Public Health England

Health inequalities slides
Humber, Coast and Vale STP

Jan 2020

Version 1.1

Why health inequalities are important

"Reducing health inequalities is a matter of fairness and social justice. In England, the many people who are currently dying prematurely each year as a result of health inequalities would otherwise have enjoyed, in total, between 1.3 and 2.5 million extra years of life."

Fair society, healthy lives (The Marmot Review): Strategic Review of Health Inequalities in England post-2010

http://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review

About the slides

- **The Global Burden of Disease (GBD) Study 2017 highlights the conditions causing the largest burden (in terms of disability-adjusted life years) in the Yorkshire and The Humber region**

- **The purpose of this slide set is to demonstrate inequalities in important high-burden diseases for this Sustainability and Transformation Partnership (STP) - defined either because they are high-burden as measured by the GBD in the region, or because they reflect a national strategic priority**

- **This slide set also includes a number of Local Health indicators where there is a particularly strong statistical linear relationship with deprivation as measured by the Index of Multiple Deprivation 2019 (IMD 2019) at ward level within this STP**

- **It uses routinely available data from the Local Health website**

  (www.localhealth.org.uk , downloaded August 2019)

- **It uses 2018 ward and STP boundaries**

Glossary of Technical Terms Used

Linear Regression Model

Linear regression has been used in the analyses presented in this slide set in an attempt to model the relationship between deprivation, as measured by IMD 2019, and outcome indicators from Local Health. The results from the linear regression models are presented as scatter plots with the line-of-best-fit and R-squared value shown for the observed data. The rank of IMD 2019 overall score for wards has been used as the independent variable in the models and all of the regression models in this presentation are weighted by ward population size (2017).

R-Squared

This is a statistical term which indicates how close the data is to a line-of-best-fit in linear regression. It represents the proportion of variation in the dependent variable (in this case, indicators from Local Health) that is explained by the independent variable (in this case IMD 2019 rank of score). It ranges from 0 (no relationship between the variables) to 1 (a perfect relationship).

Note: In the real world, a value of 1 is extremely unlikely!

Glossary of Technical Terms Used

Standardised Mortality Ratio (SMR)

SMR = Observed/Expected x 100

An SMR is the ratio of the observed number of deaths in a ward to the number expected if the ward had the same age-specific rates as England.

Standardised Admission Ratio (SAR)

SAR = Observed/Expected x 100

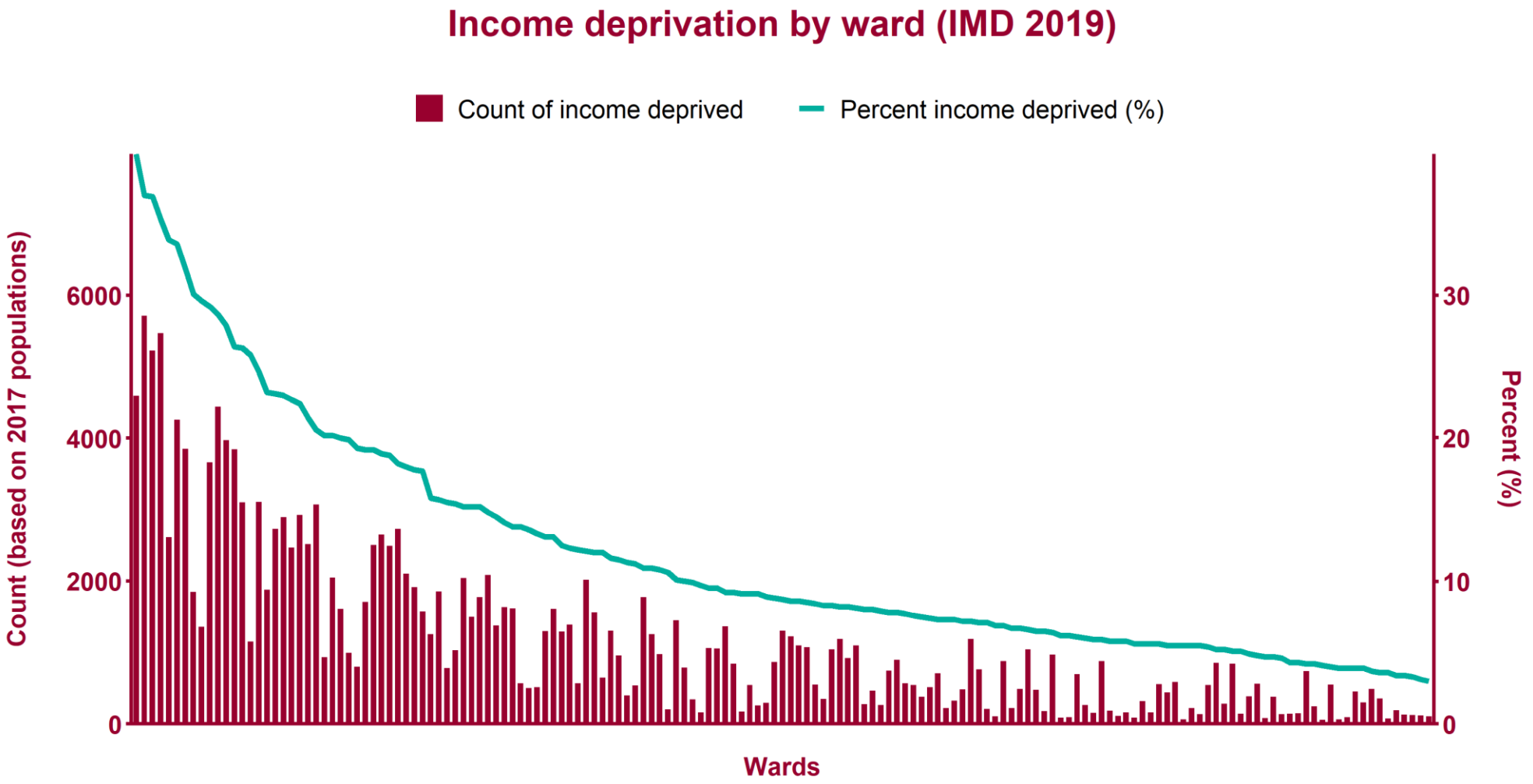
An SAR is the ratio of the observed number of admissions in a ward to the number expected if the ward had the same age-specific rates as England.

Standardised Incidence Ratio (SIR)

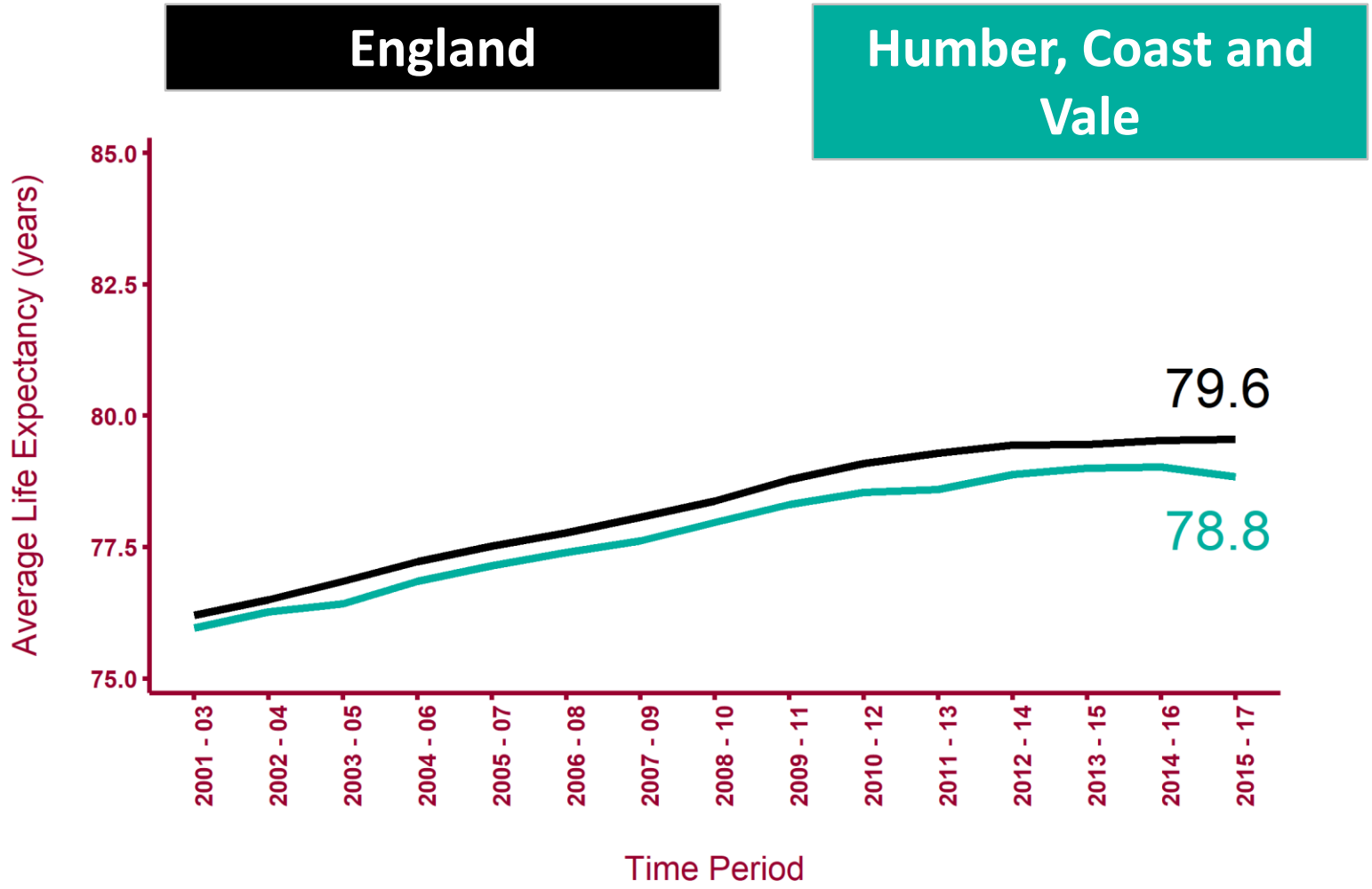
SIR = Observed/Expected x 100

An SIR is the ratio of the observed number of incidences in a ward to the number expected if the ward had the same age-specific rates as England.

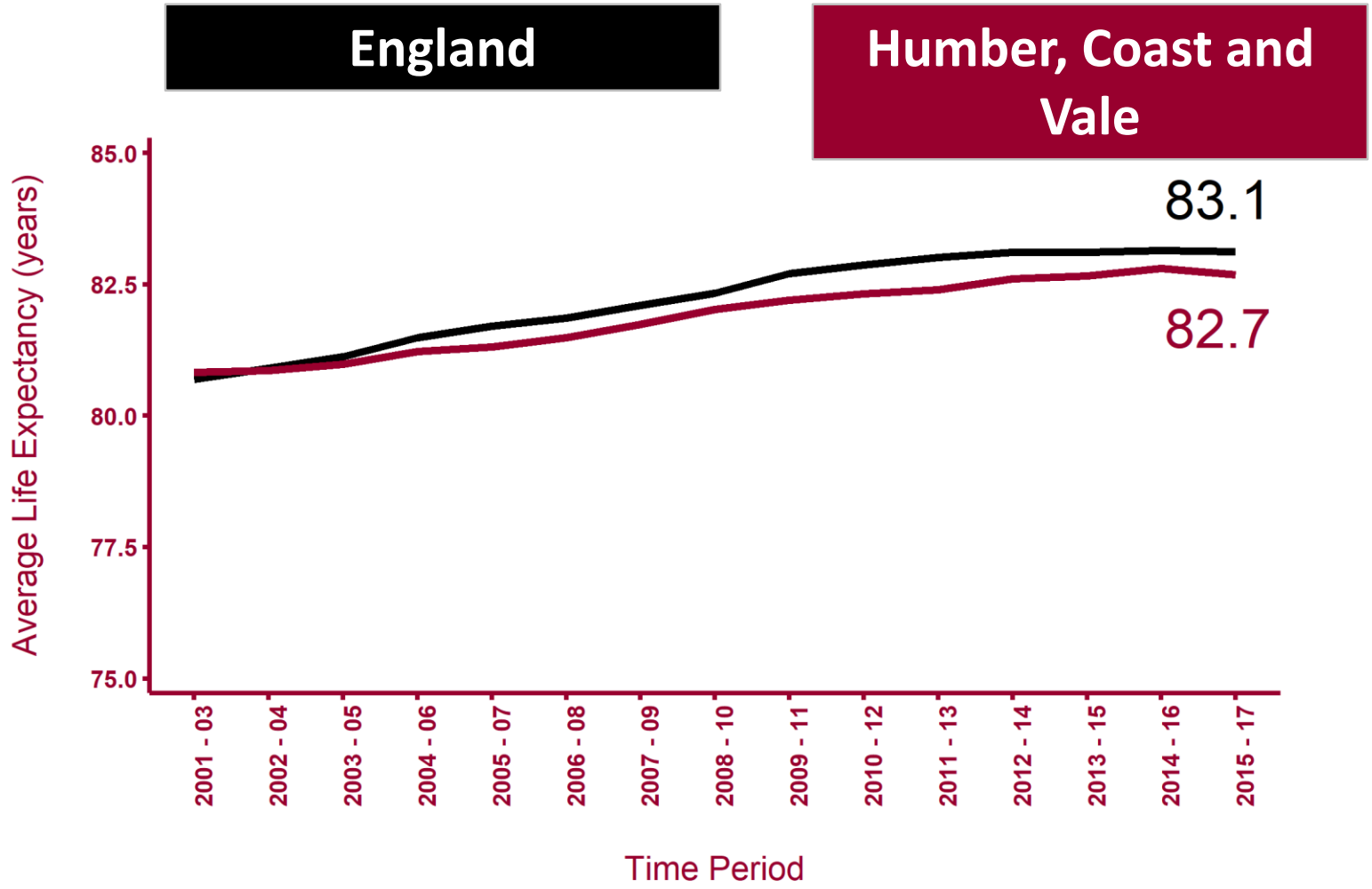
Distribution of income deprivation across Humber, Coast and Vale



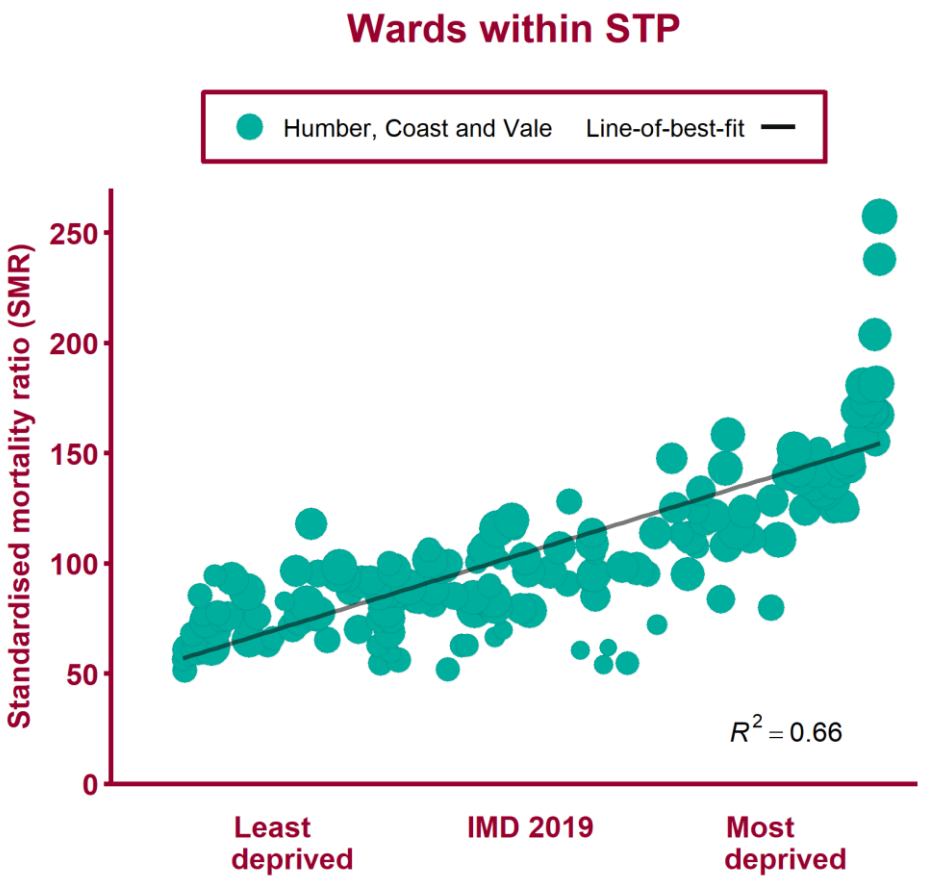
Life expectancy at birth (male)

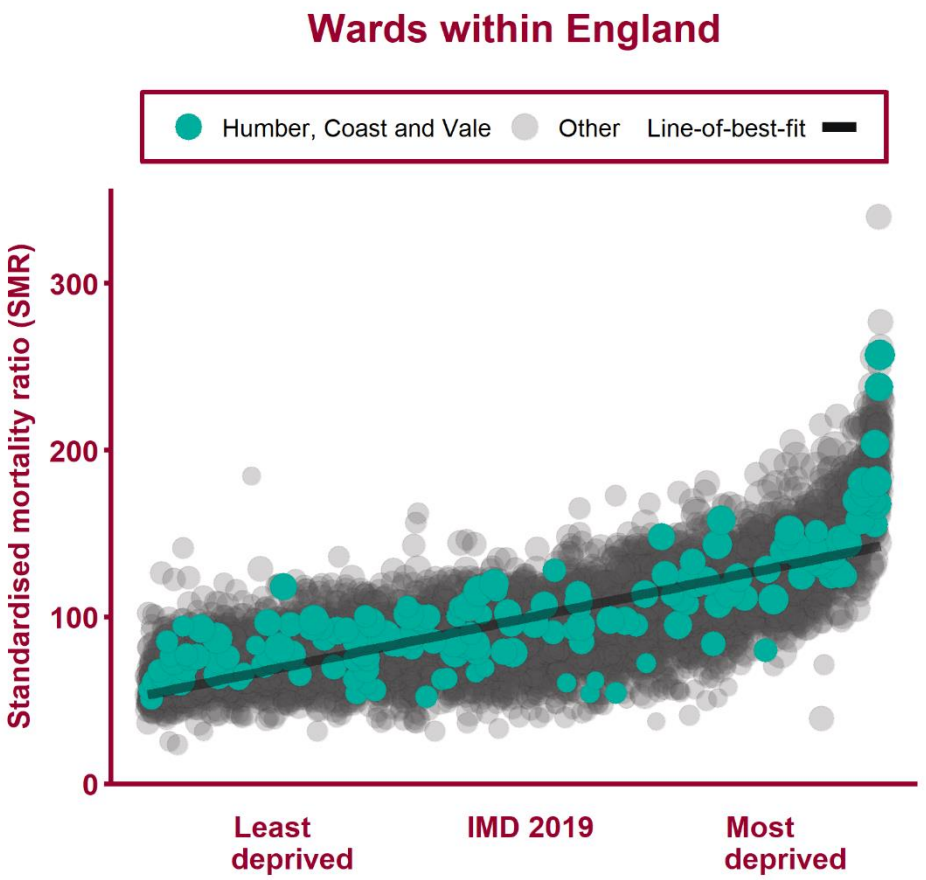


Life expectancy at birth (female)



Deaths from all causes, under 75 years (2013 - 17)





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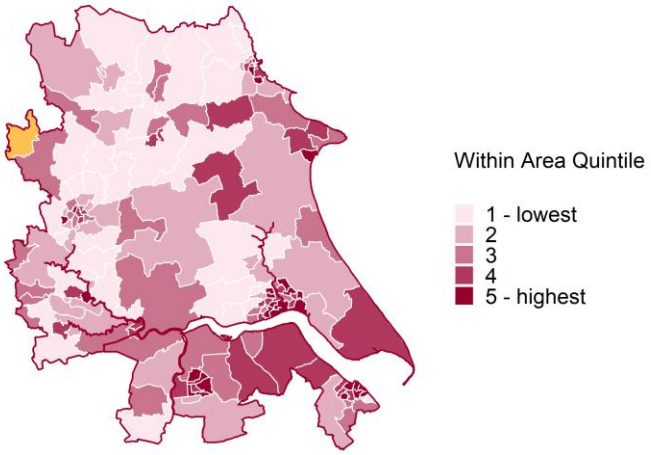
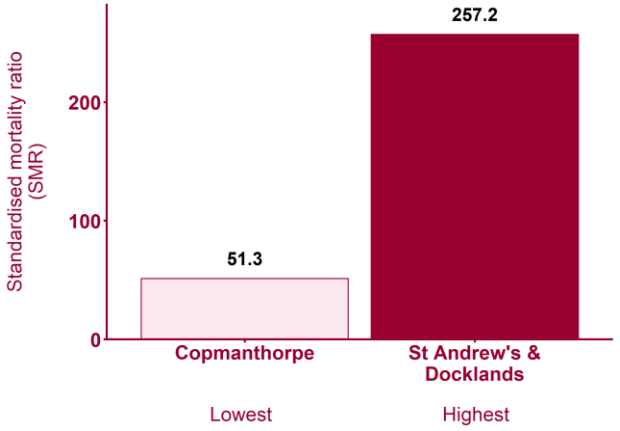
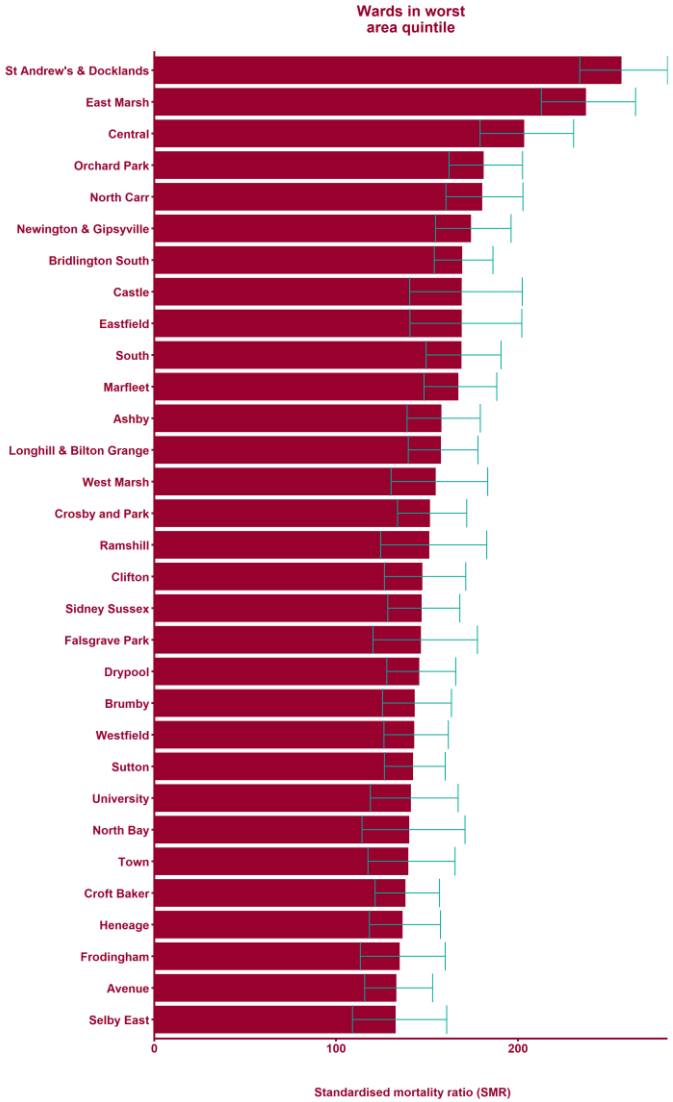
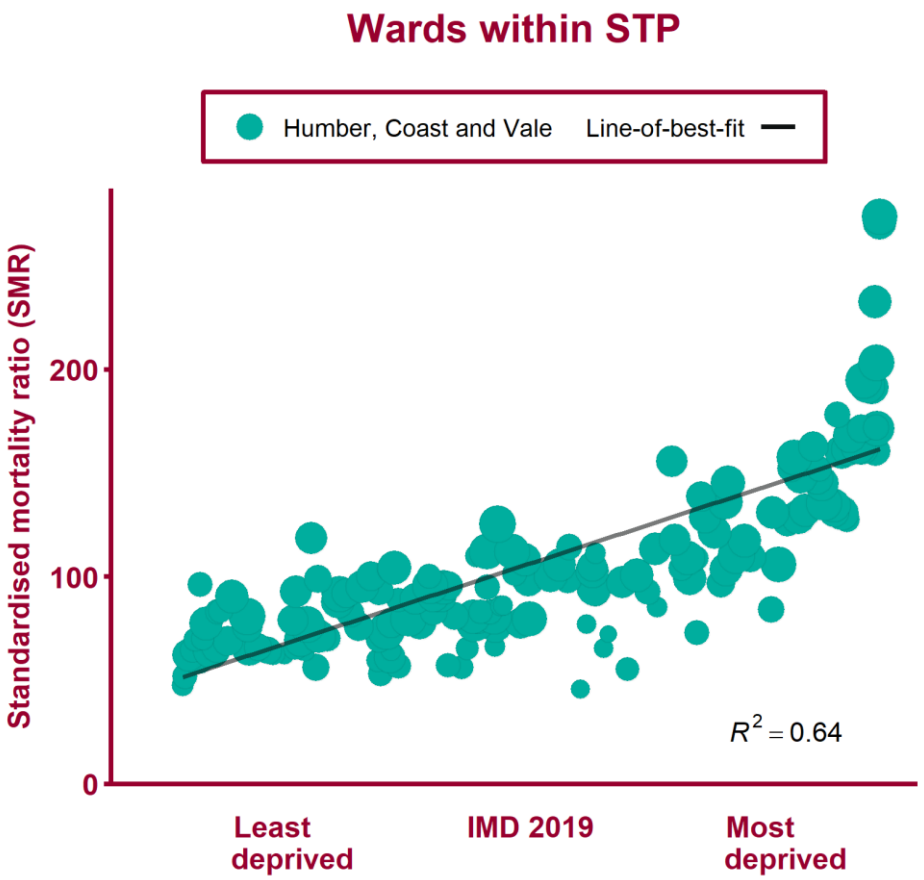
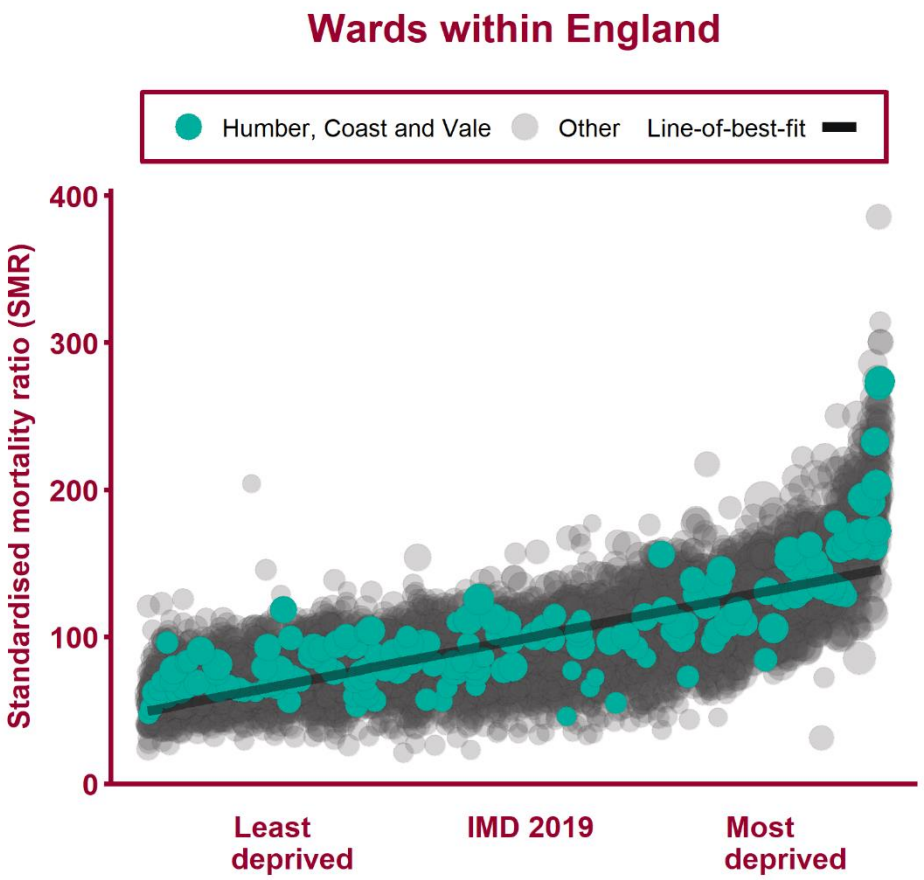






