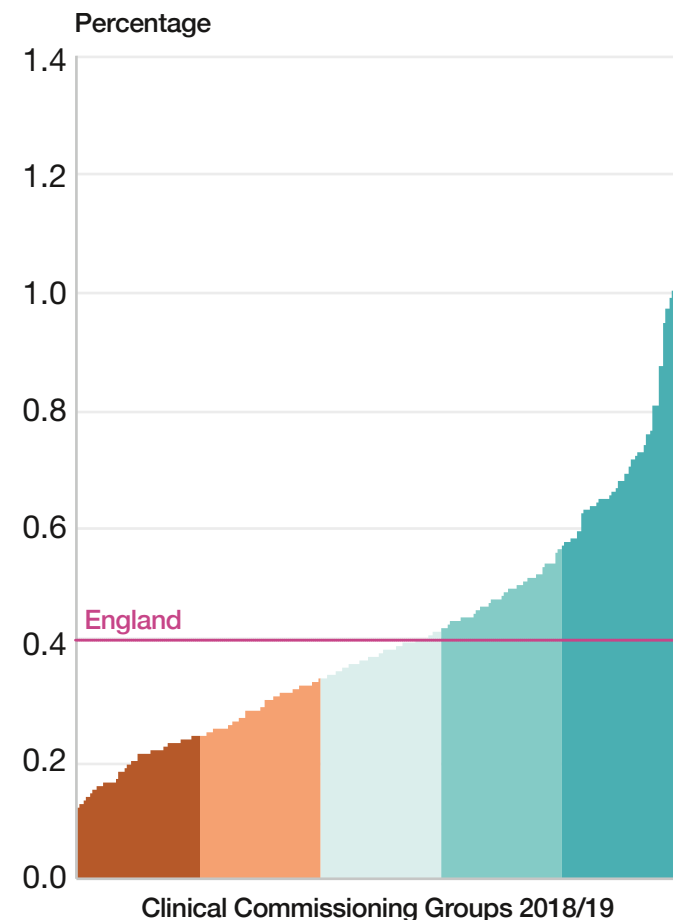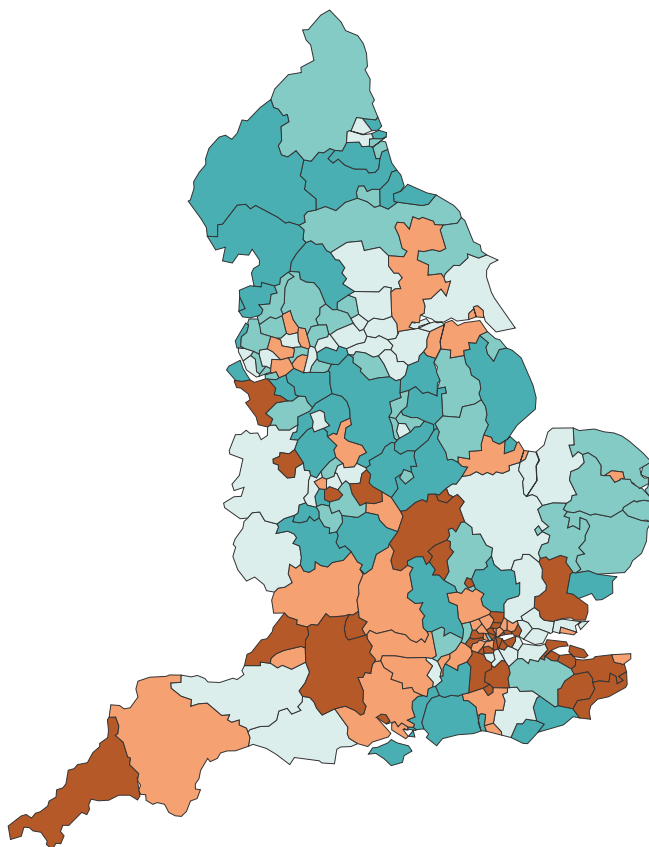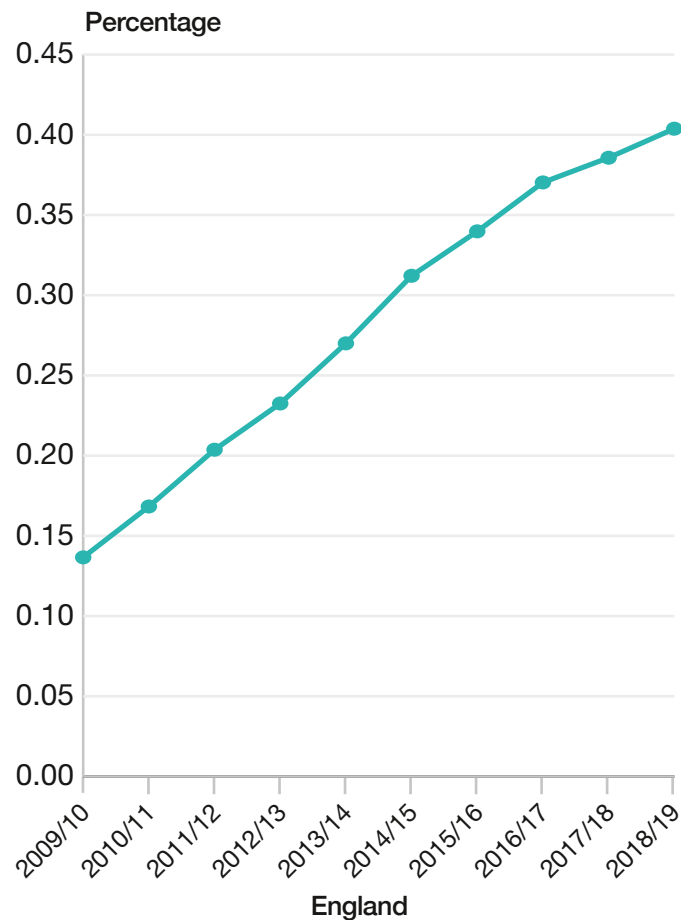
Palliative/supportive care: QOF prevalence. The percentage of patients in need of palliative care or support, as recorded on GP practice registers, for England, 2009/10 to 2018/19 (left) and for clinical commissioning groups, 2018/19