Deaths from causes considered preventable, all ages (2013 - 17)





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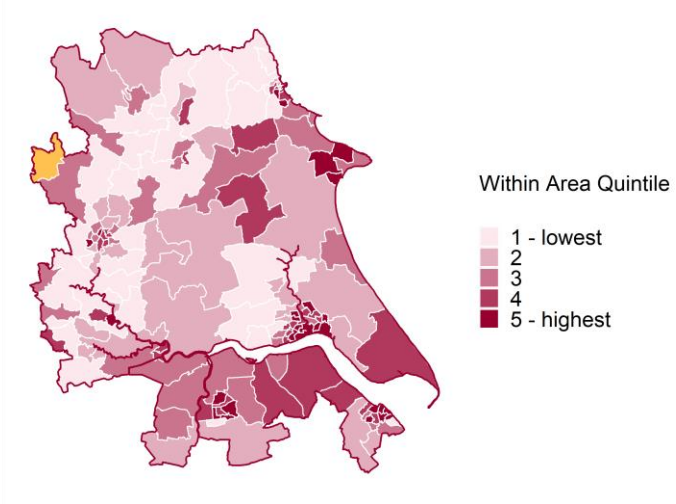
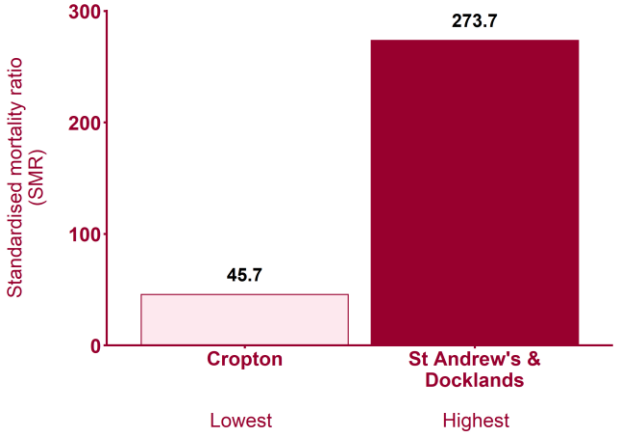
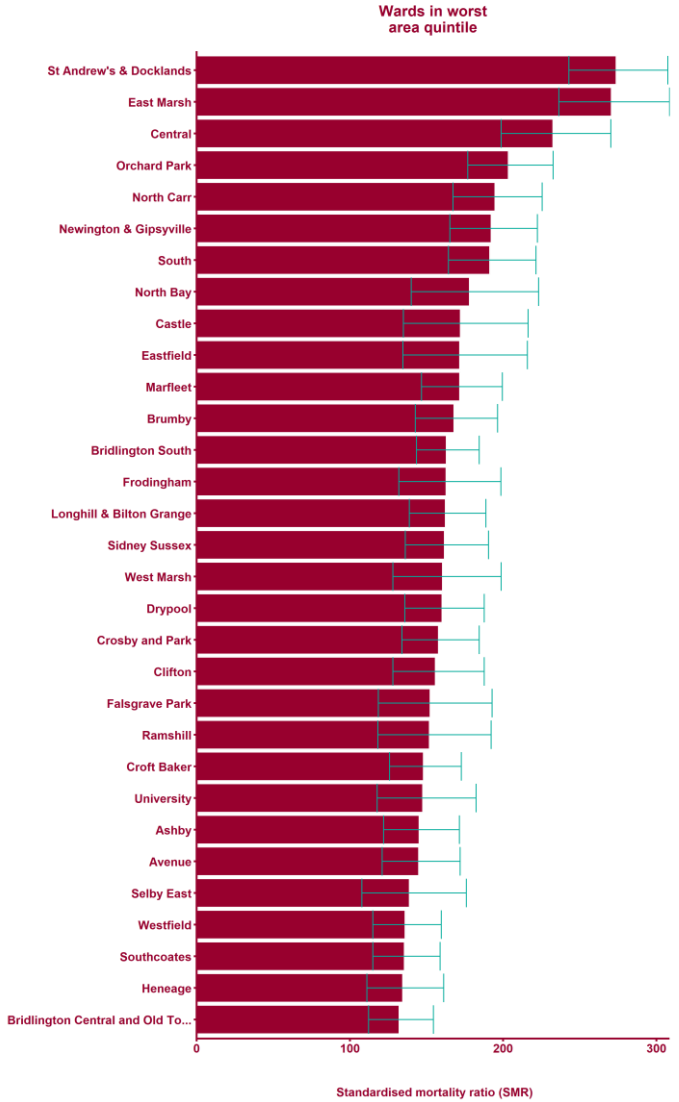
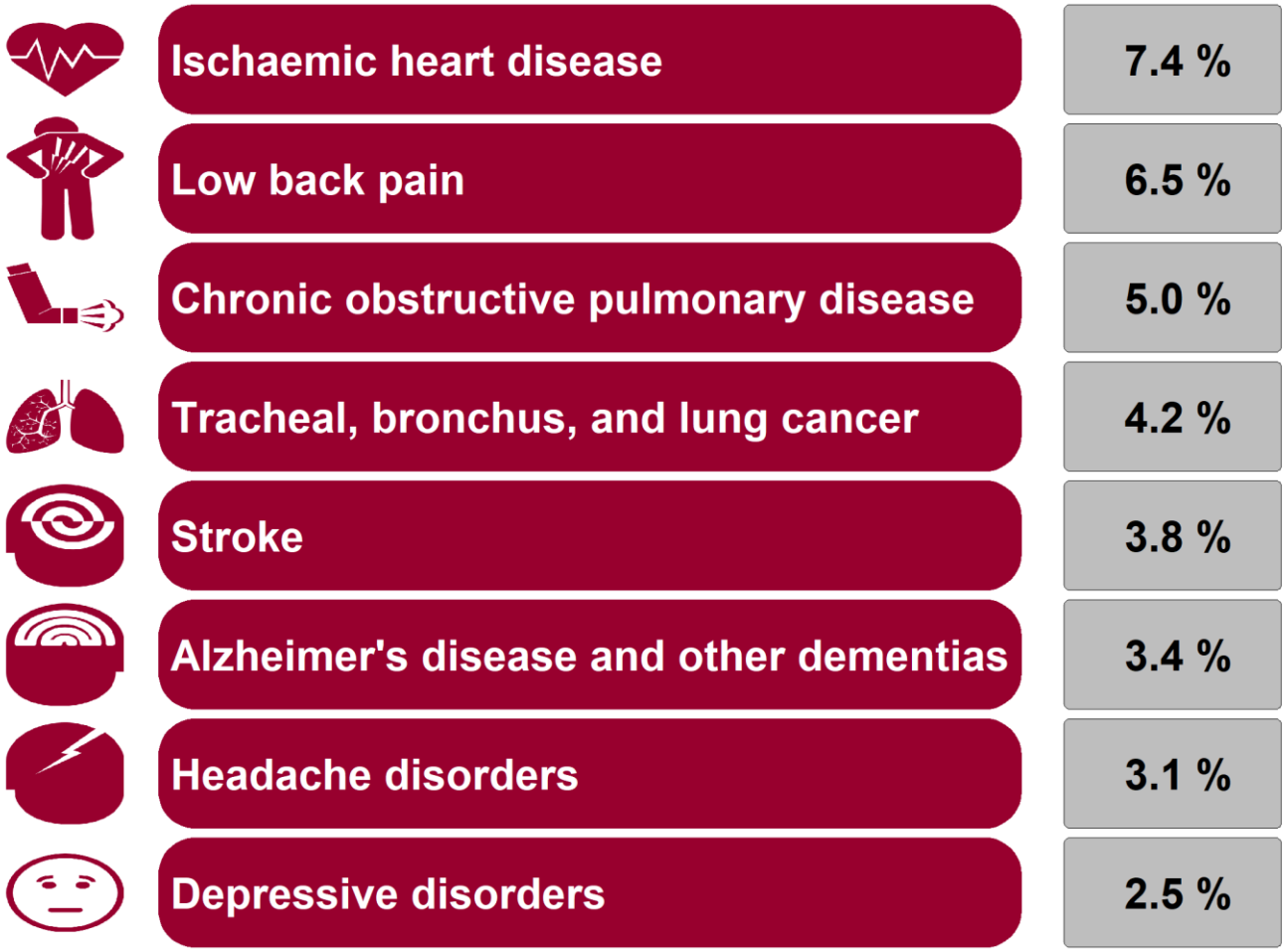




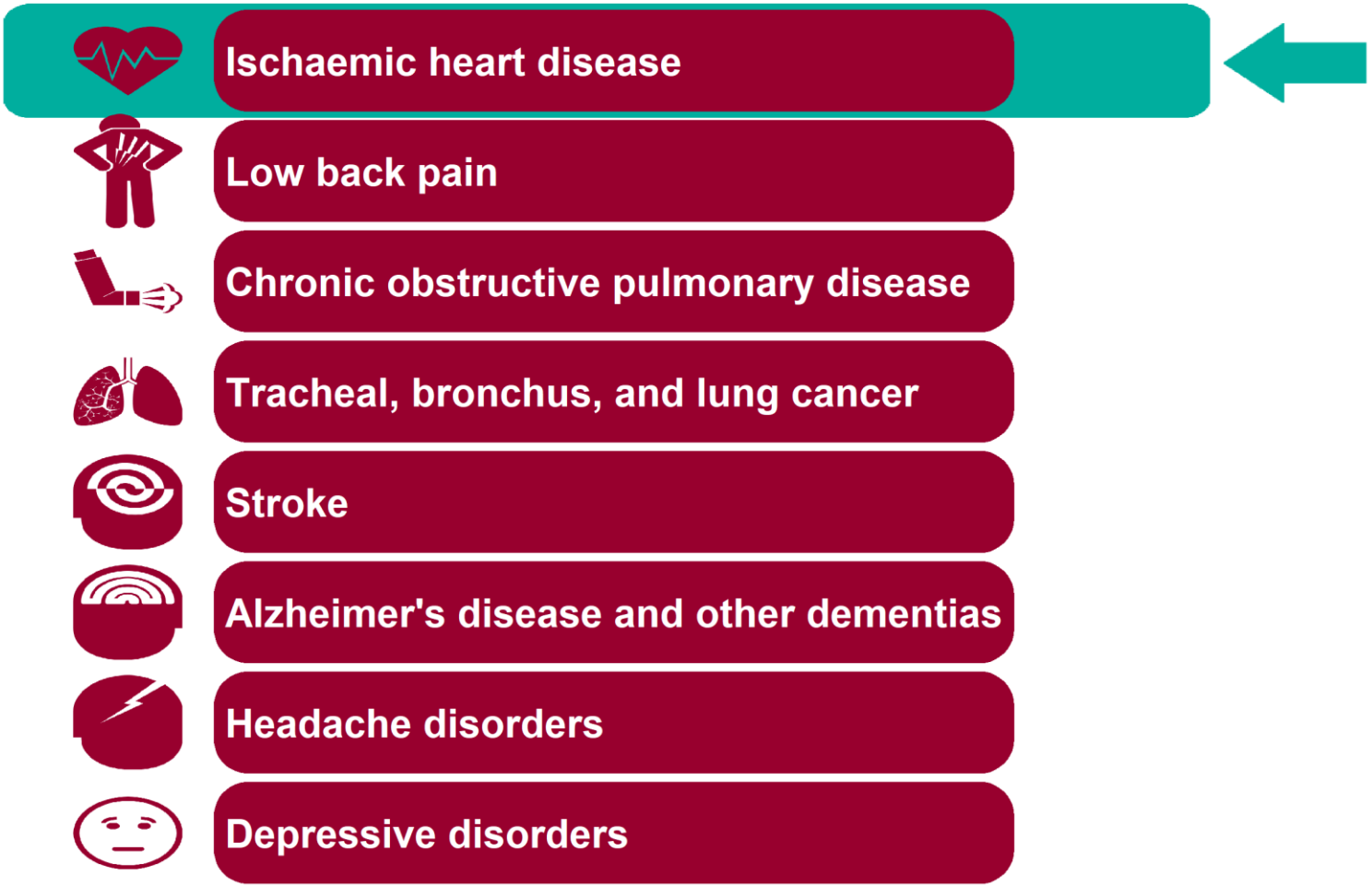


GBD cause: Yorkshire and The Humber region

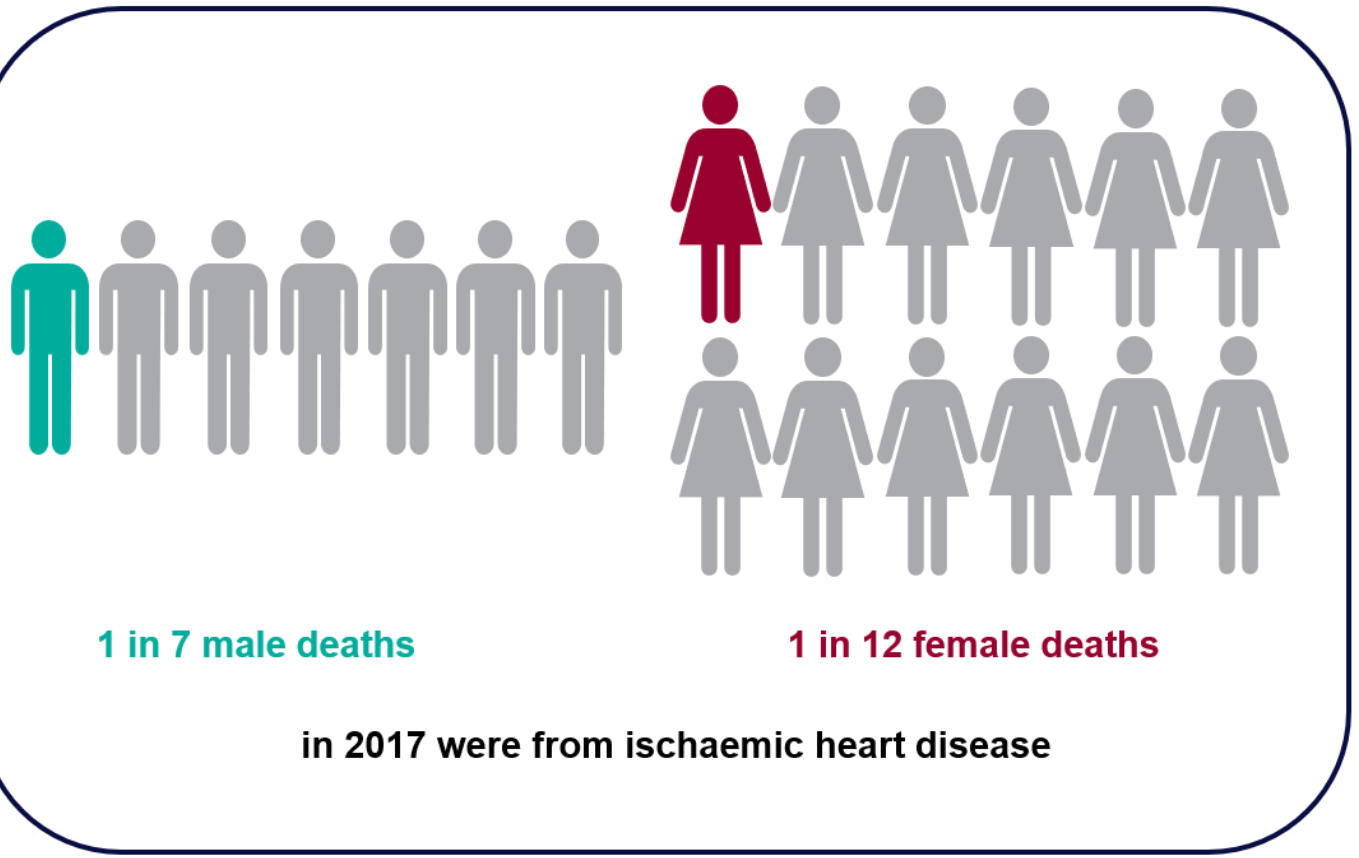
Causes ranked by percentage of total disability-adjusted life years

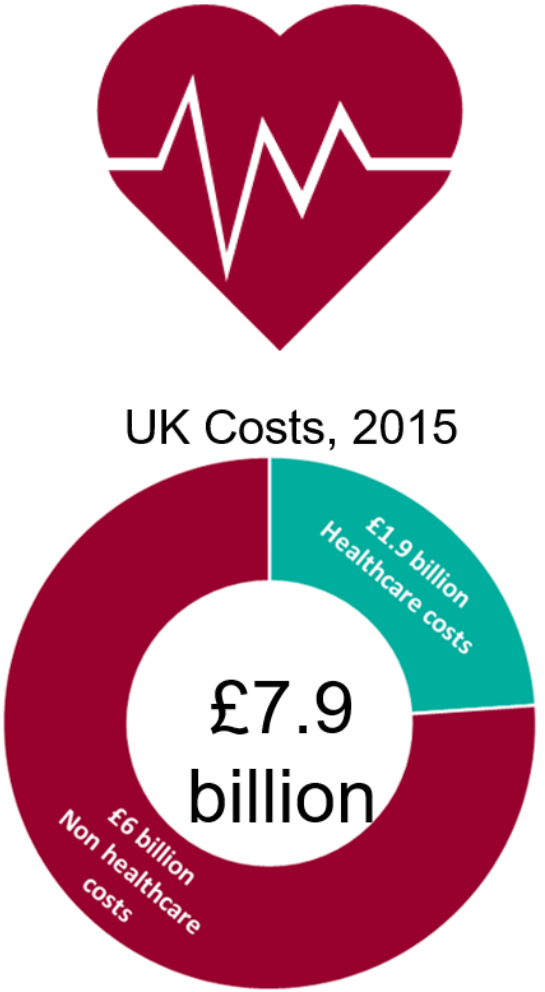


Global Burden of Disease: Ischaemic heart disease

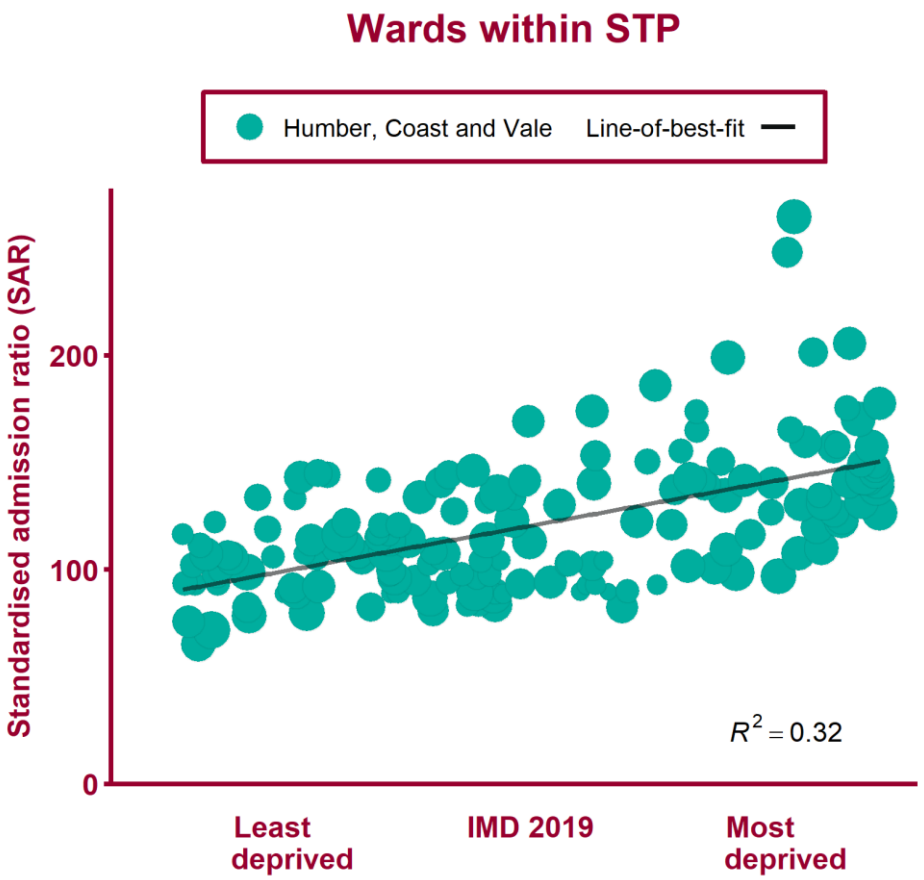


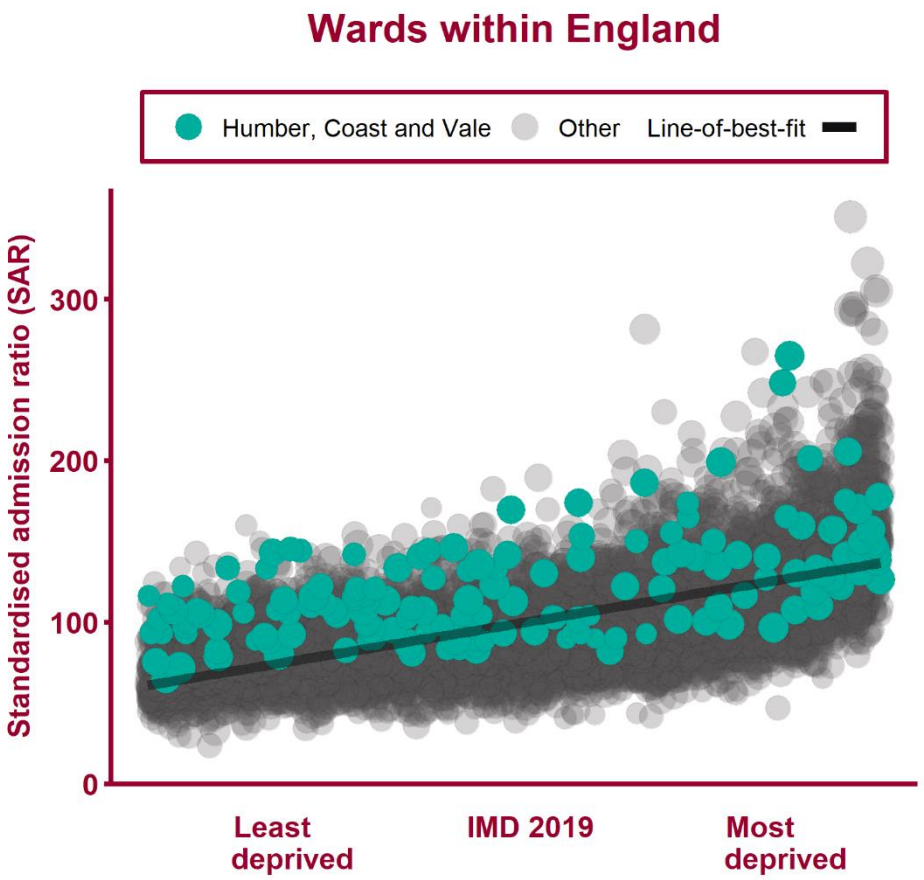
Ischaemic heart disease - National picture





Emergency hospital admissions for CHD (2013/14 - 2017/18)





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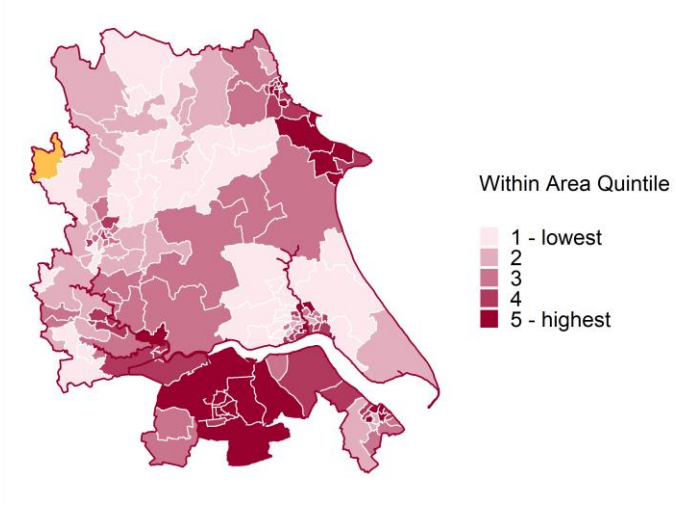
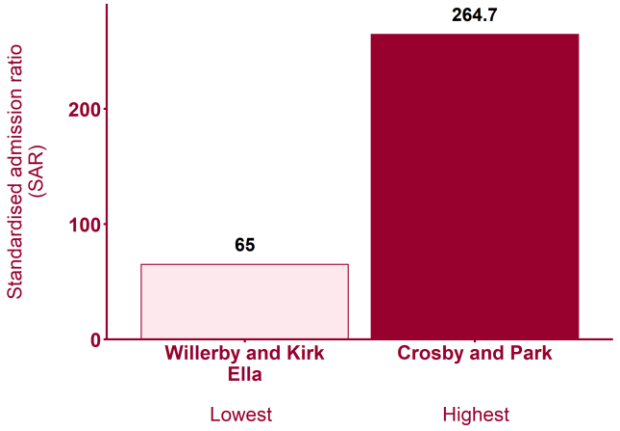
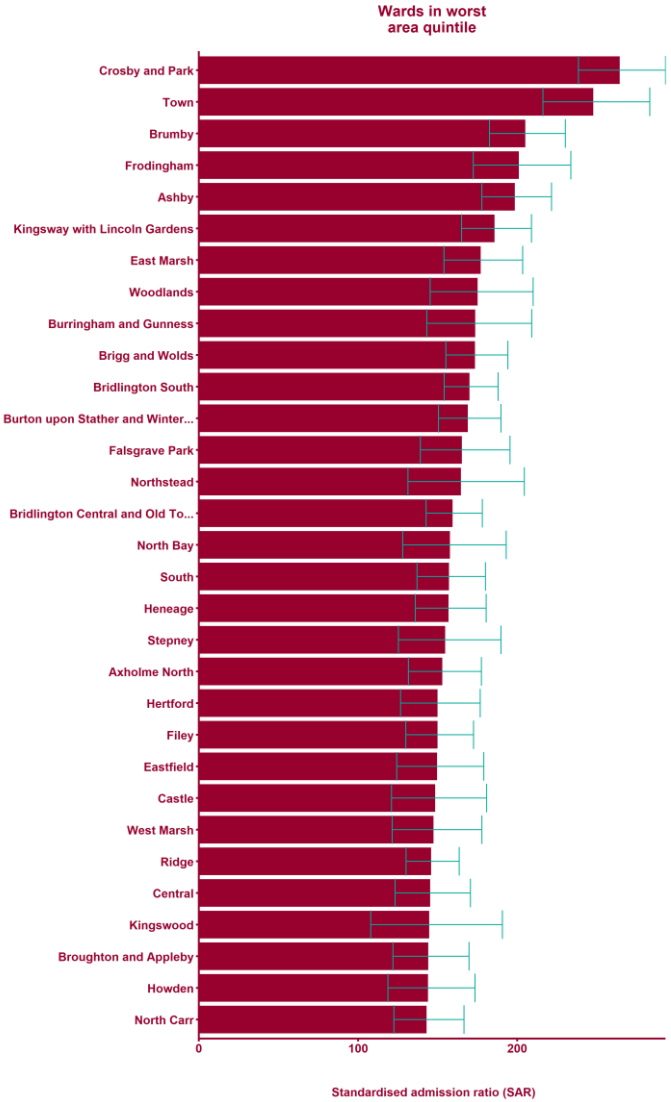
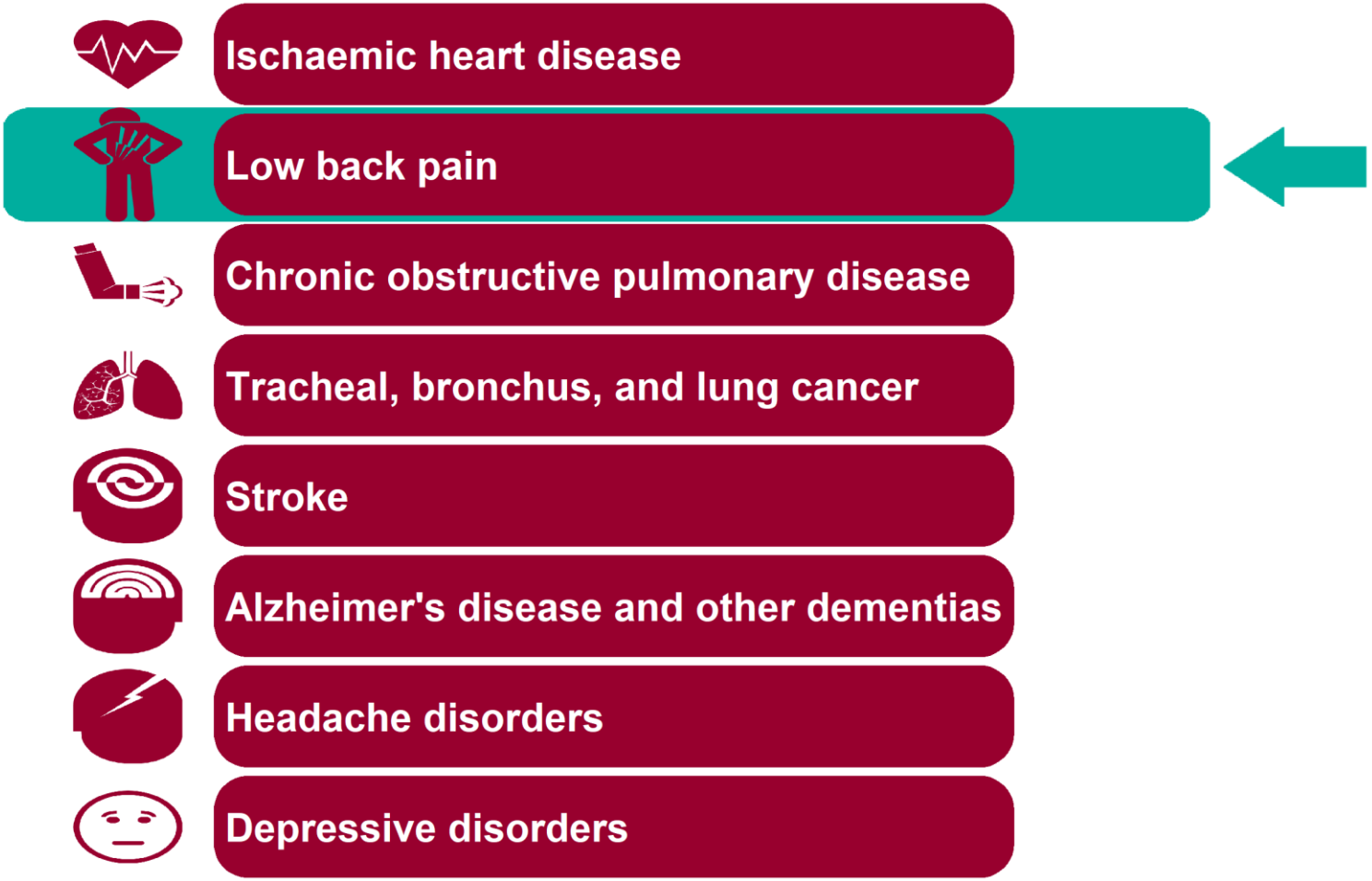






Global Burden of Disease: Low back pain



Low back pain - National picture

An estimated 10.5 million people live with low back pain in the UK.

That's around

1 in 6 people

In 2017 **28.2 million** working days were lost due to musculoskeletal conditions

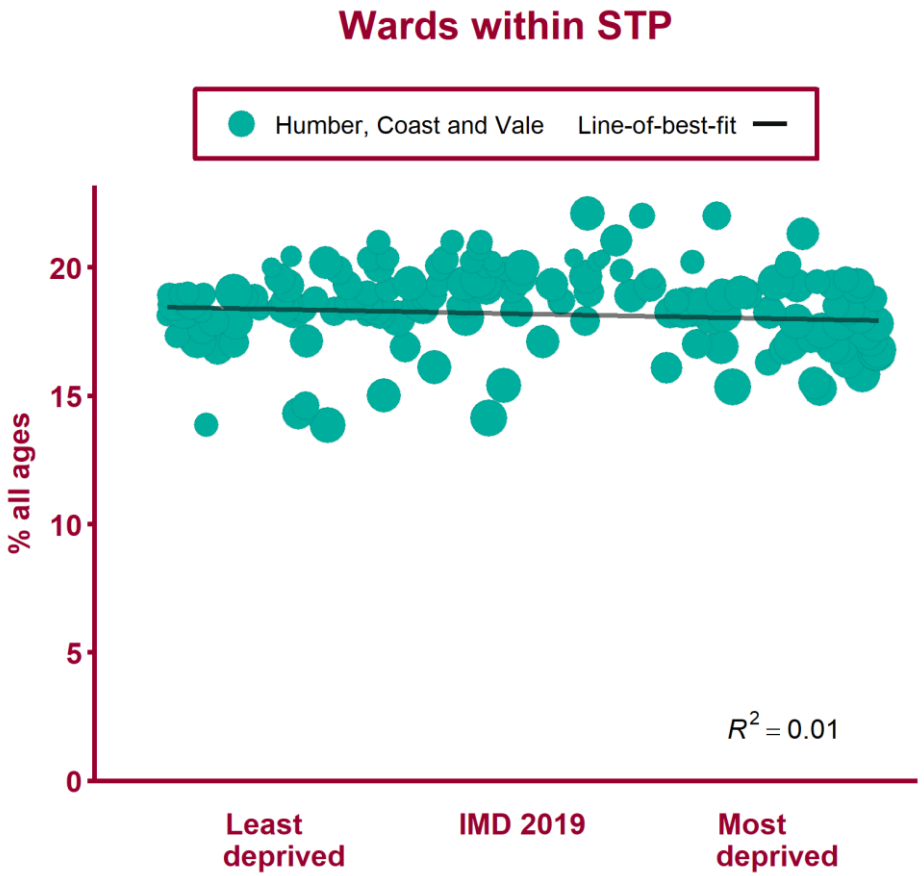
Which accounted for **21%** of all sickness absence

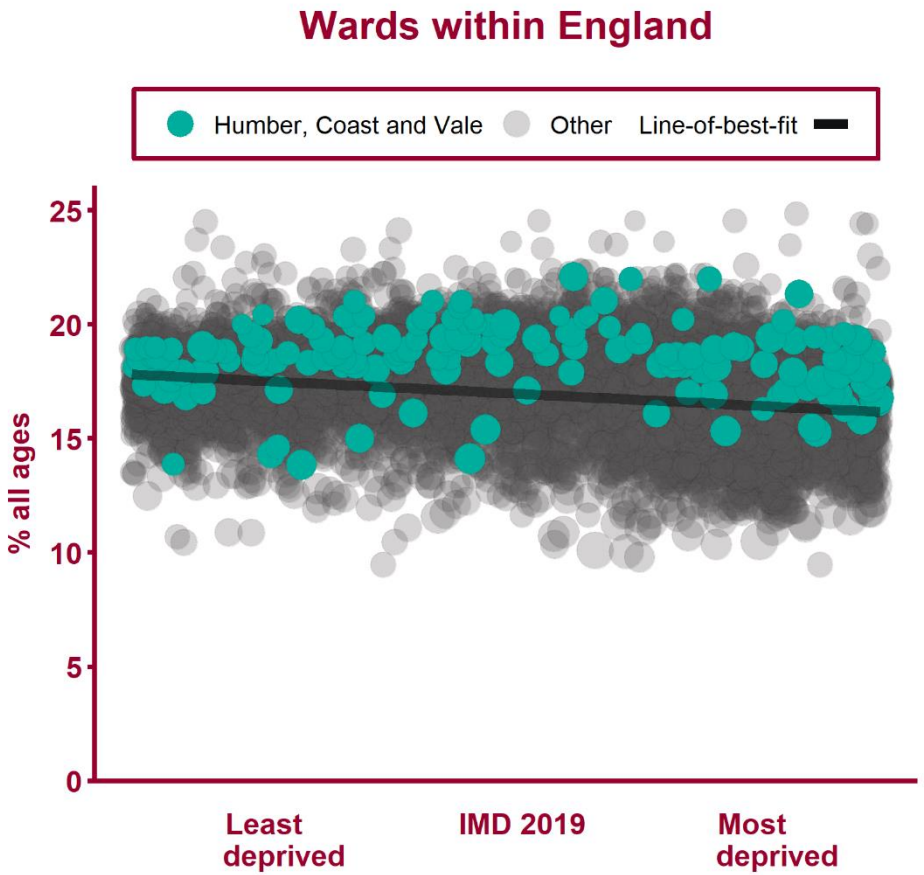
Musculoskeletal conditions are the

2nd biggest cause

of work days lost after coughs and colds

Modelled back pain prevalence (2012)





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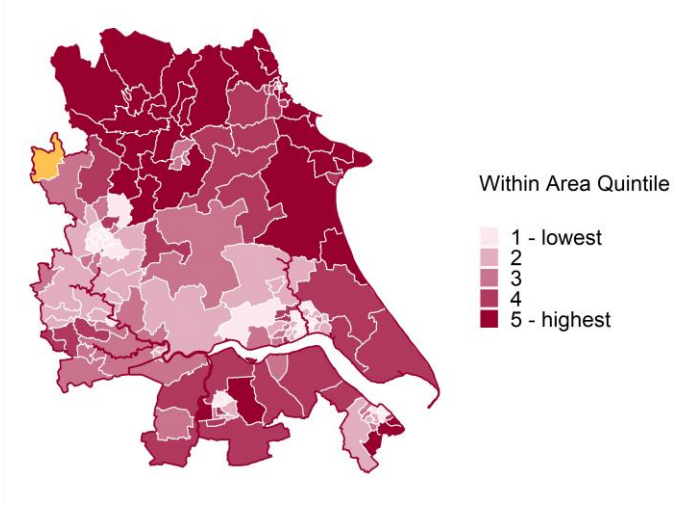
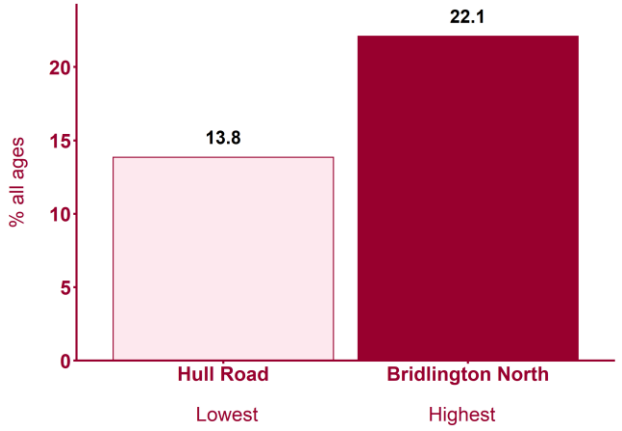
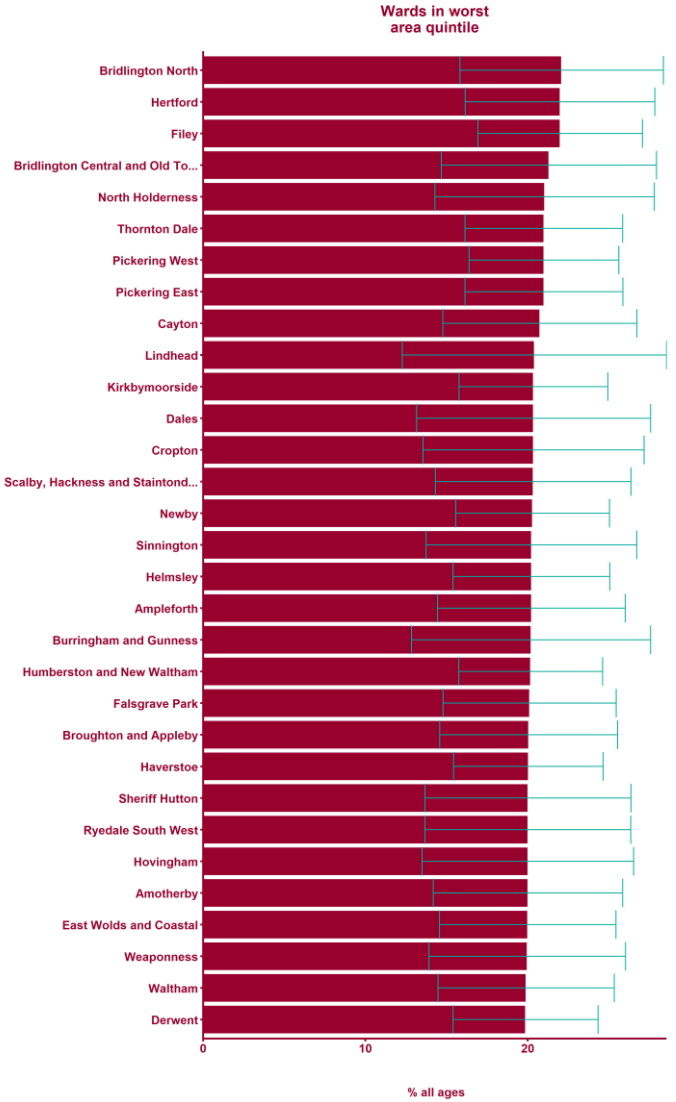
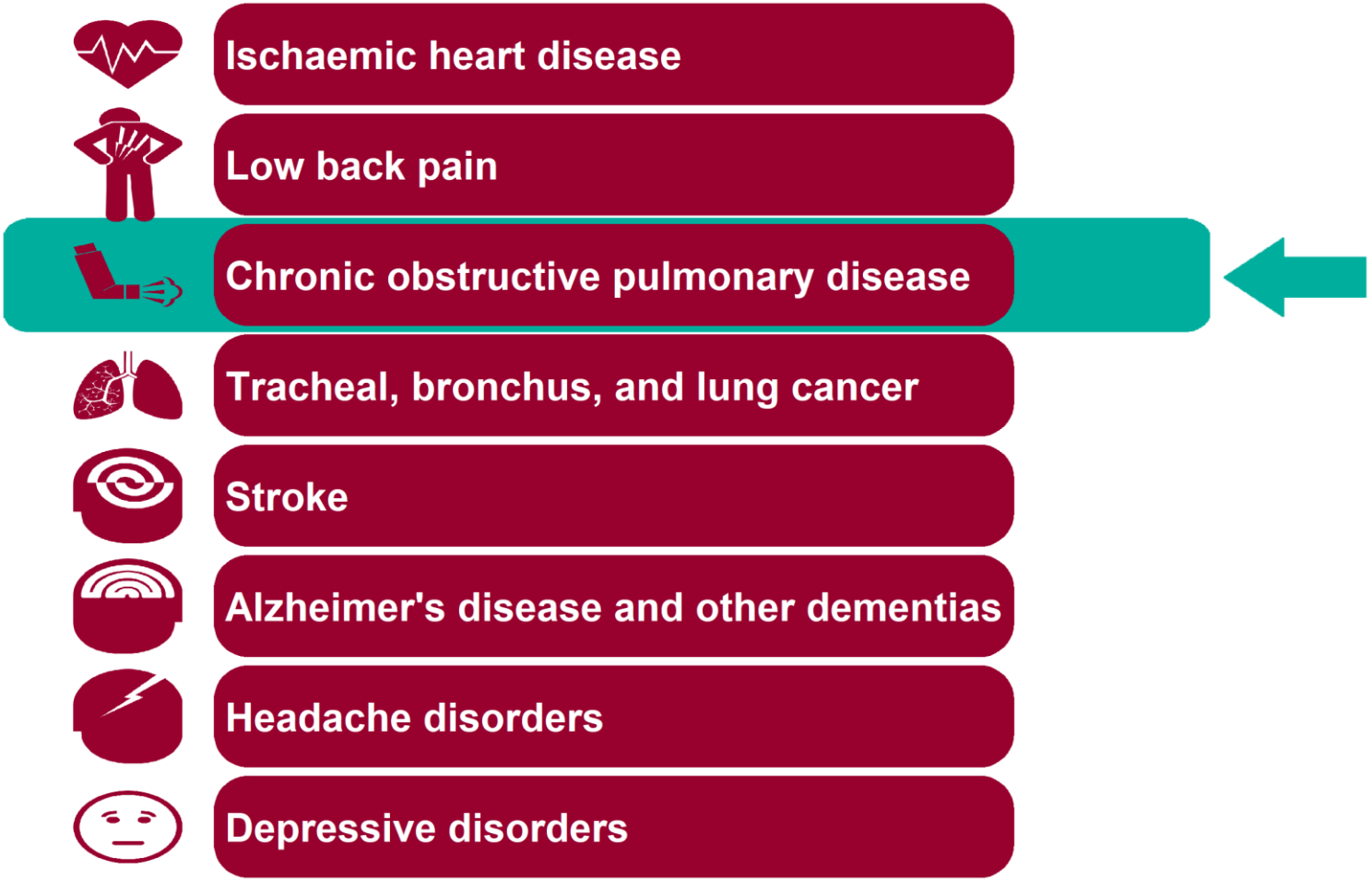






Global Burden of Disease: Chronic obstructive pulmonary disease



Chronic obstructive pulmonary disease - National picture

In the UK in 2017 an estimated

5.5 million people

lived with COPD

That's around **8.2%**

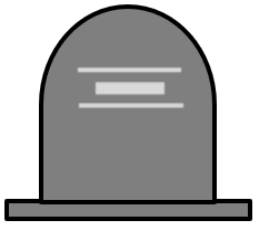
of the population

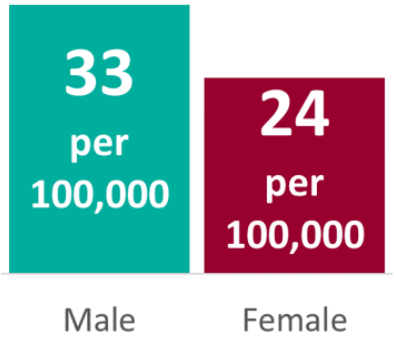
There were almost

40 thousand deaths

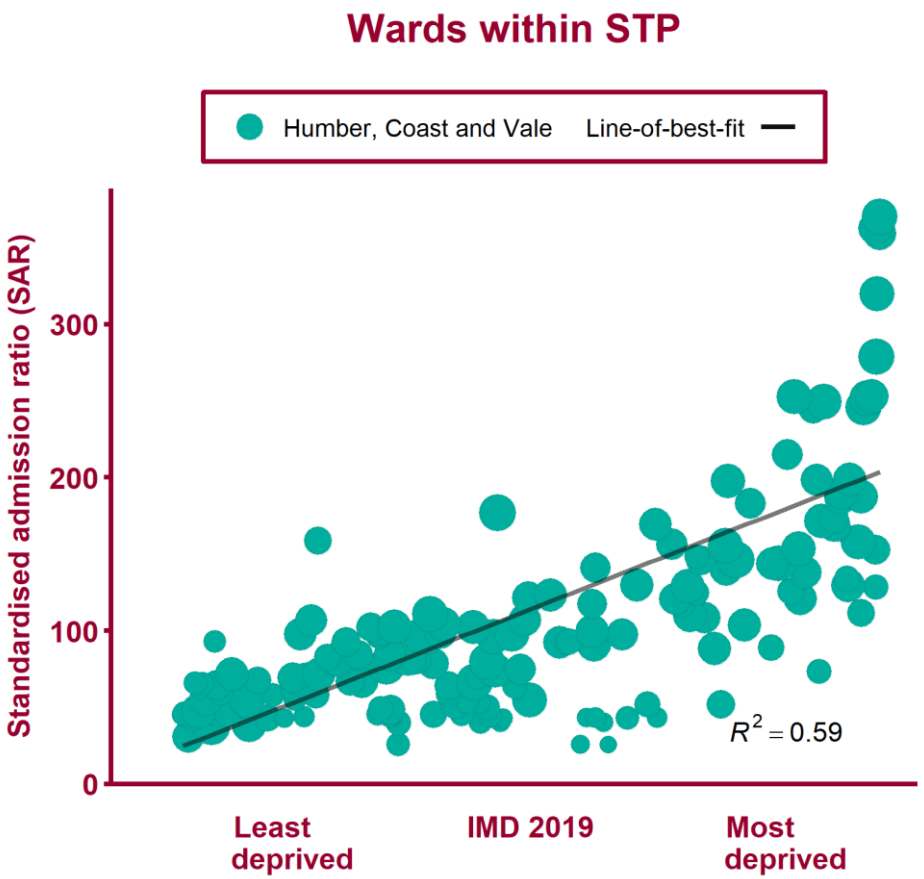
from COPD in the UK in 2017

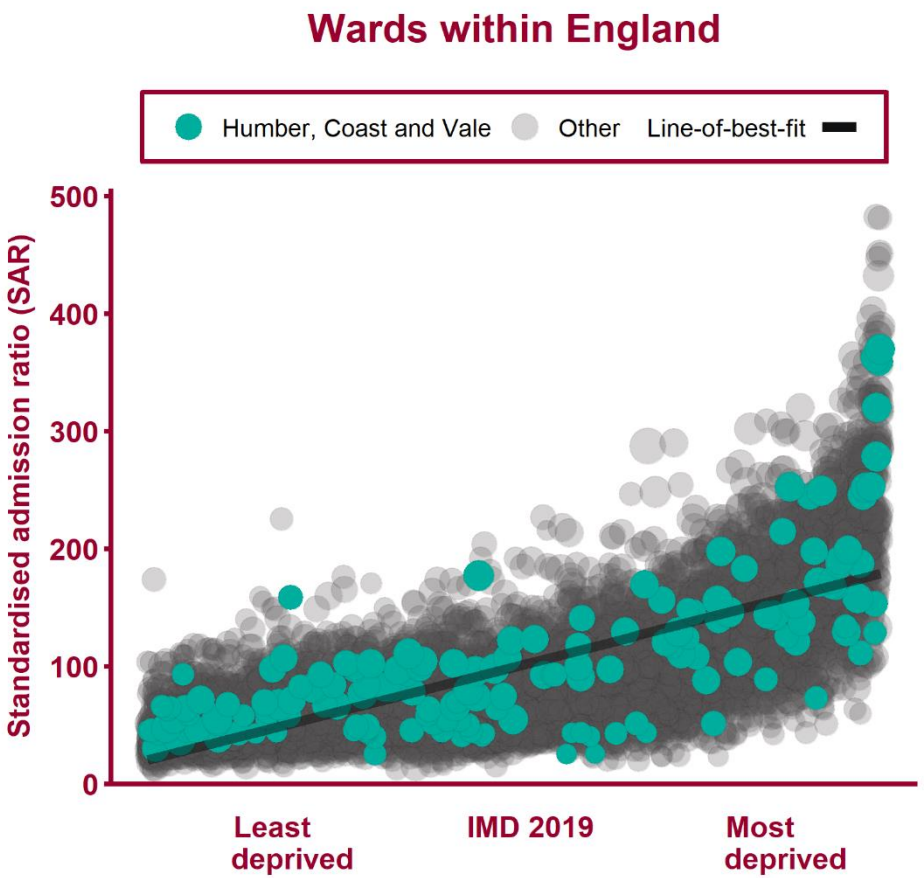
The rate of death from COPD is higher in **men** than in **women**