Source: Public Health England (2019), *Public Health Profiles, Palliative and End of Life Care Profiles*

Chief Medical Officer's
Annual Report 2020

Exec Summary   **Life Expectancy**   **Mortality & Morbidity**   **Children**   **Wider Determinants**   **Risk Factors**   **Healthcare**

The percentage of people who die in hospital has fallen steadily over time, to less than half.

6.10 Deaths in hospital
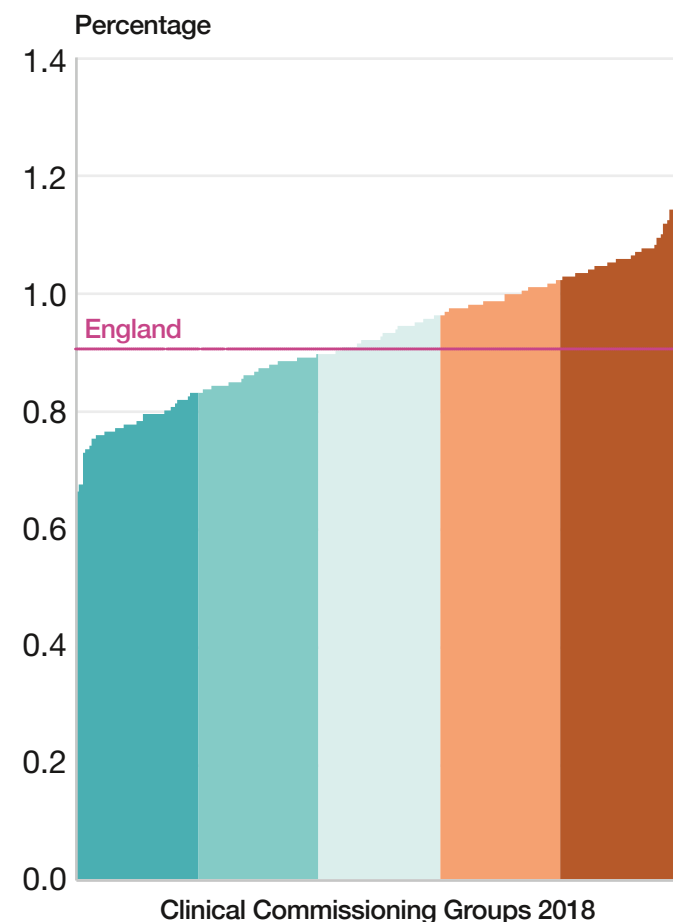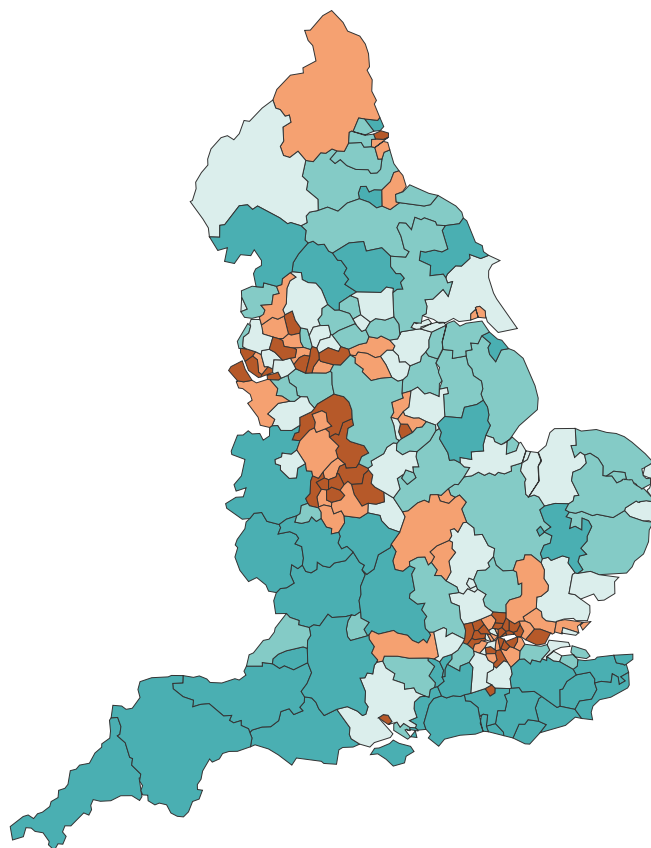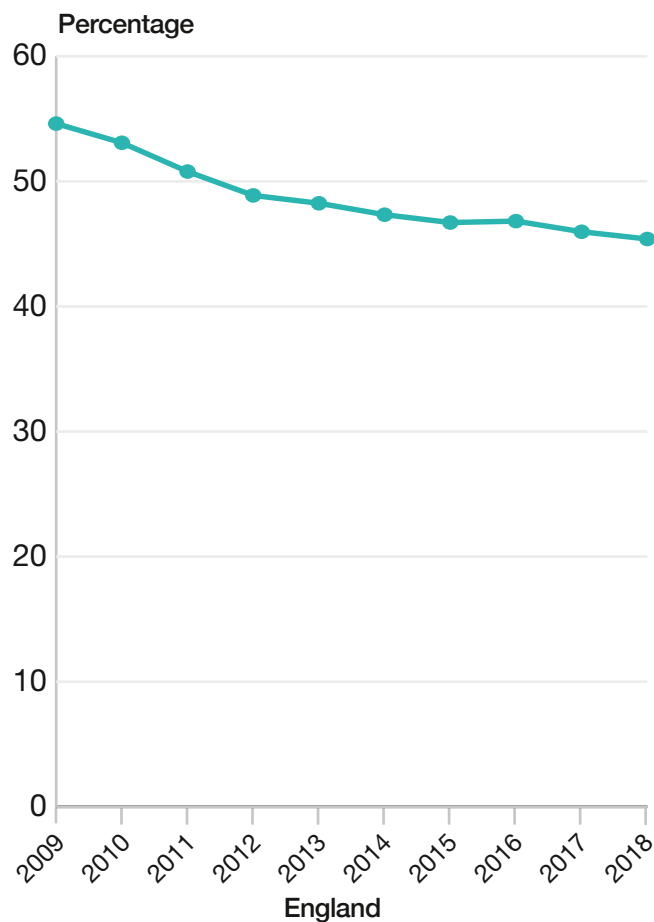
Percentage of registered deaths that occur in hospital for England, 2009-2018 (left) and for clinical commissioning groups, 2018 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Palliative and End of Life Care Profiles*