Emergency hospital admissions for COPD (2013/14 - 2017/18)





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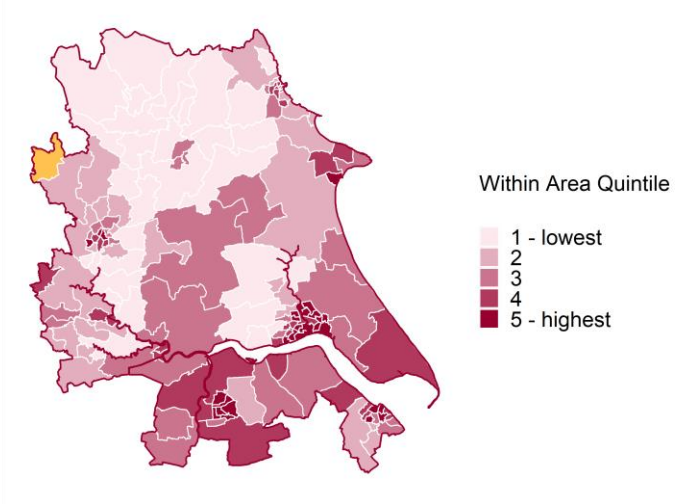
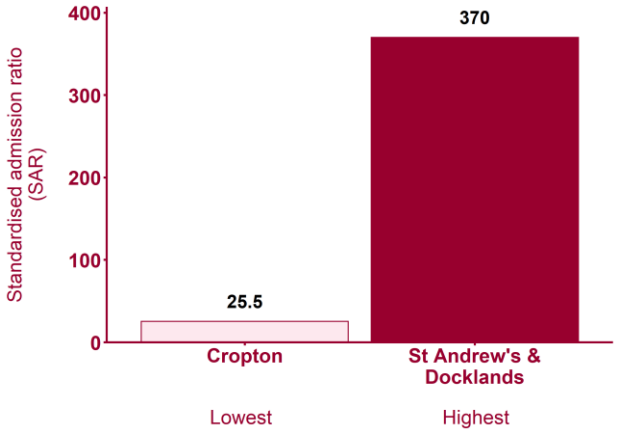
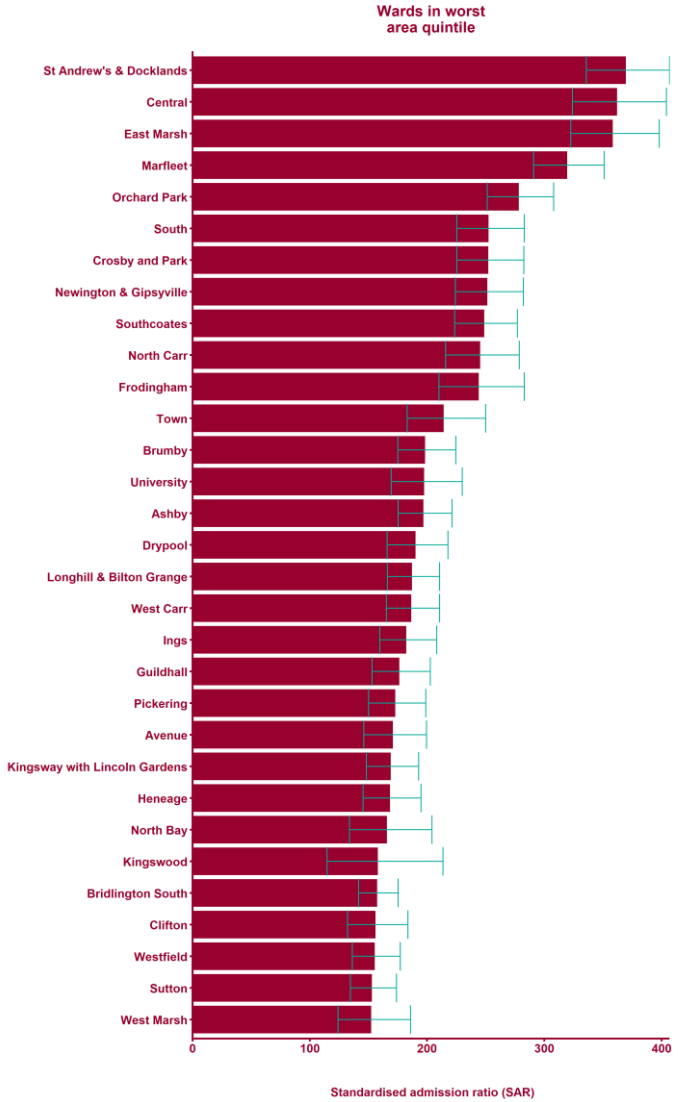
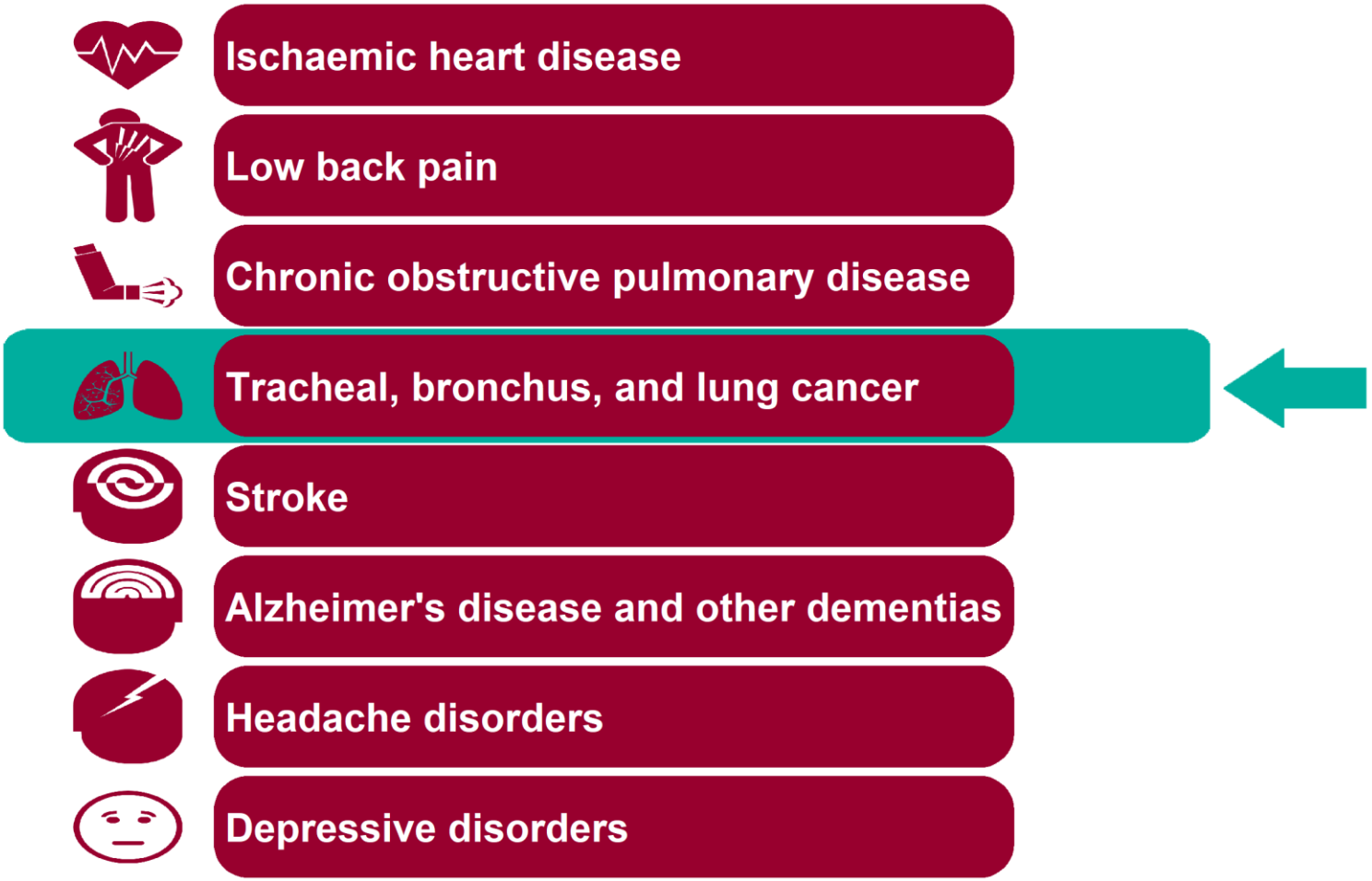


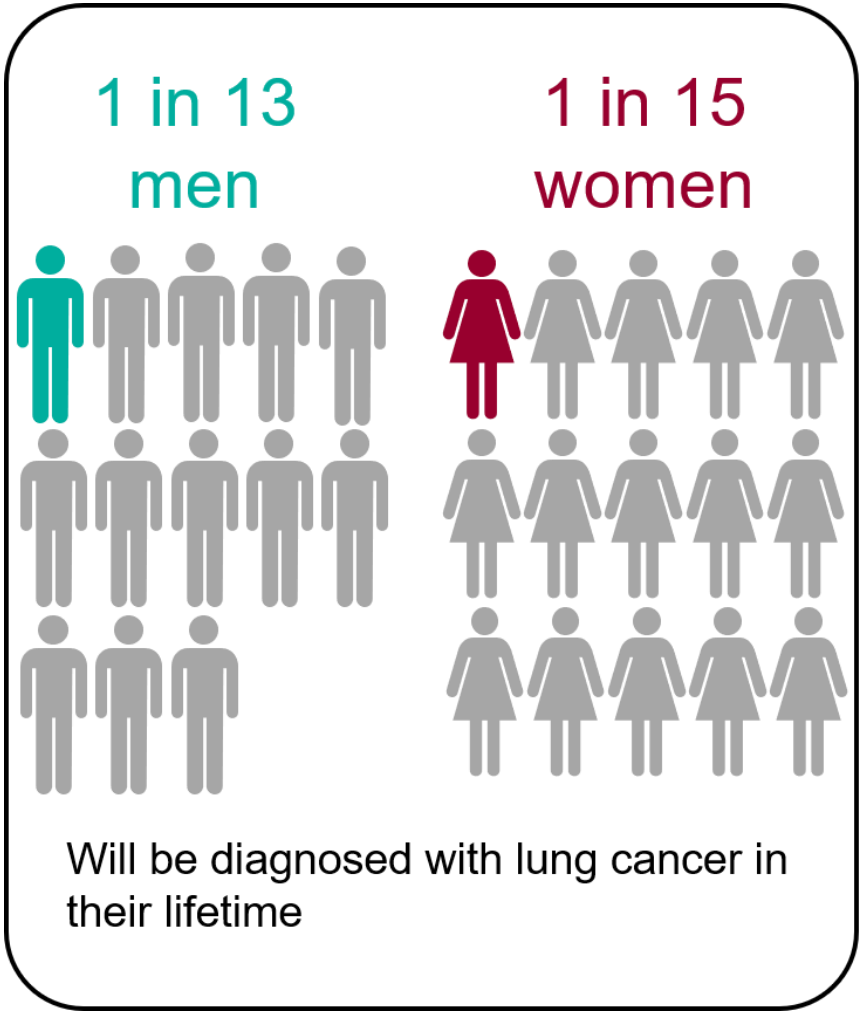




Global Burden of Disease: Tracheal, bronchus, and lung cancer



Lung cancer - National picture



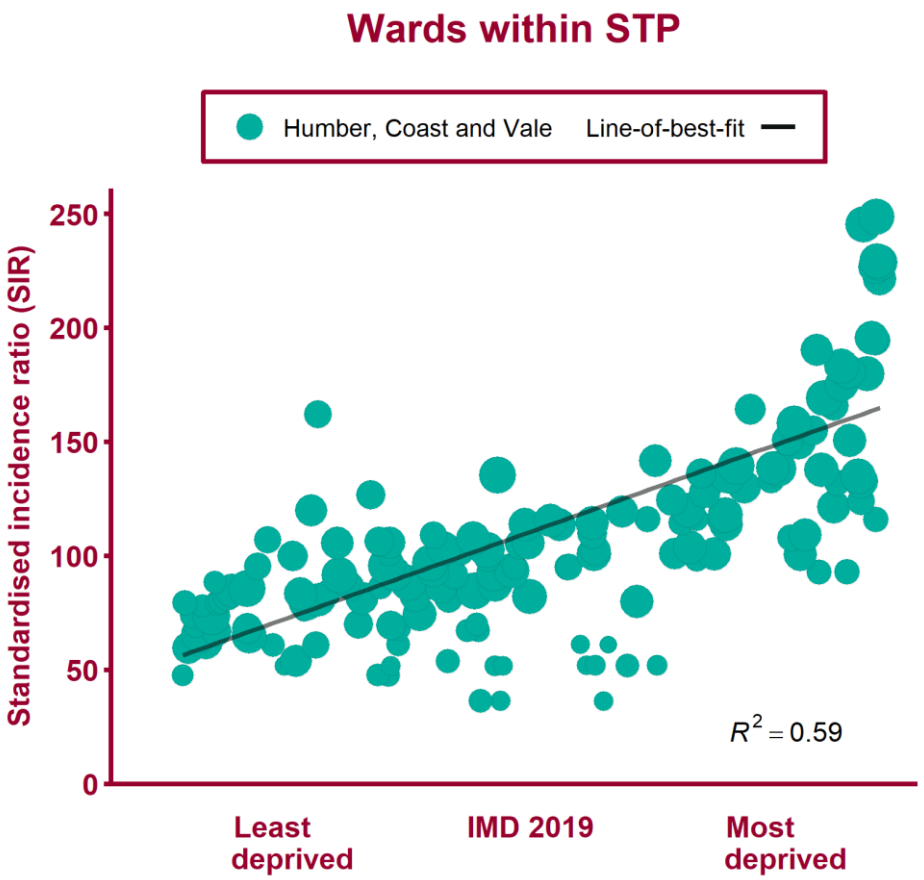
Smoking

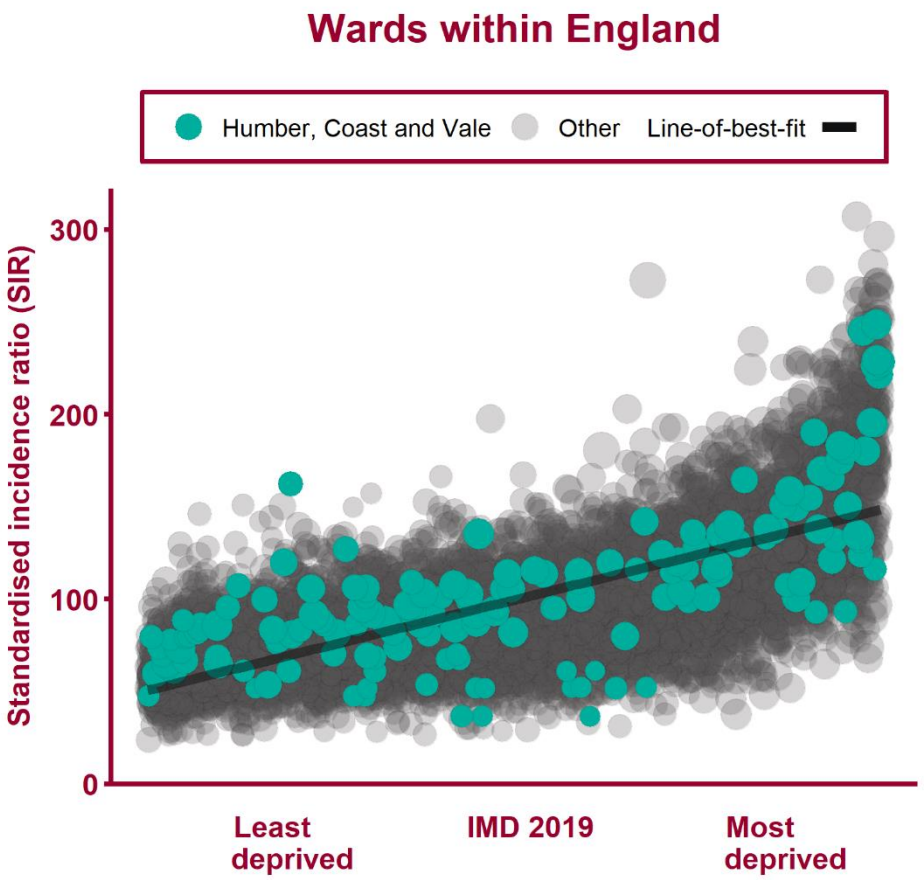
is the main avoidable risk factor for lung cancer, linked to an estimated

72%

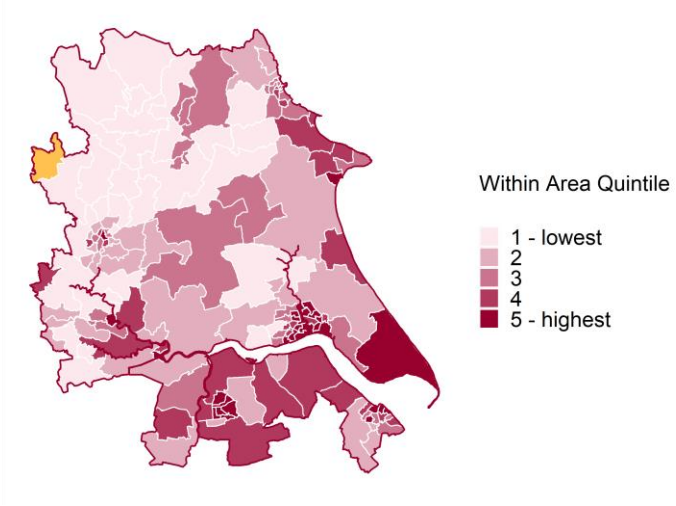
of lung cancer cases in the UK

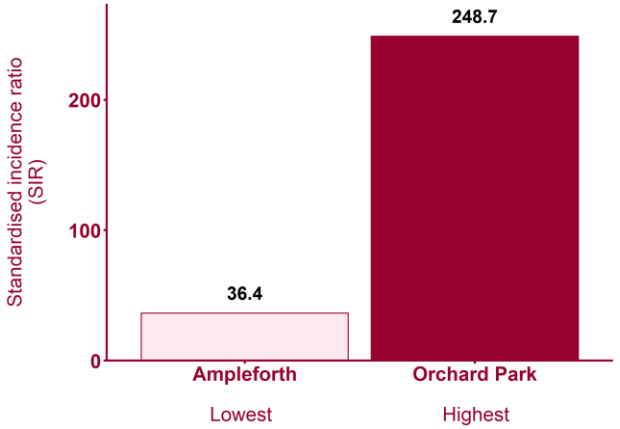
Incidence of lung cancer (2012 - 16)

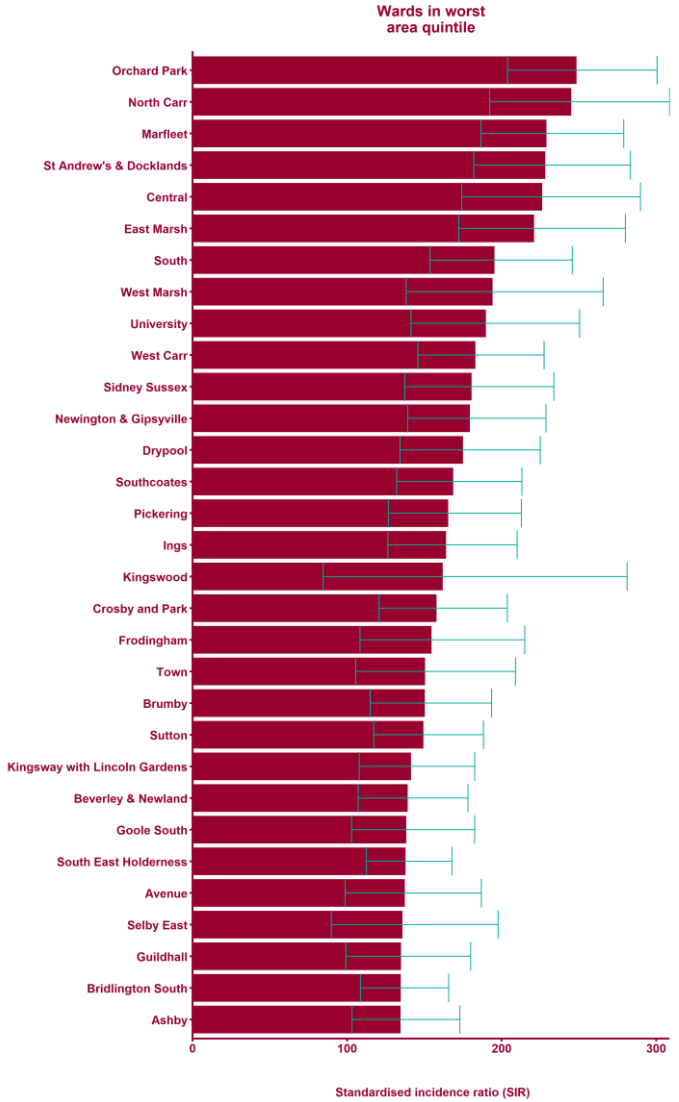




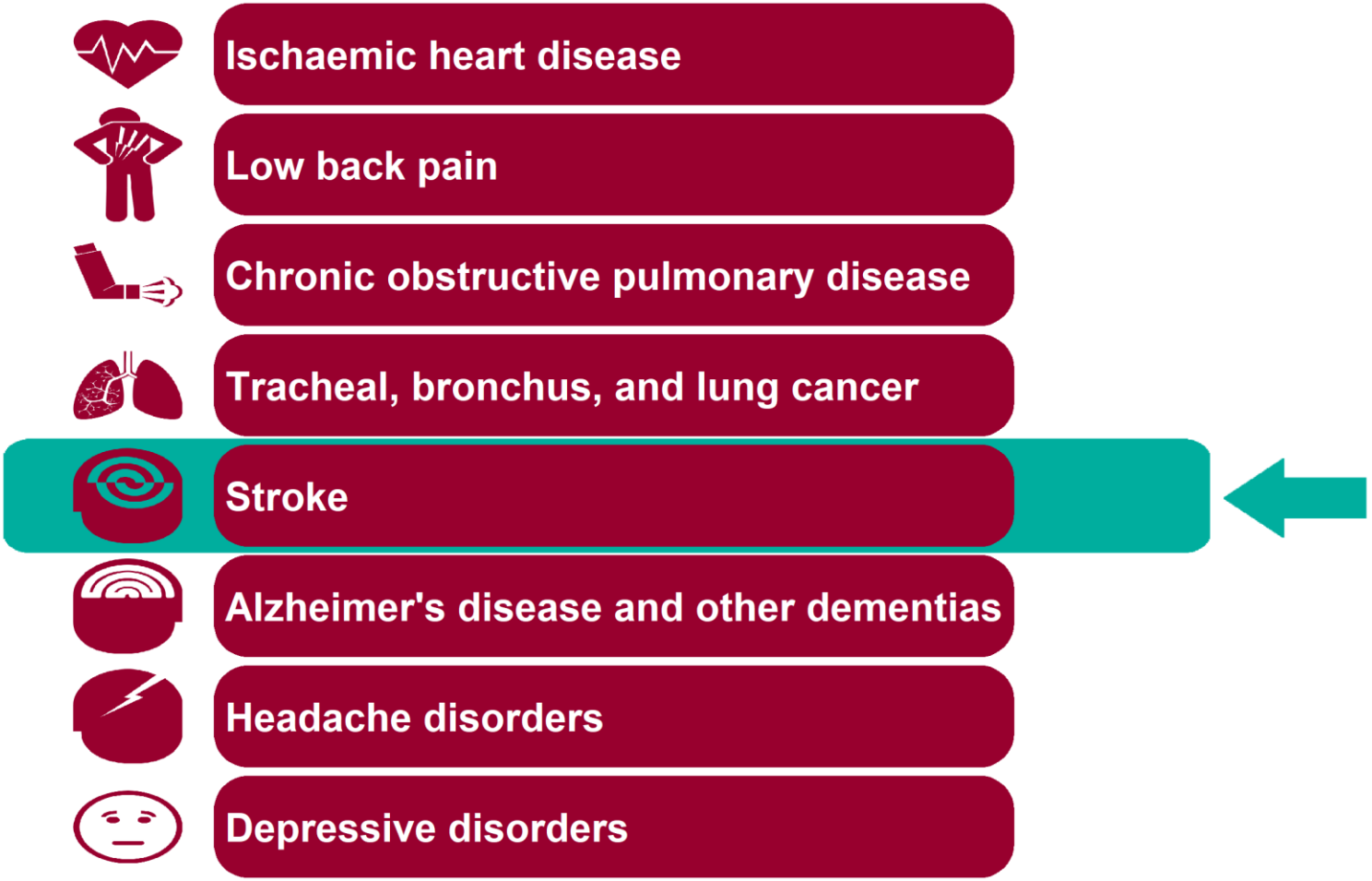
Incidence of lung cancer (2012 - 16)







Global Burden of Disease: Stroke



Stroke - National picture

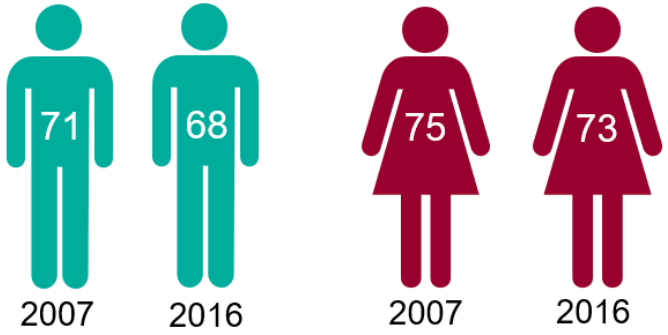
Atrial Fibrillation (AF) is a **contributing factor** to **one in five** strokes

Anticoagulation reduces the risk of stroke by **two thirds**

14% of diagnosed AF patients at high risk of stroke are **not anticoagulated**

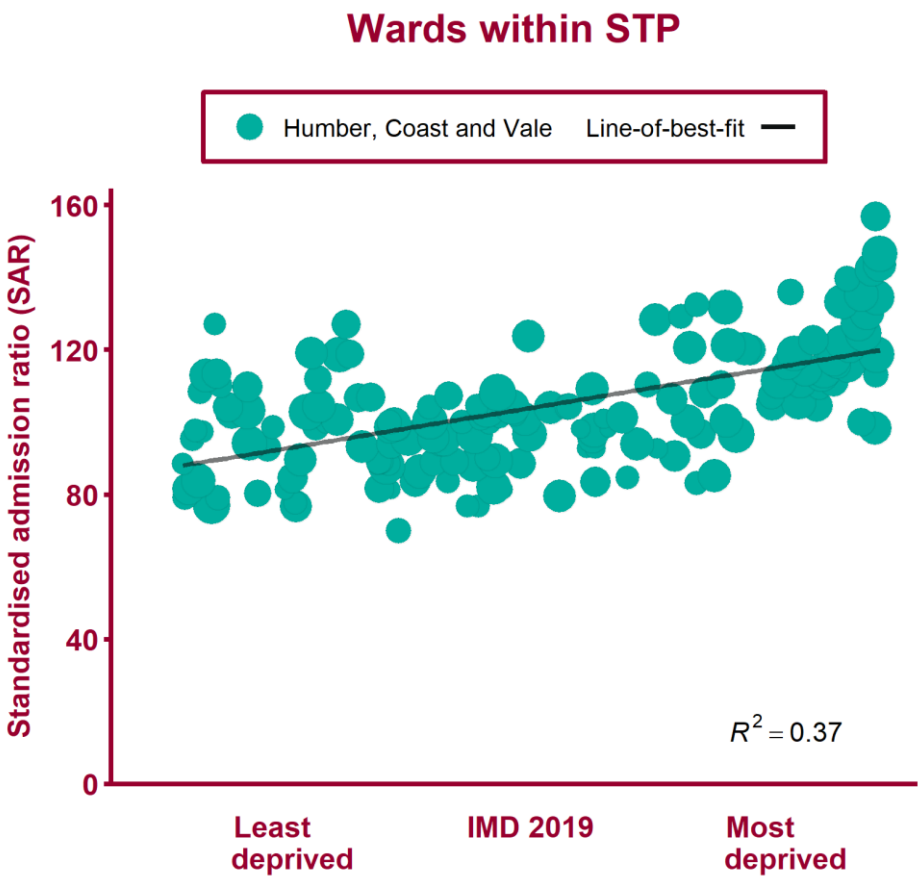
Almost **1 in 4** people likely to have a stroke

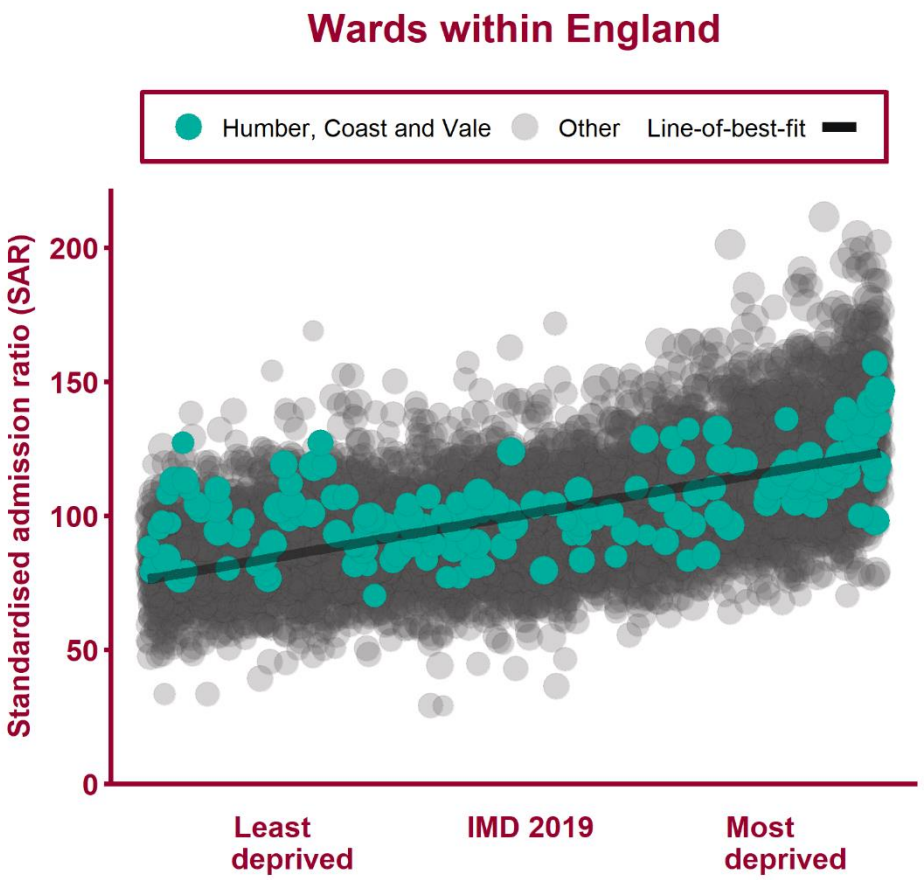
Age at first stroke is decreasing



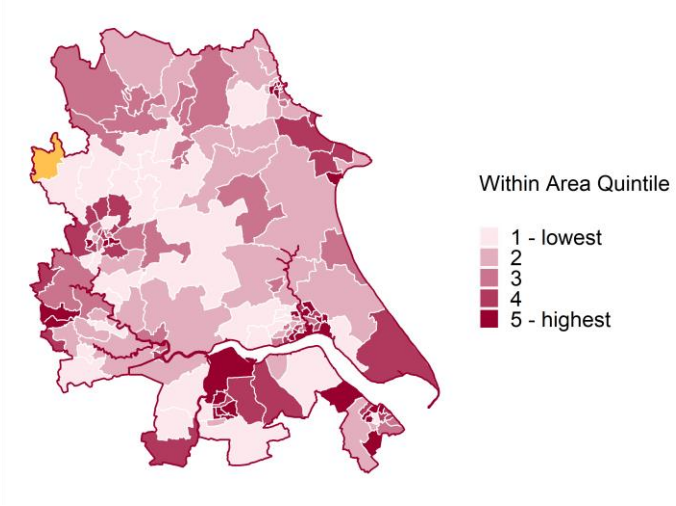
The estimated cost of acute stroke in England is £1.7 billion a year

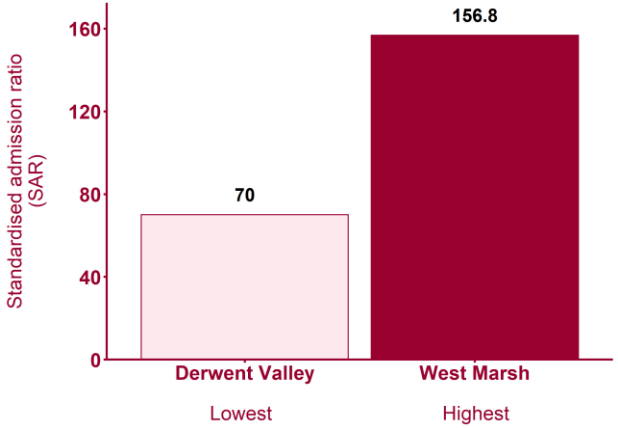
Emergency hospital admissions for stroke (2013/14 - 2017/18)

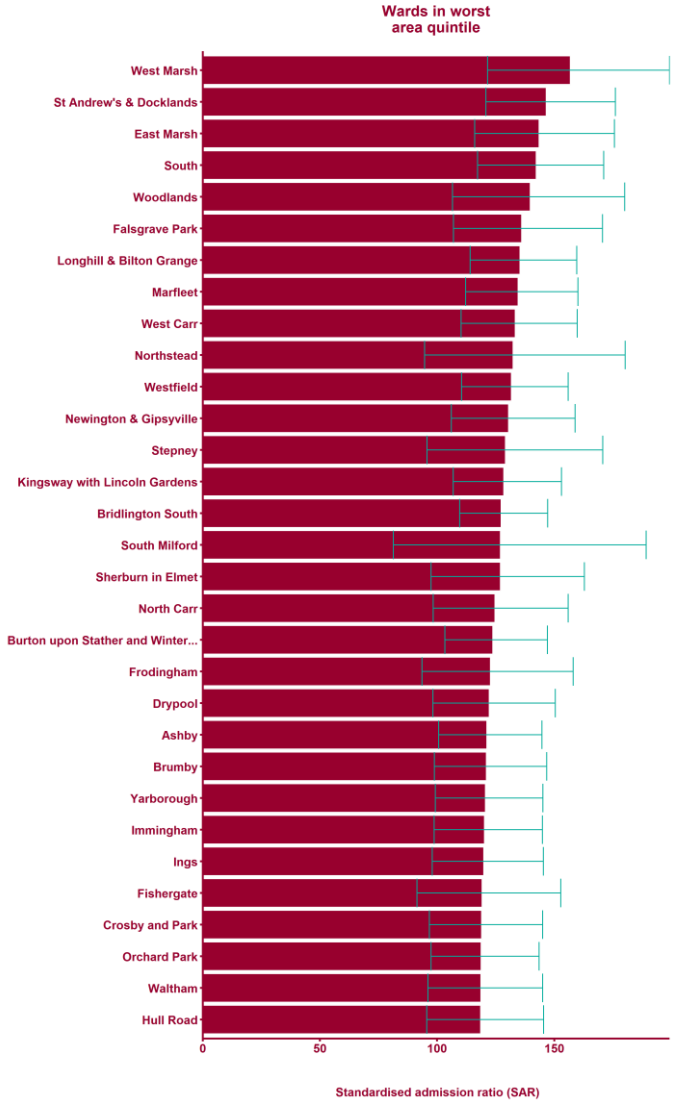




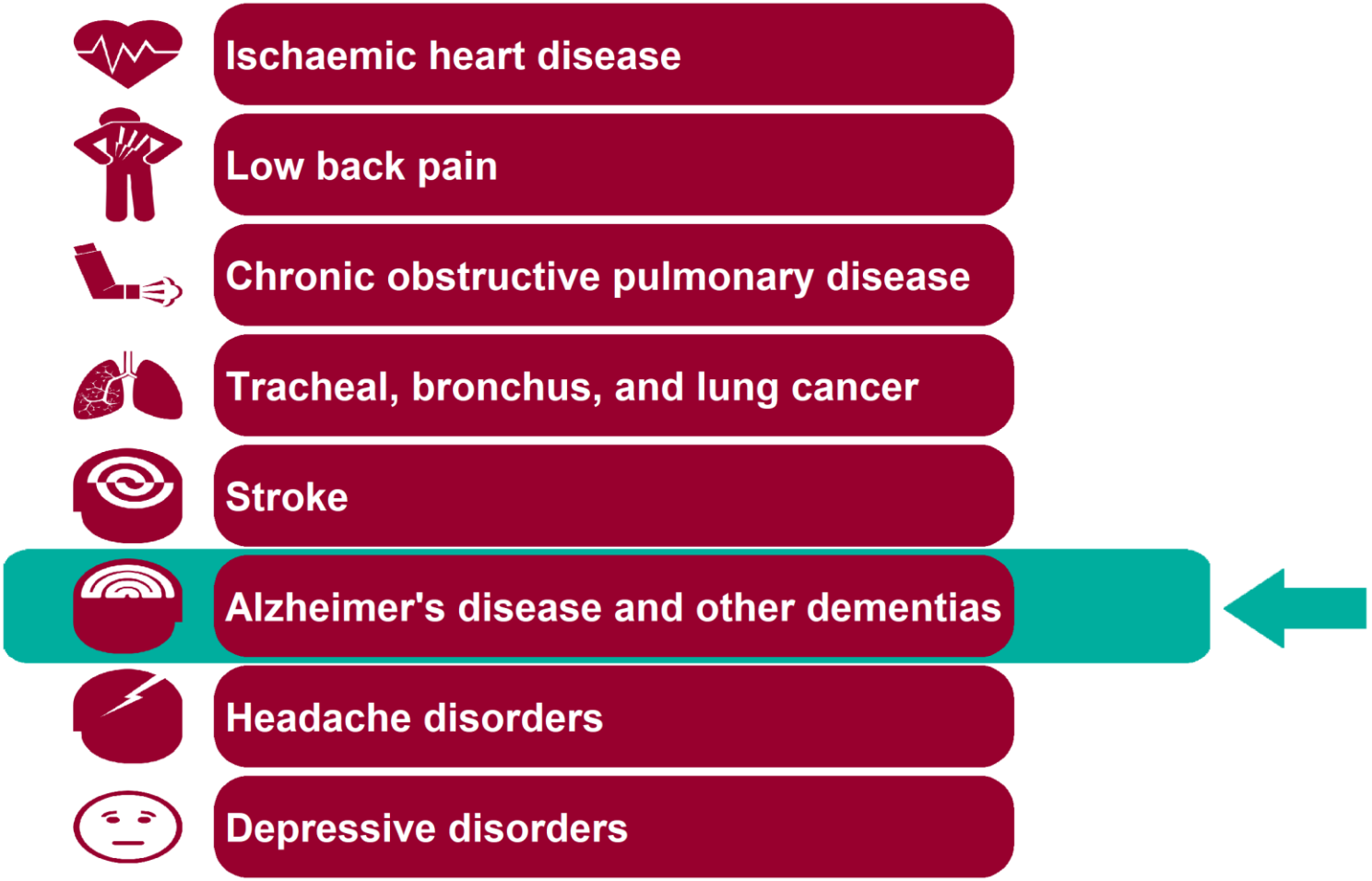
Emergency hospital admissions for stroke (2013/14 - 2017/18)



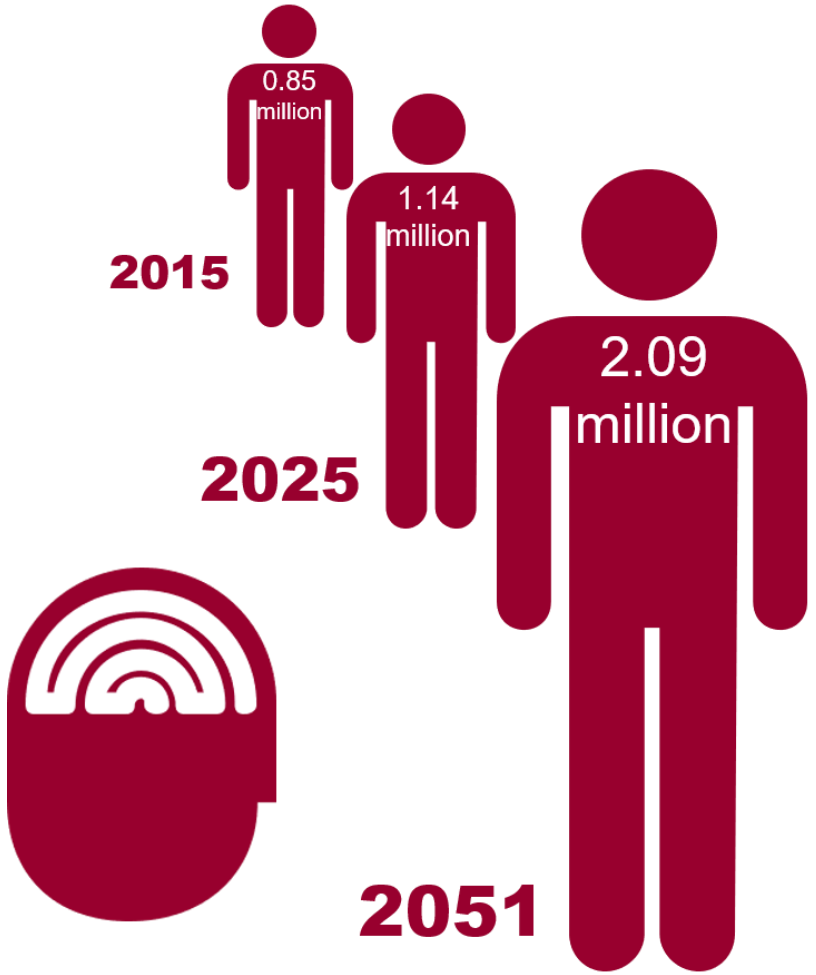




Global Burden of Disease: Alzheimer's disease and other dementias



Alzheimer's disease and other dementias - National picture



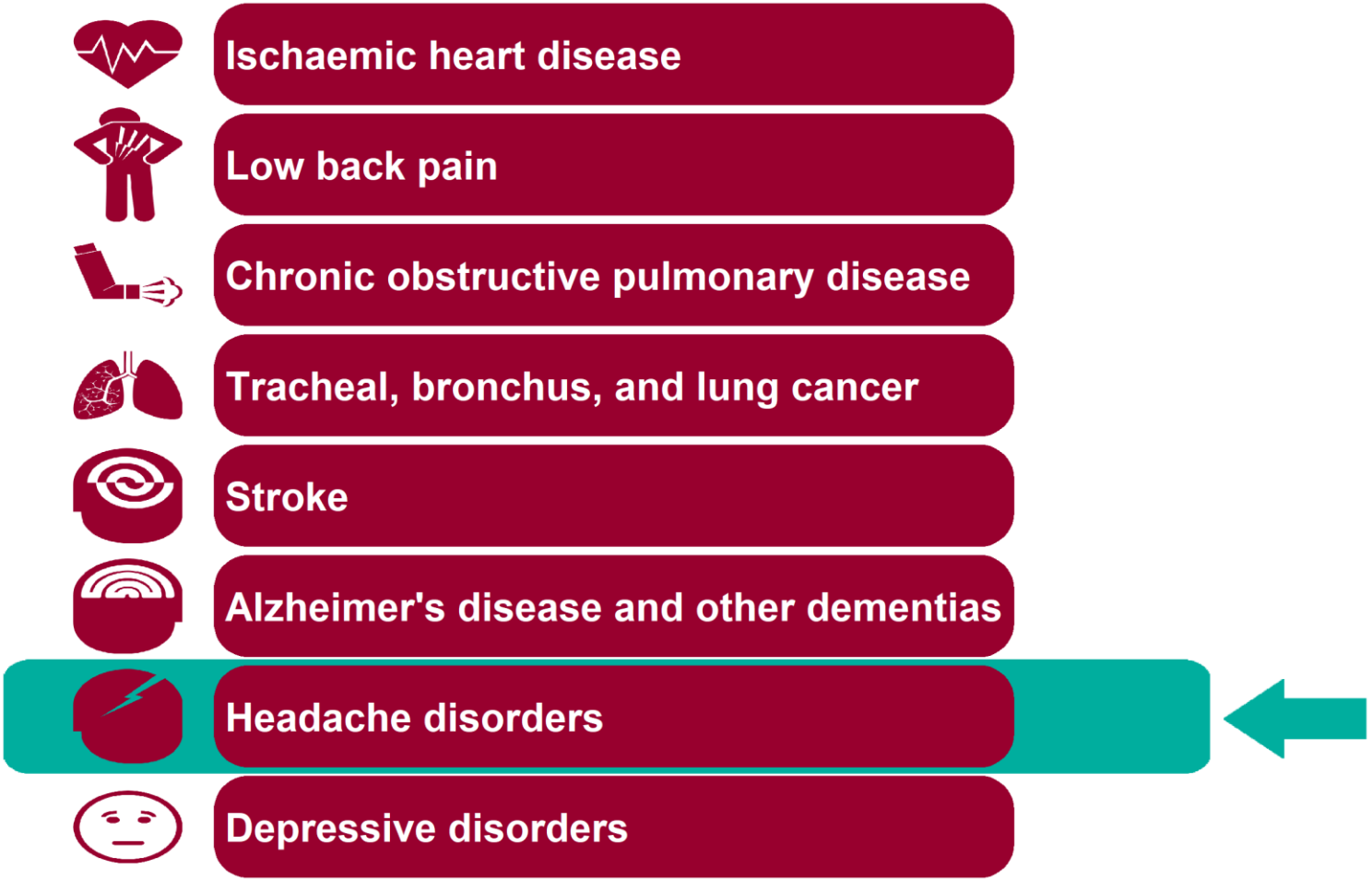
Total annual cost of dementia to UK is

£26.3 billion

Dementia diagnosis rate

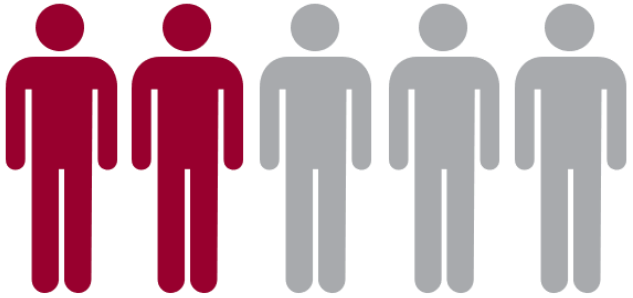
68.7%

Global Burden of Disease: Headache disorders



Headache disorders - National picture

Tension-type headache

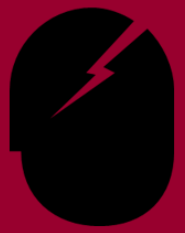


Approximately 2 in 5 people

Migraine

Approximately 1 in 5 people

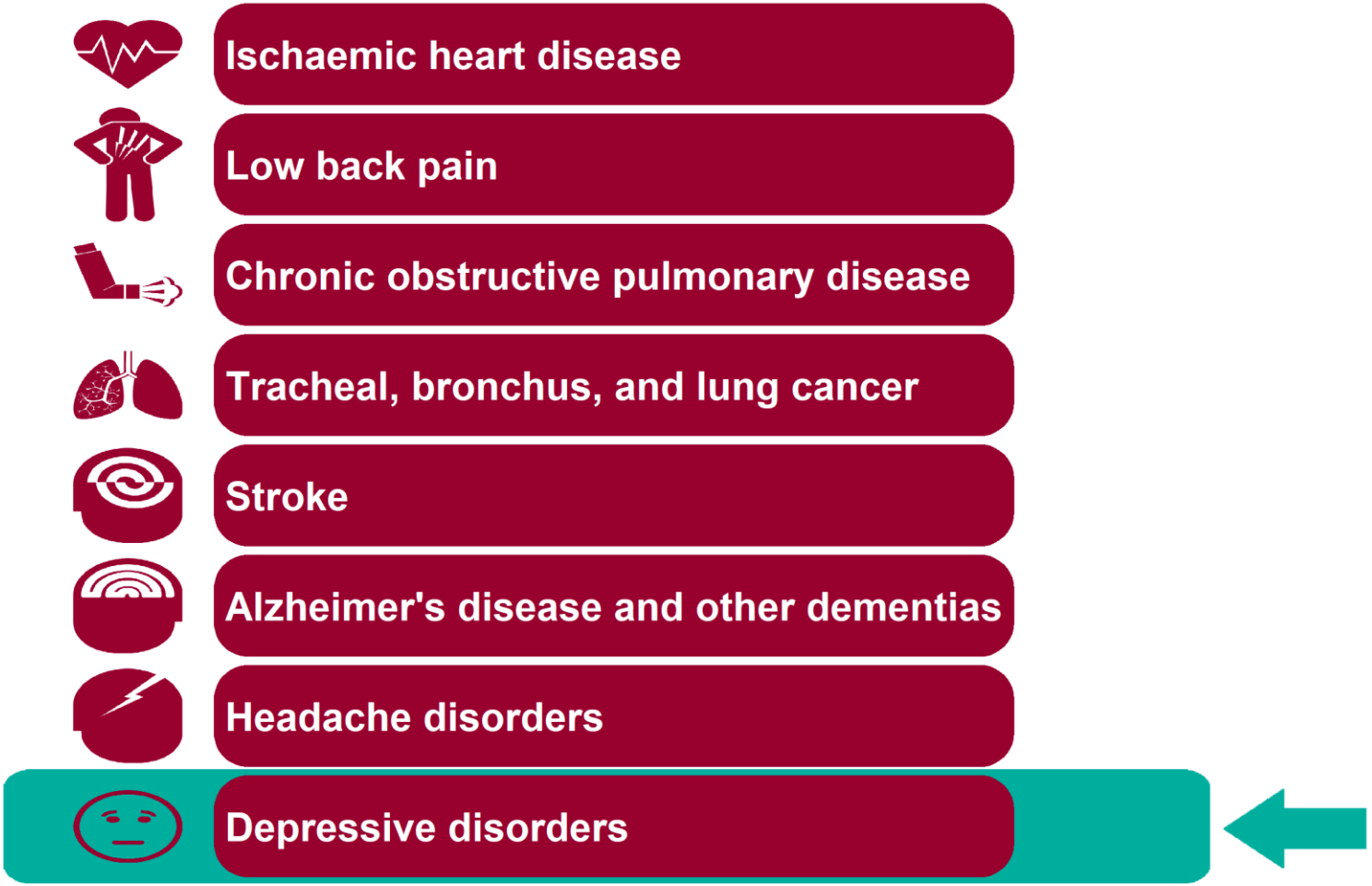
Tension-type headache: 118 DALYs per 100,000 people