The percentage of people who die in their usual place of residence (such as their own home or a care home) has steadily increased.

6.11 Deaths in usual place of residence
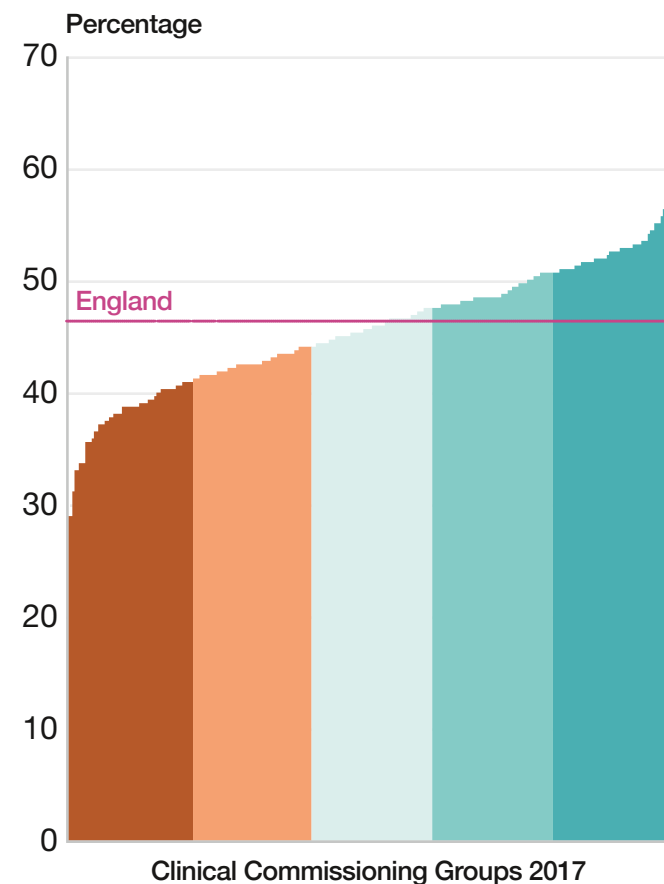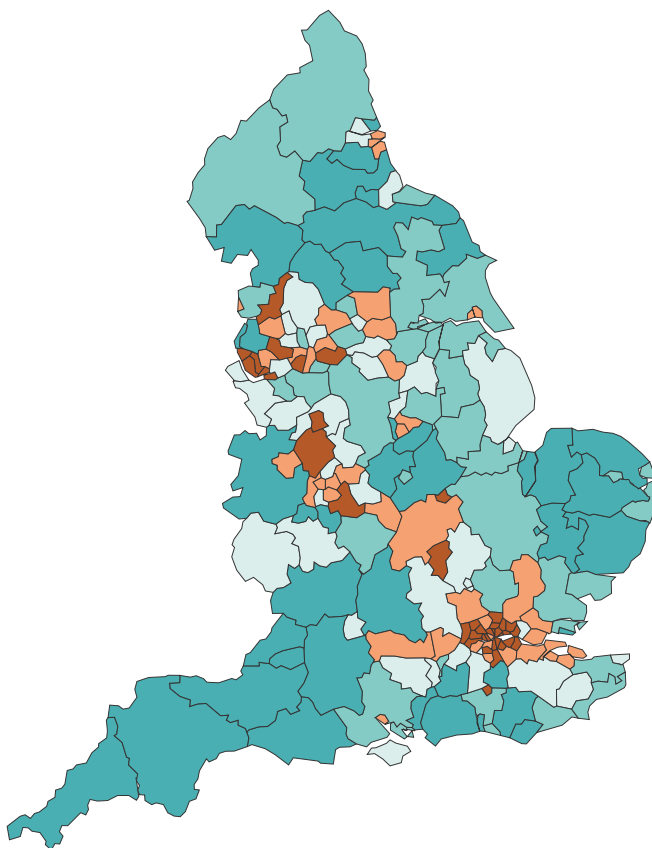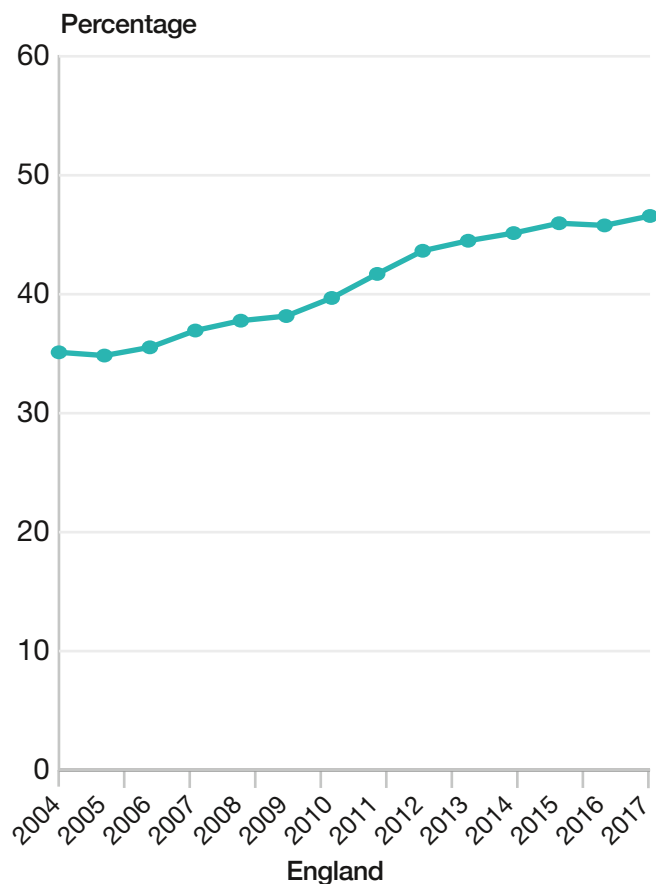
Percentage of registered deaths that occur in the usual place of residence, for England, 2004-2017 (left) and for clinical commissioning groups, 2017 (centre and right)

Source: Public Health England (2019), *Public Health Profiles, Palliative and End of Life Care Profiles*

Abbreviations

CCG	Clinical Commissioning Group
CI	Confidence interval
COPD	Chronic obstructive pulmonary disease
CHD	Coronary heart disease
CNS	Central nervous system
DDDs	Defined Daily Doses
DHSC	Department of Health and Social Care
DWP	Department for Work and Pensions
EU	European Union
GB	Great Britain
G7	Group of Seven
GP	General Practitioner
HIV	Human Immunodeficiency Virus
HSE	Health Survey for England
IMD	Index of Multiple Deprivation
LA	Local authority
LSOA	Lower Layer Super Output Area
LTCs	Long term conditions
MRSA	Methicillin-resistant Staphylococcus Aureus
MSOA	Middle Layer Super Output Area
NHS	National Health Service
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PHE	Public Health England
QOF	Quality and Outcomes Framework
SII	Slope Index of Inequality
STI	Sexually transmitted infection
TIA	Transient Ischaemic Attack
UK	United Kingdom
USA	United States of America
WHO	World Health Organization
YLDs	Years lived with disability

Acknowledgements

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