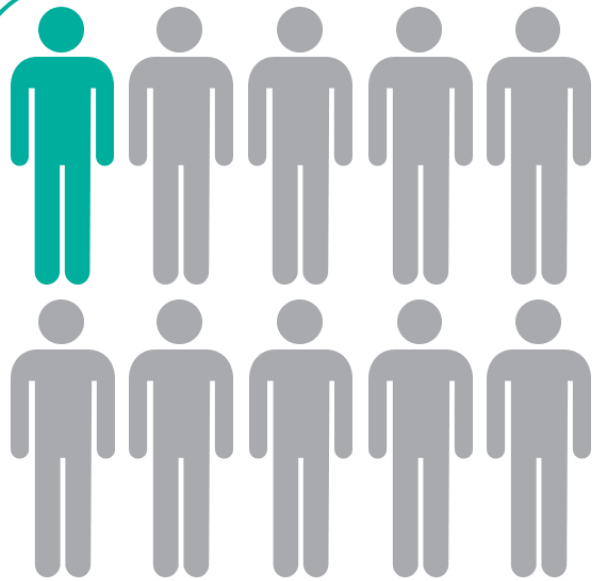
Migraine: 785 DALYs per 100,000 people

2.3 million work days lost through sickness absence

Global Burden of Disease: Depressive disorders



Depressive disorders - National picture



1 in 10

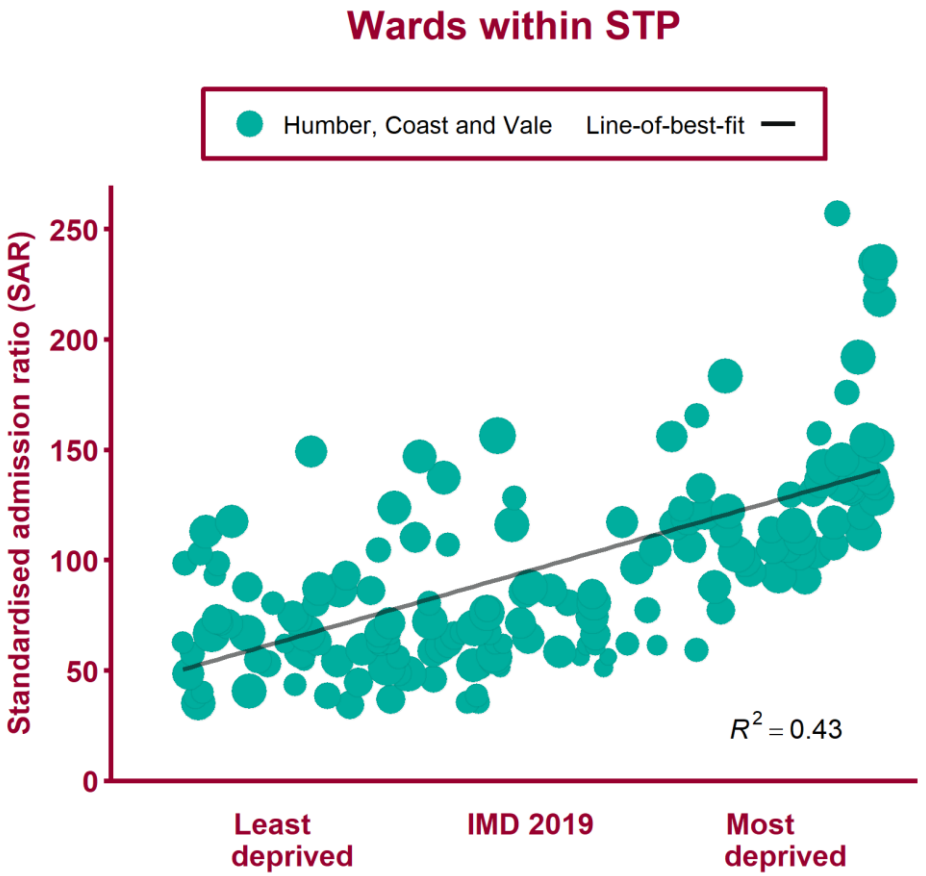
adult patients have a diagnosis of depression

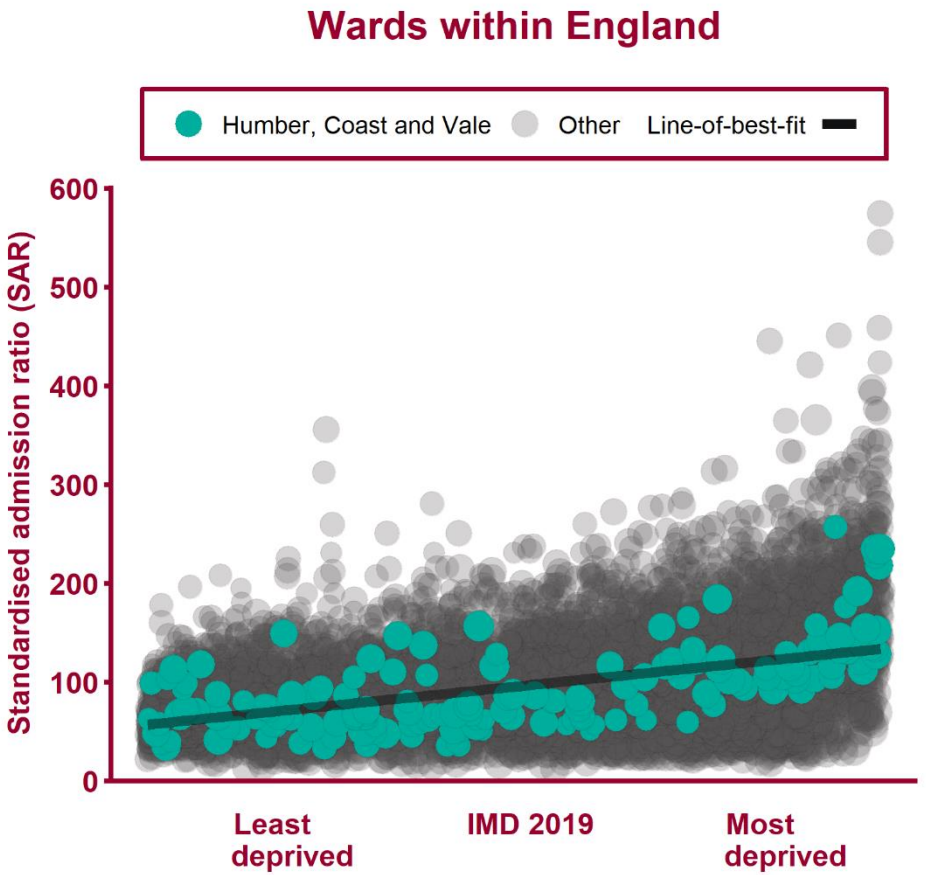
Stress, depression & anxiety account for

1 of every 10

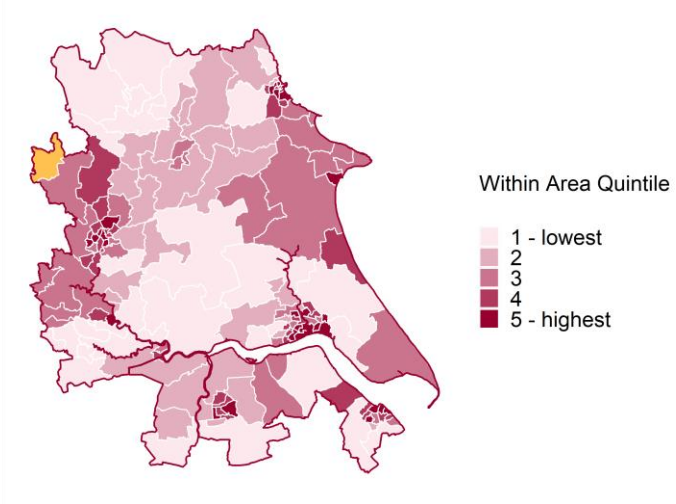
work days lost through sickness

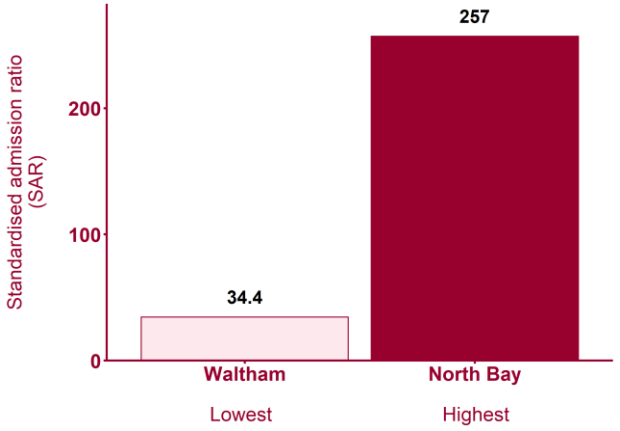
Hospital stays for self harm (2013/14 - 2017/18)

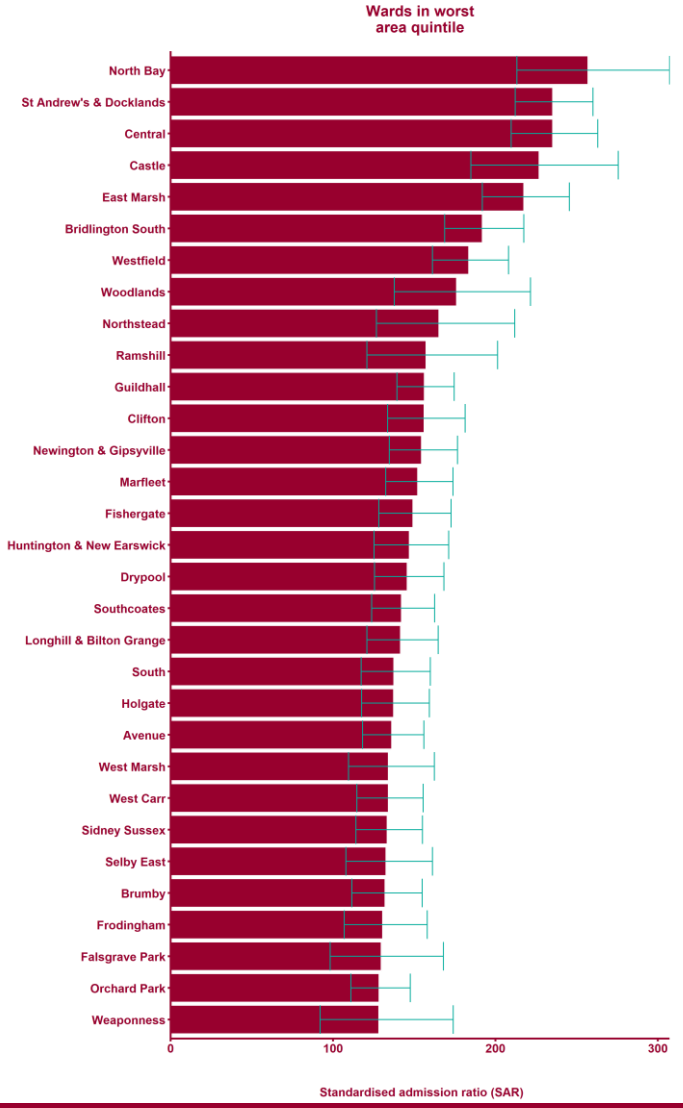




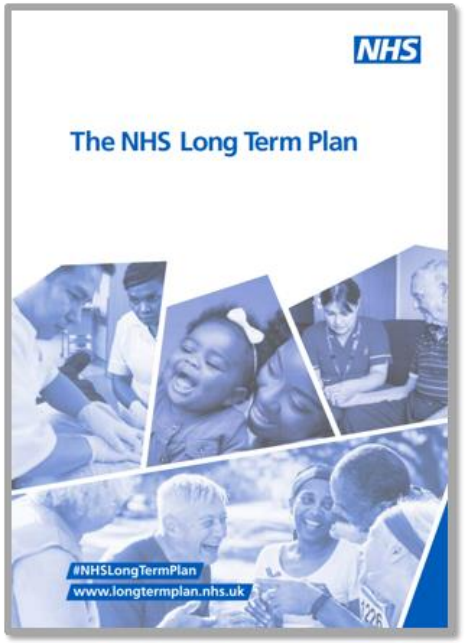
Hospital stays for self harm (2013/14 - 2017/18)





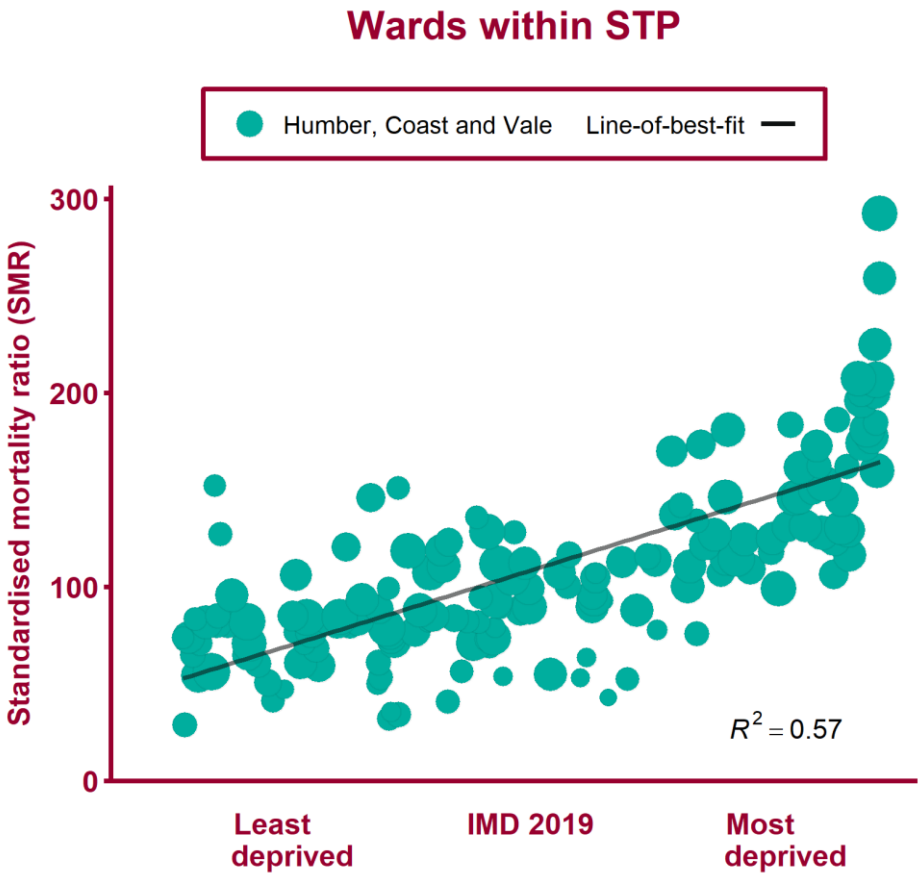


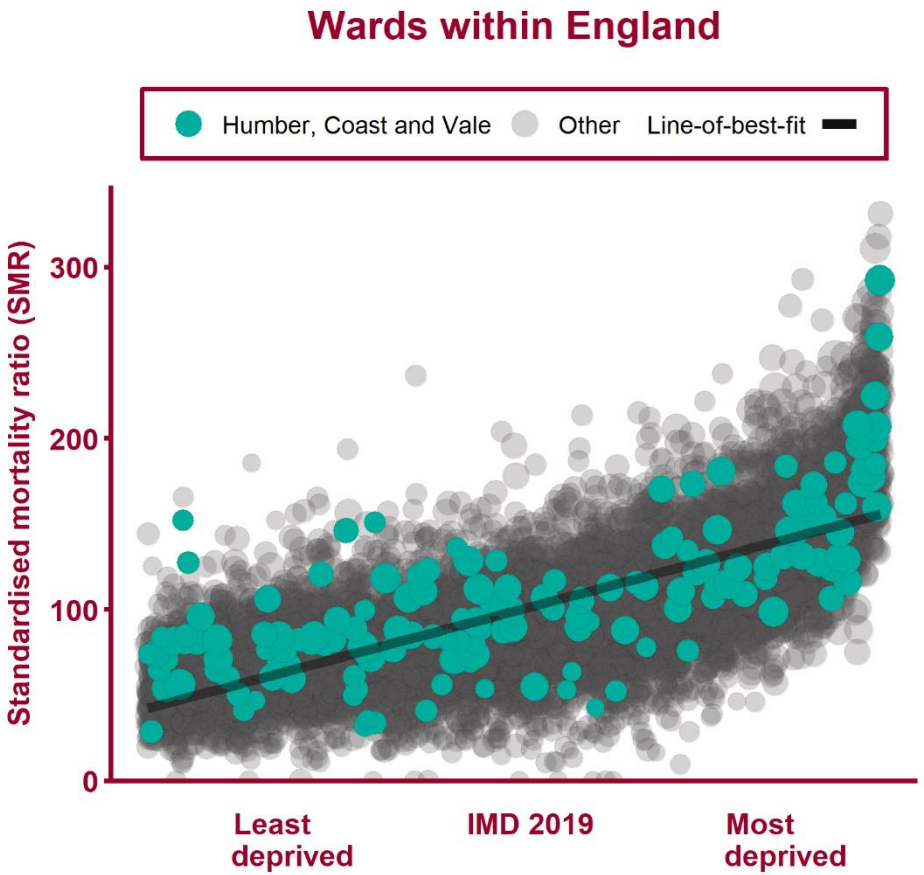
Health inequalities within Humber, Coast and Vale for national strategic priorities



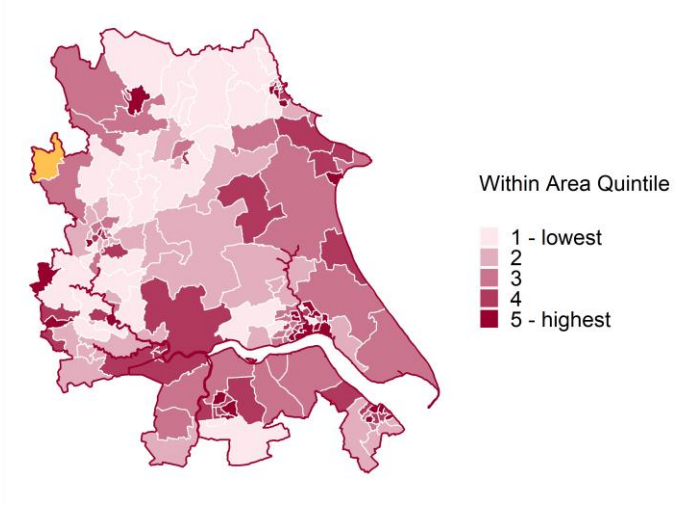
The following slides include additional indicators (not already analysed) considered to reflect national strategic priorities for which data is available in Local Health at ward level

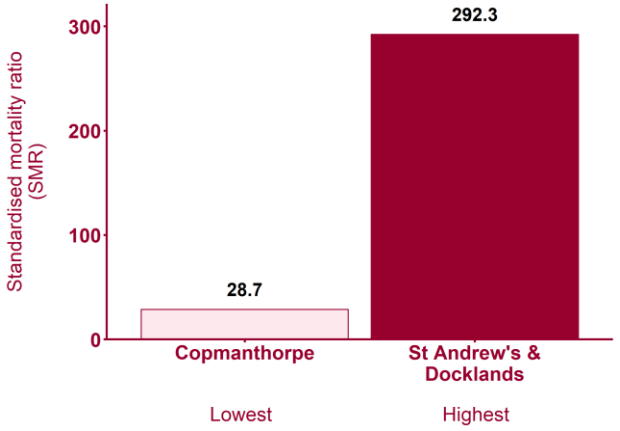
Deaths from circulatory disease, under 75 years (2013 - 17)

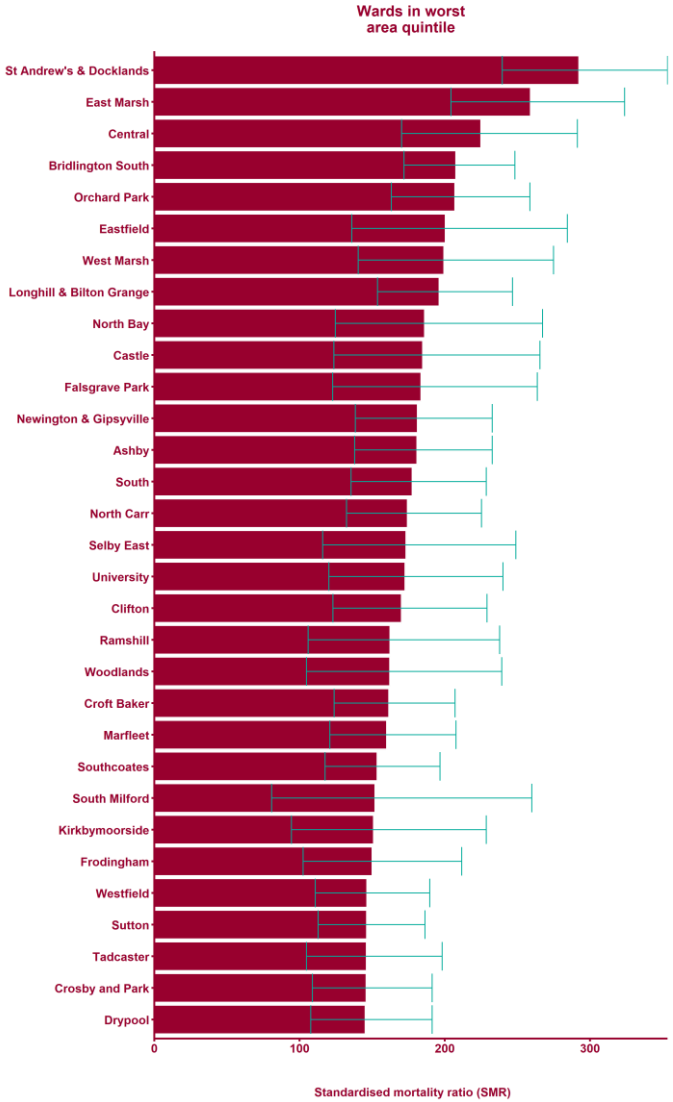




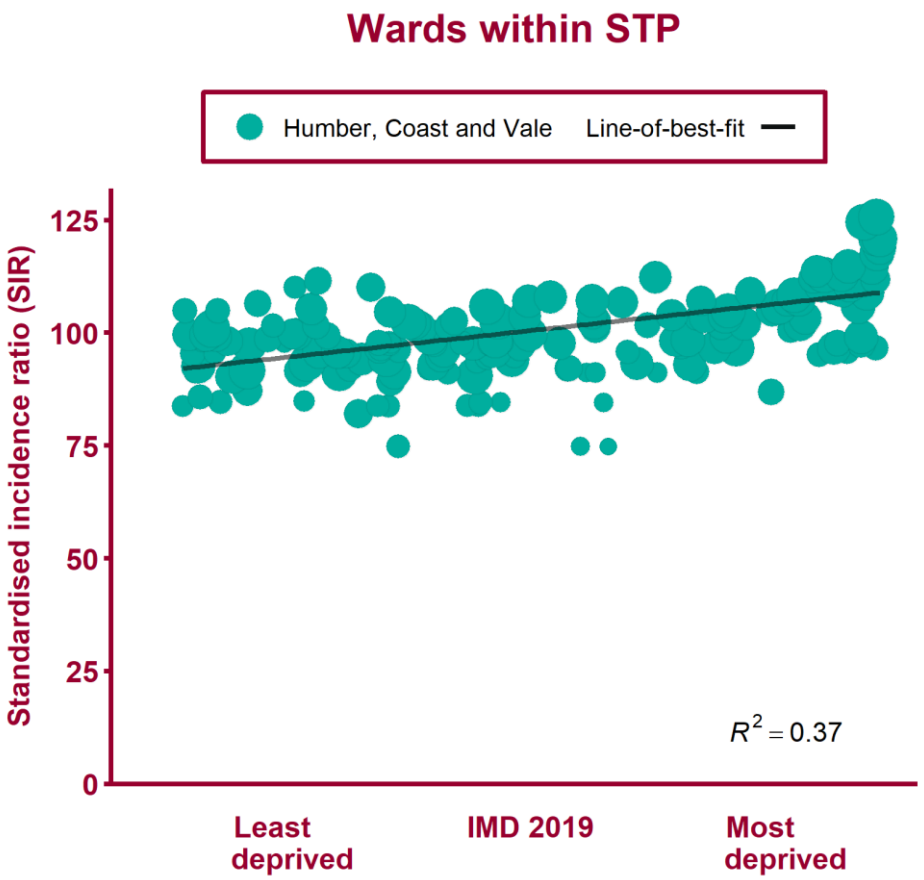
Deaths from circulatory disease, under 75 years (2013 - 17)

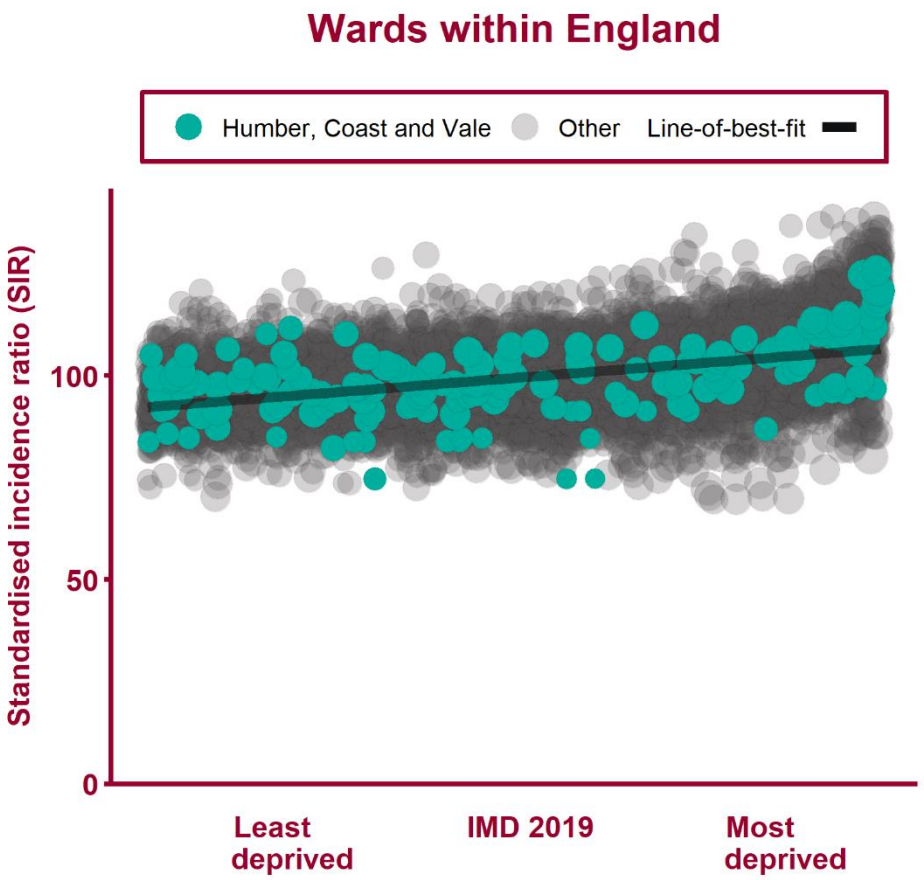




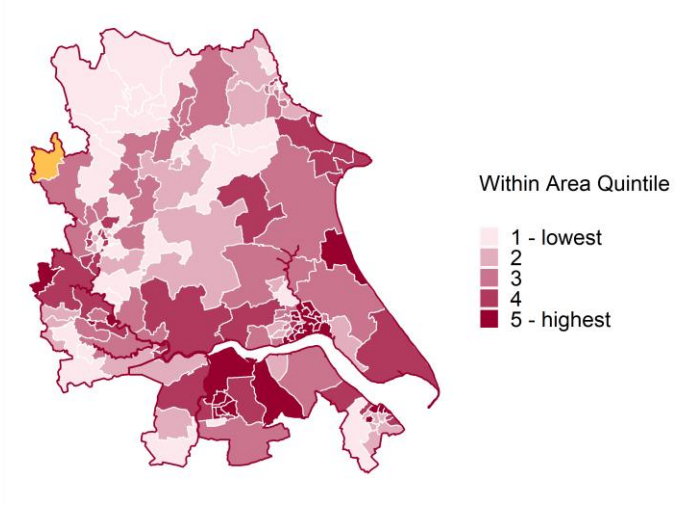


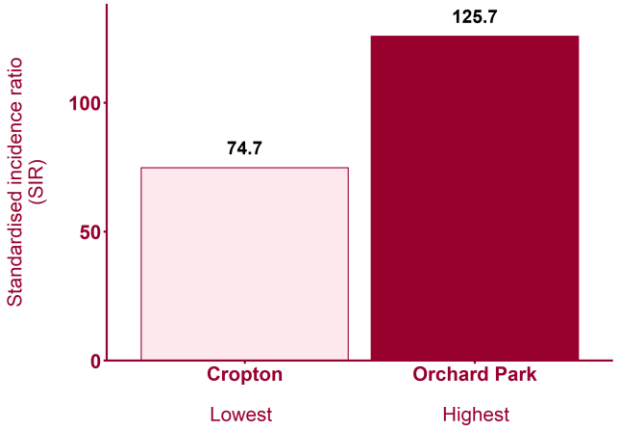
Incidences of all cancers (2012 - 16)

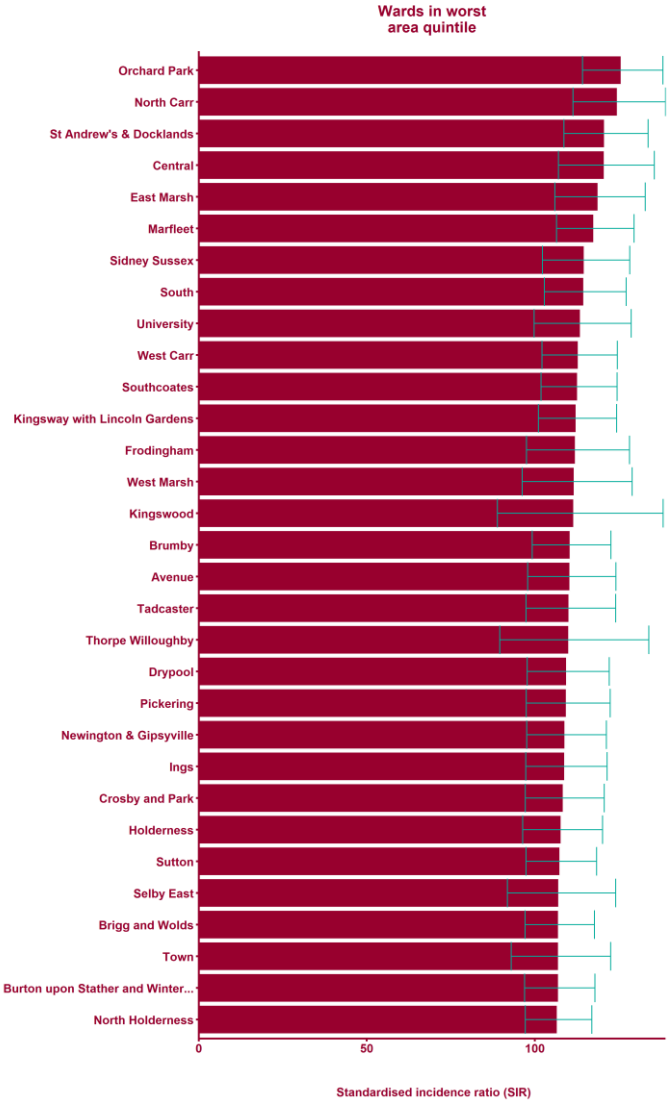




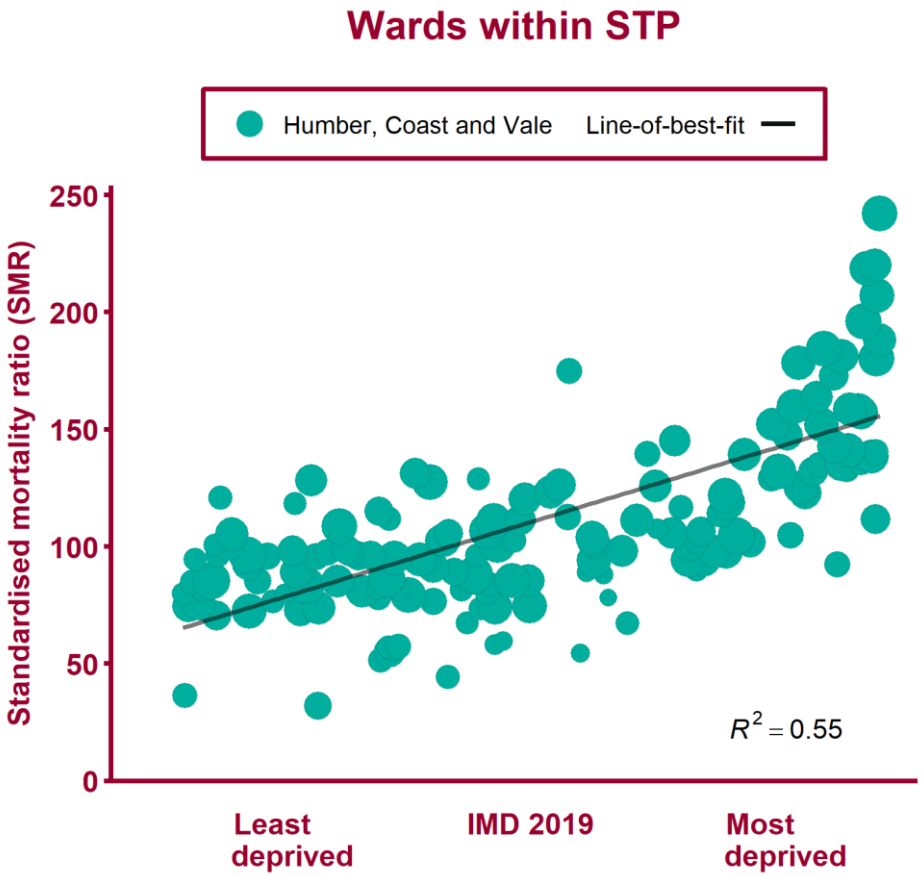
Incidences of all cancers (2012 - 16)

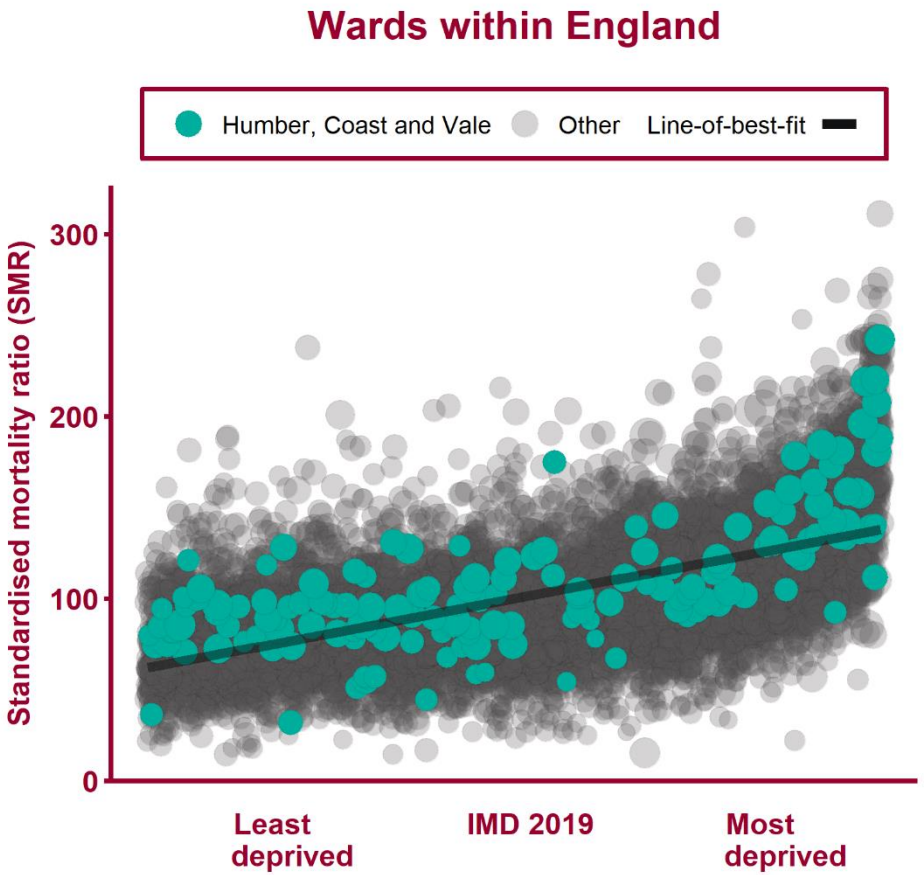




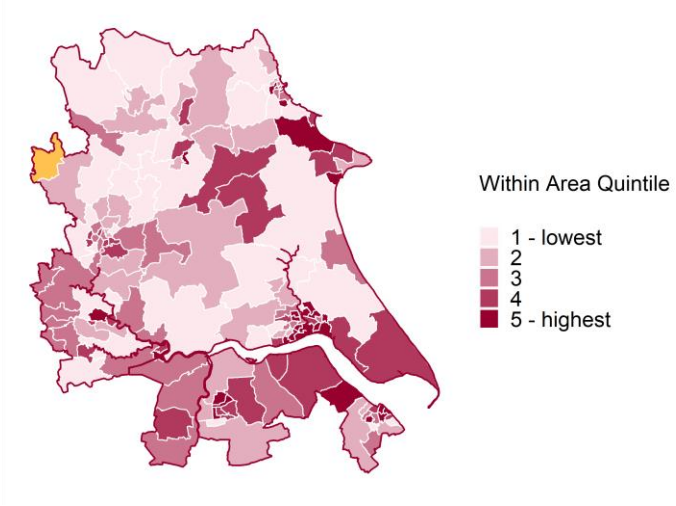


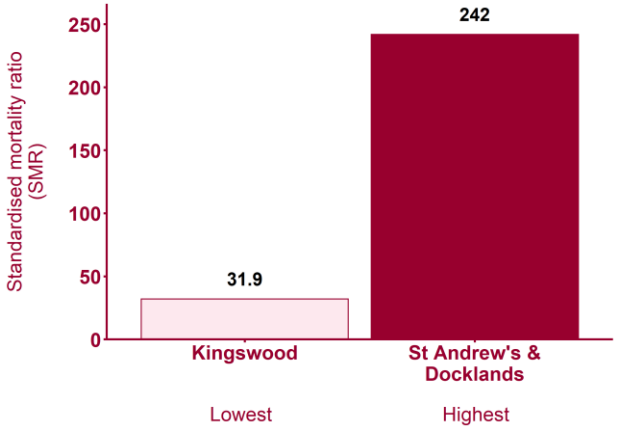
Deaths from respiratory diseases, all ages (2013 - 17)

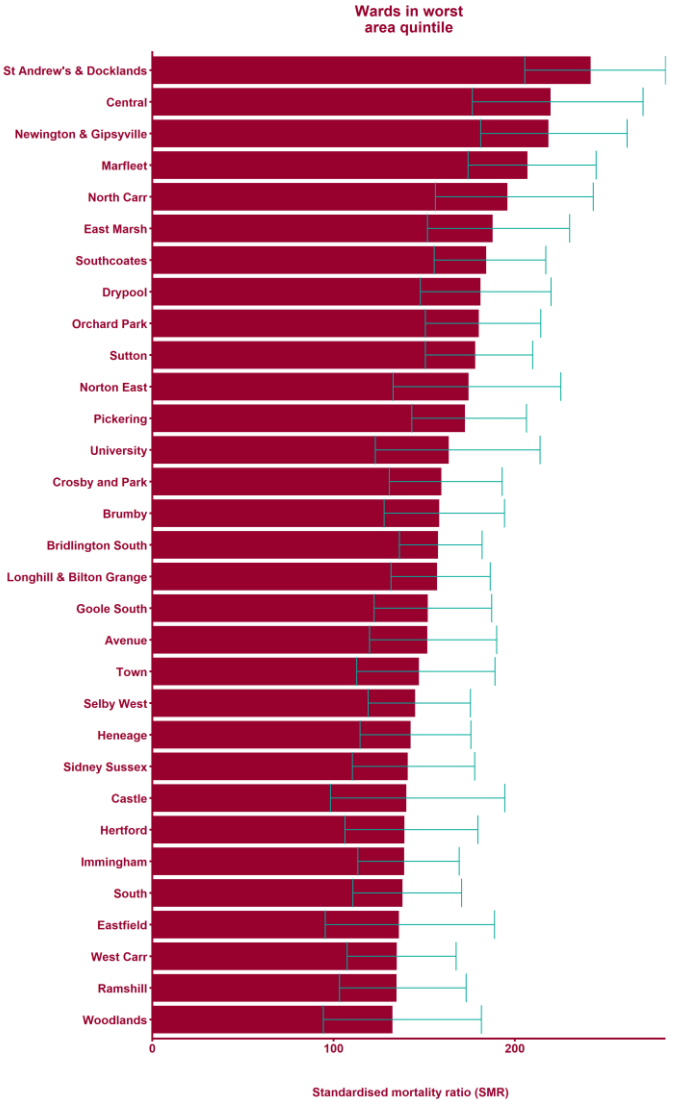




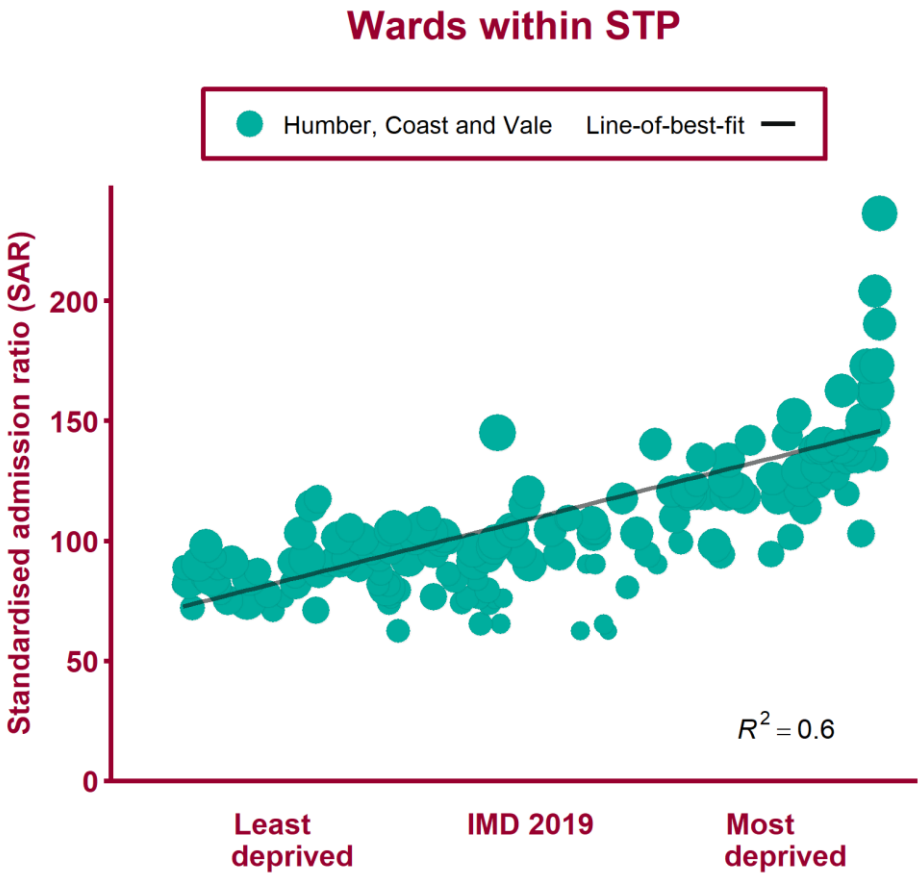
Deaths from respiratory diseases, all ages (2013 - 17)

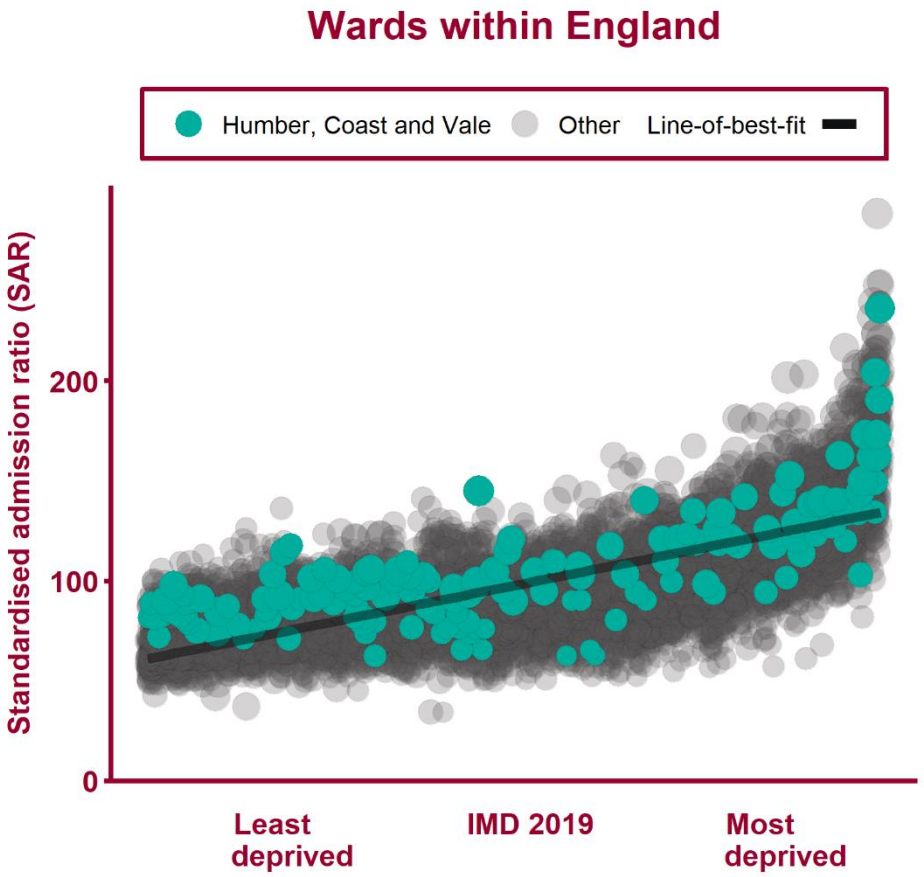




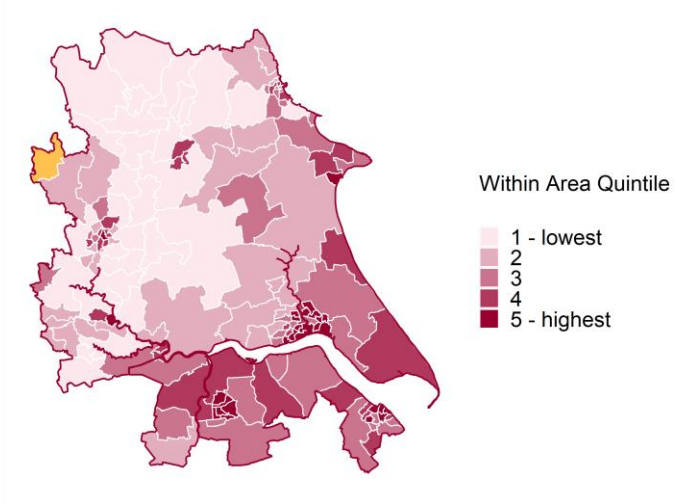


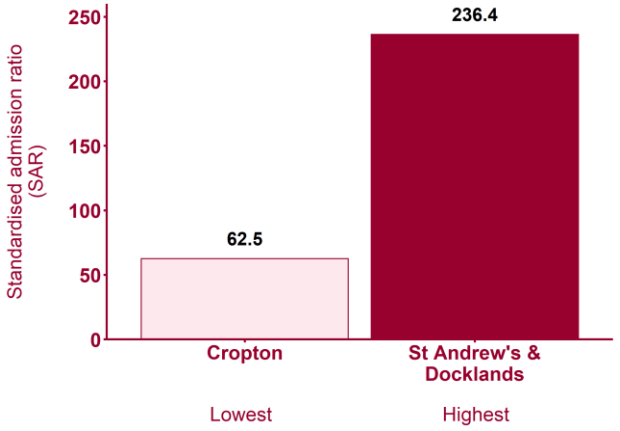
Hospital stays for alcohol-related harm, Broad definition (2013/14 - 2017/18)

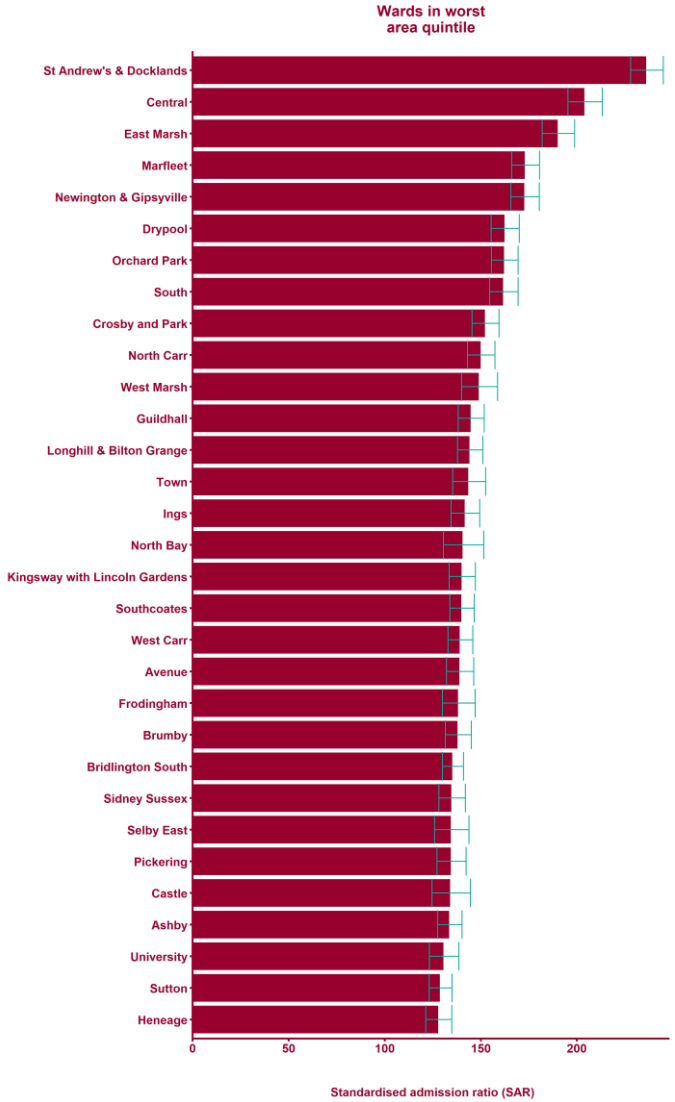




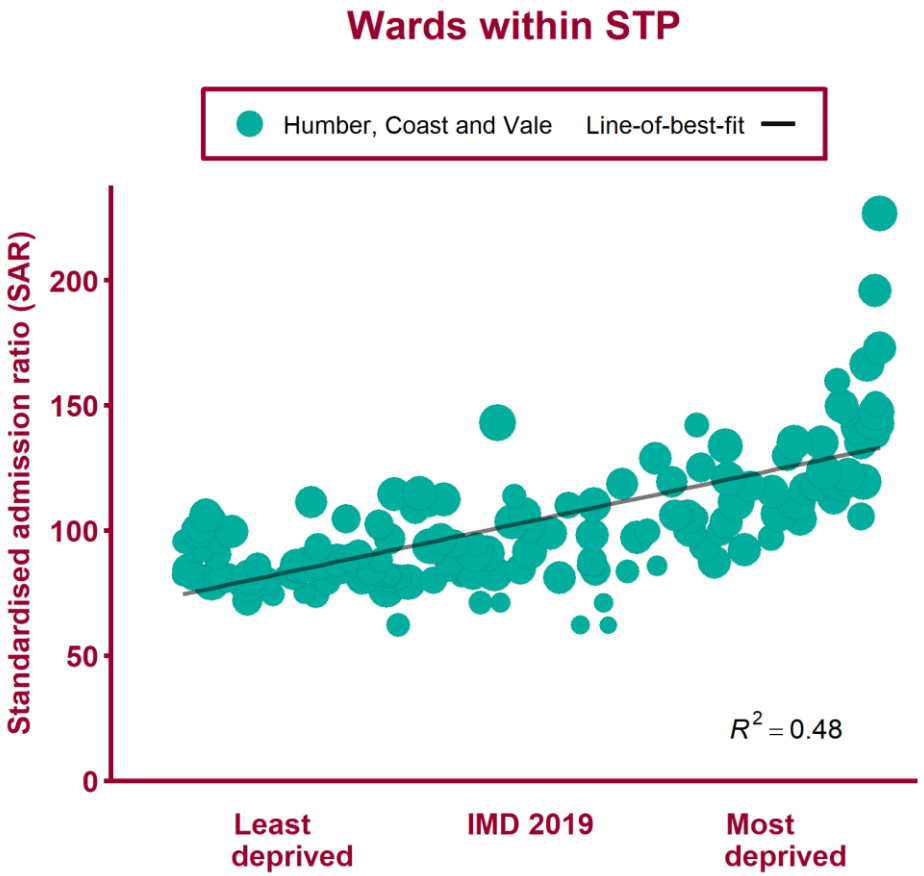
Hospital stays for alcohol-related harm, Broad definition (2013/14 - 2017/18)

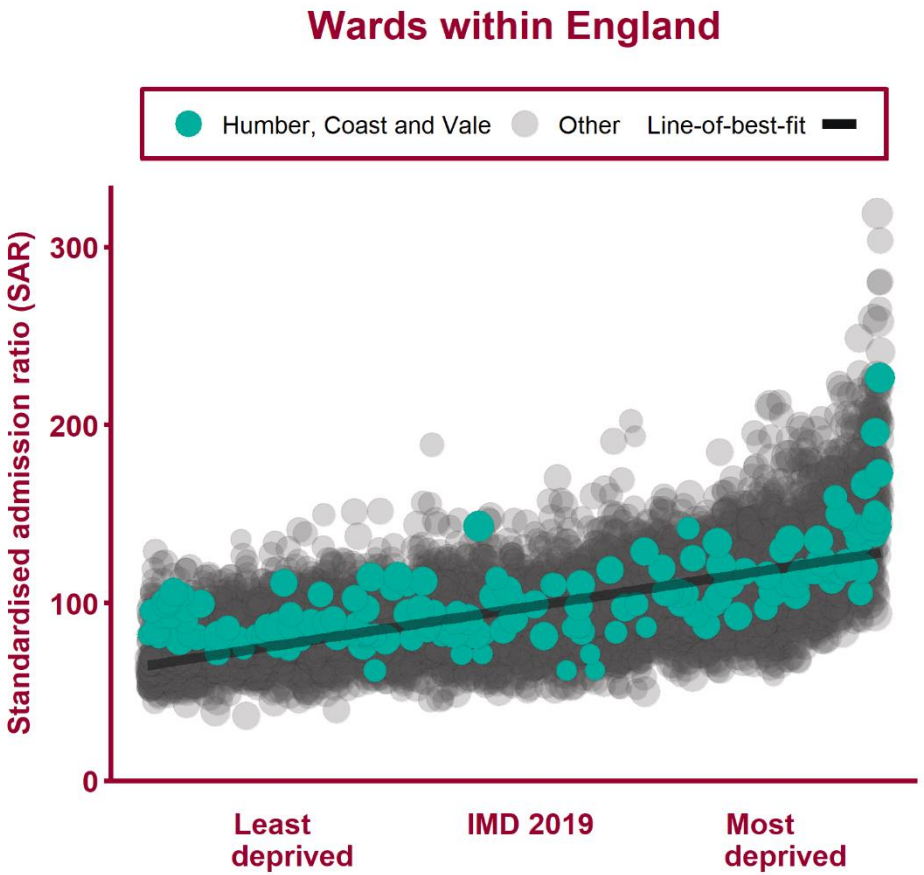




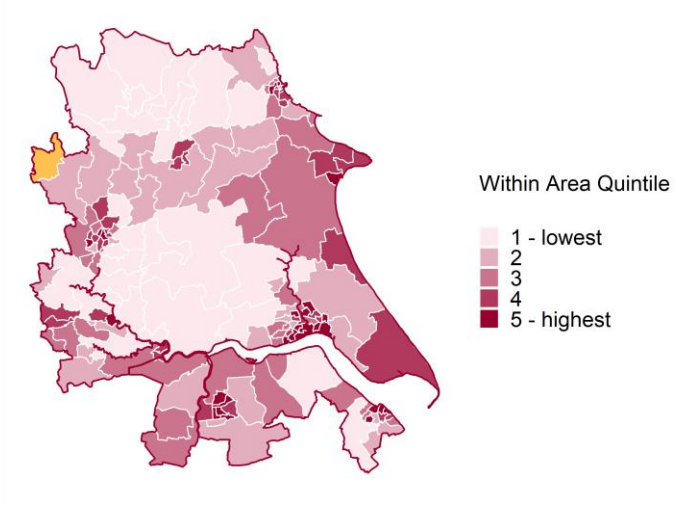


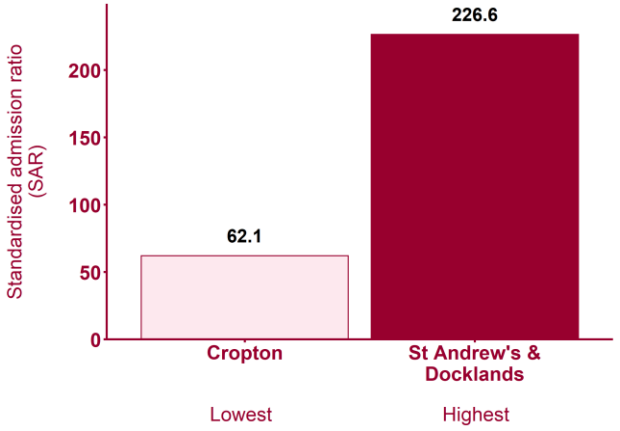
Hospital stays for alcohol-related harm, Narrow definition (2013/14 - 2017/18)

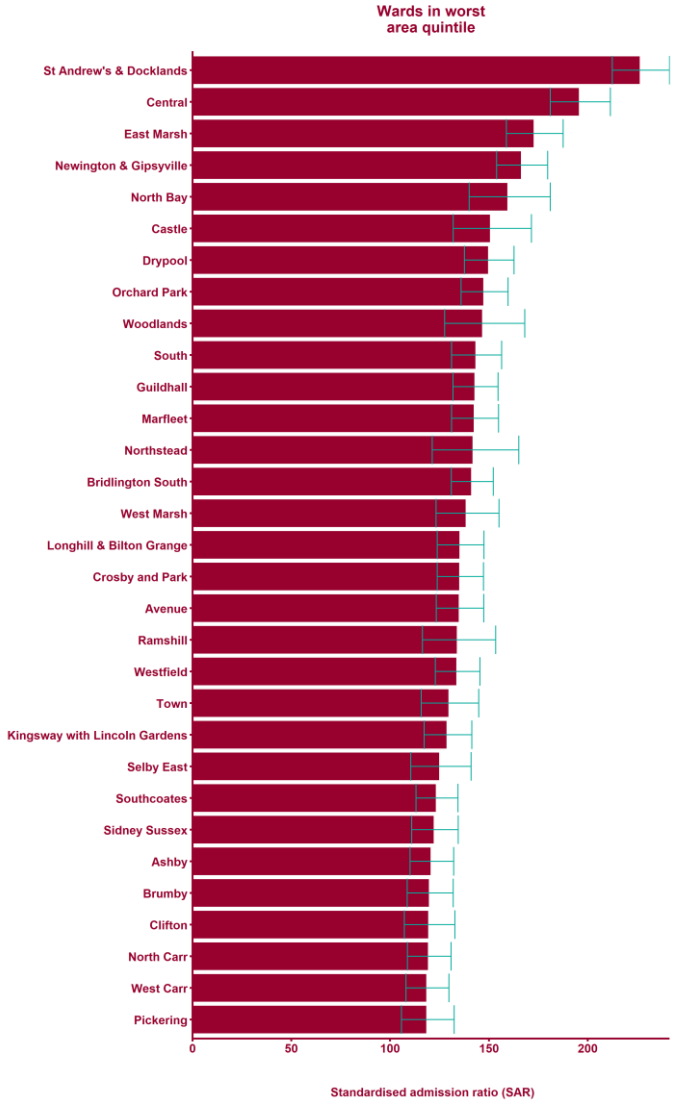




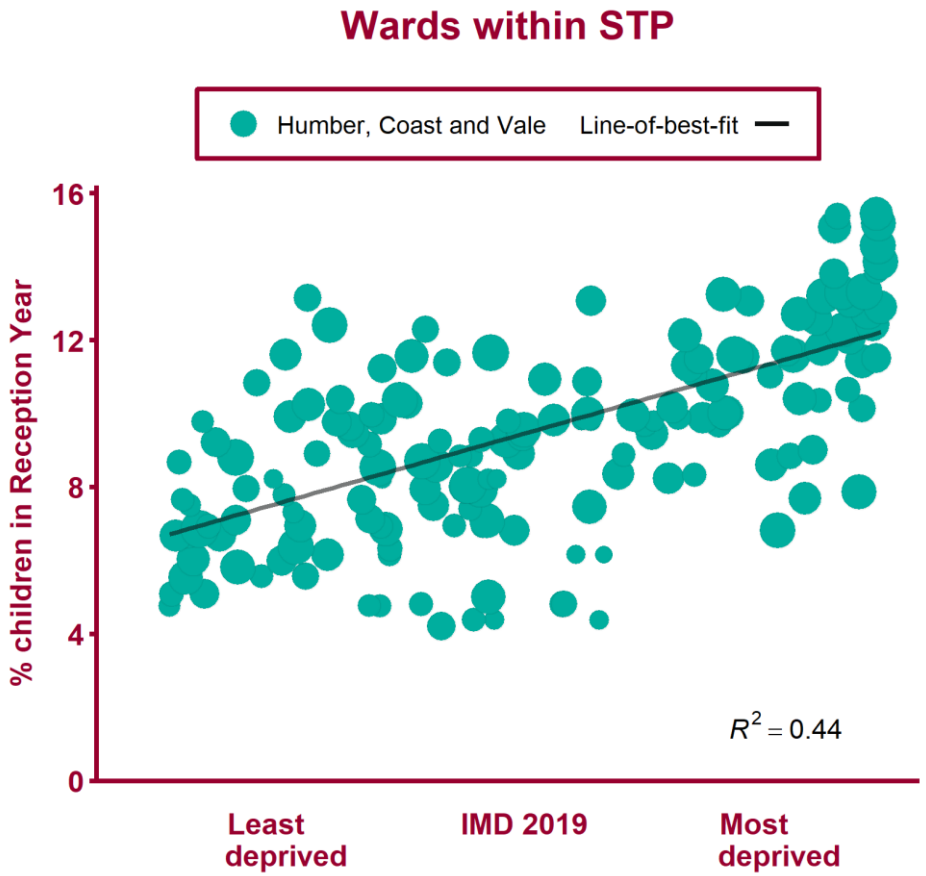
Hospital stays for alcohol-related harm, Narrow definition (2013/14 - 2017/18)

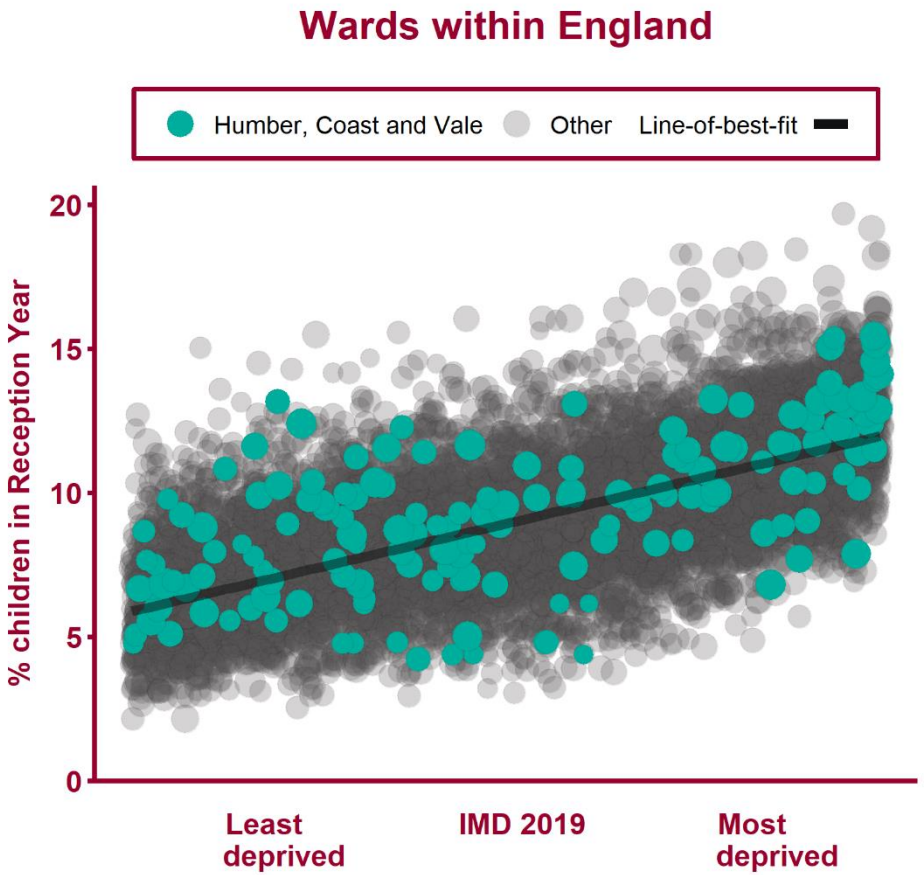




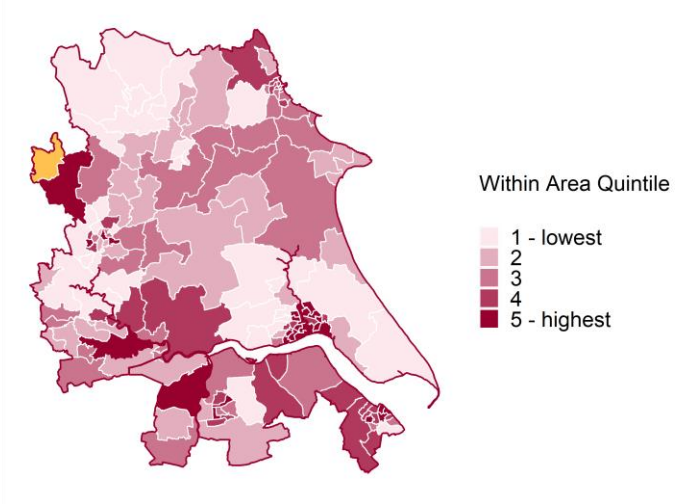


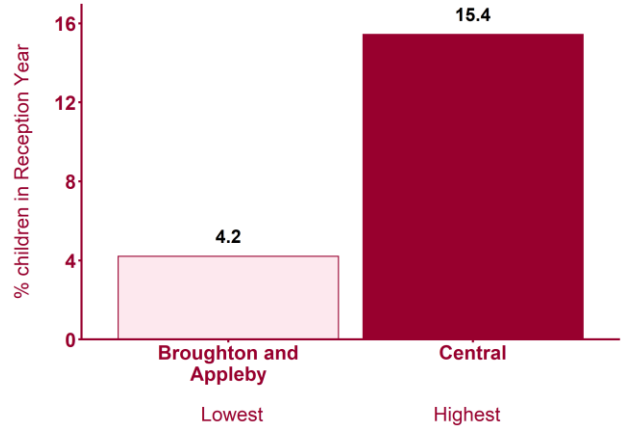
Obese children, Reception Year (2015/16 - 2017/18)

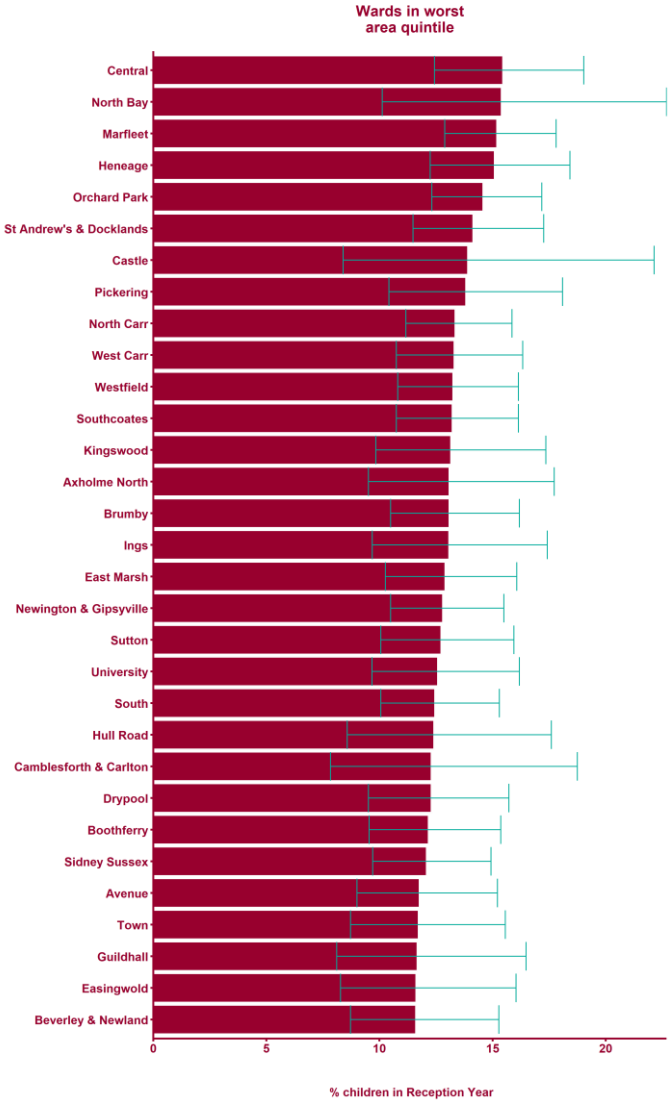




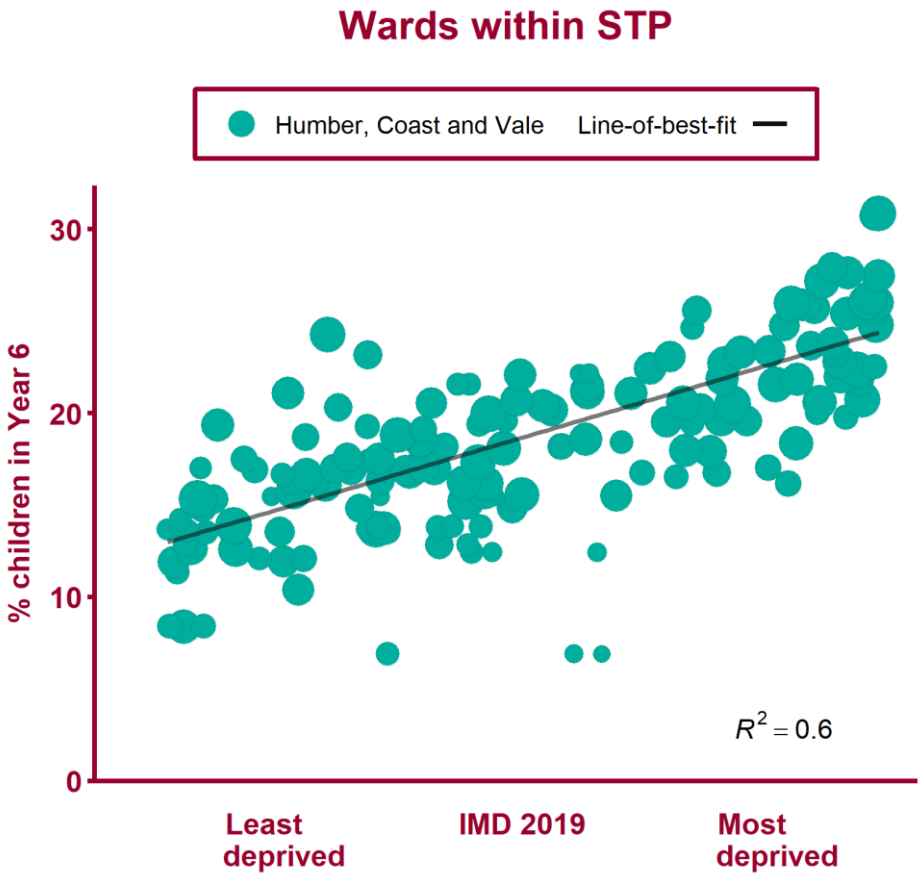
Obese children, Reception Year (2015/16 - 2017/18)

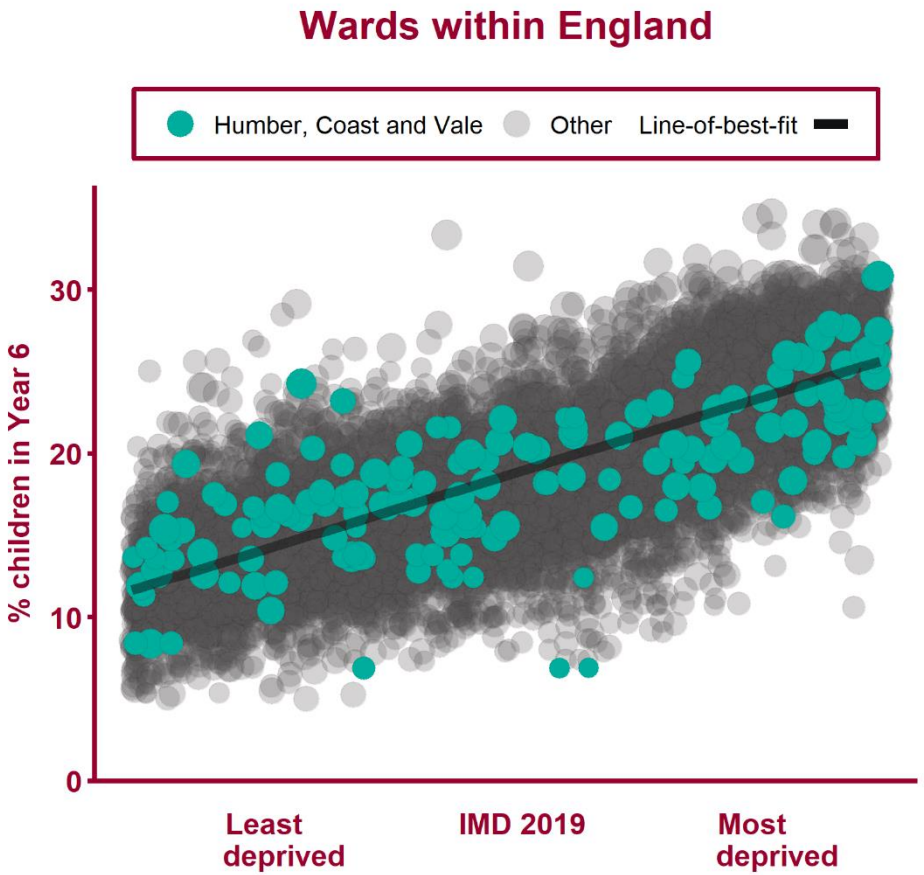




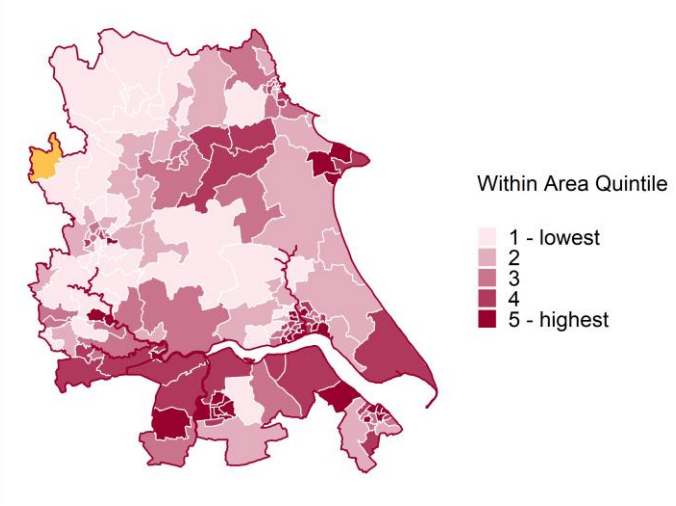


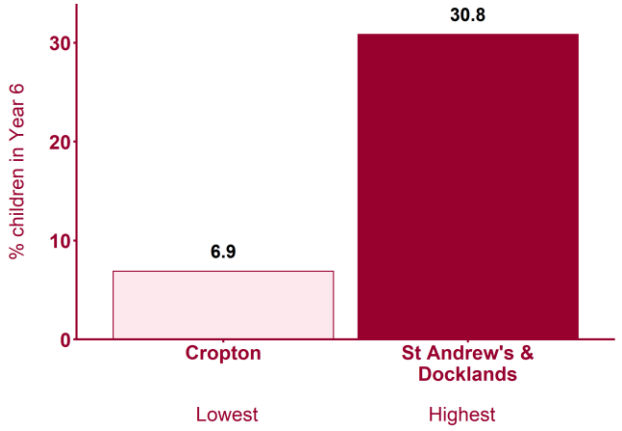
Obese children, Year 6 (2015/16 - 2017/18)

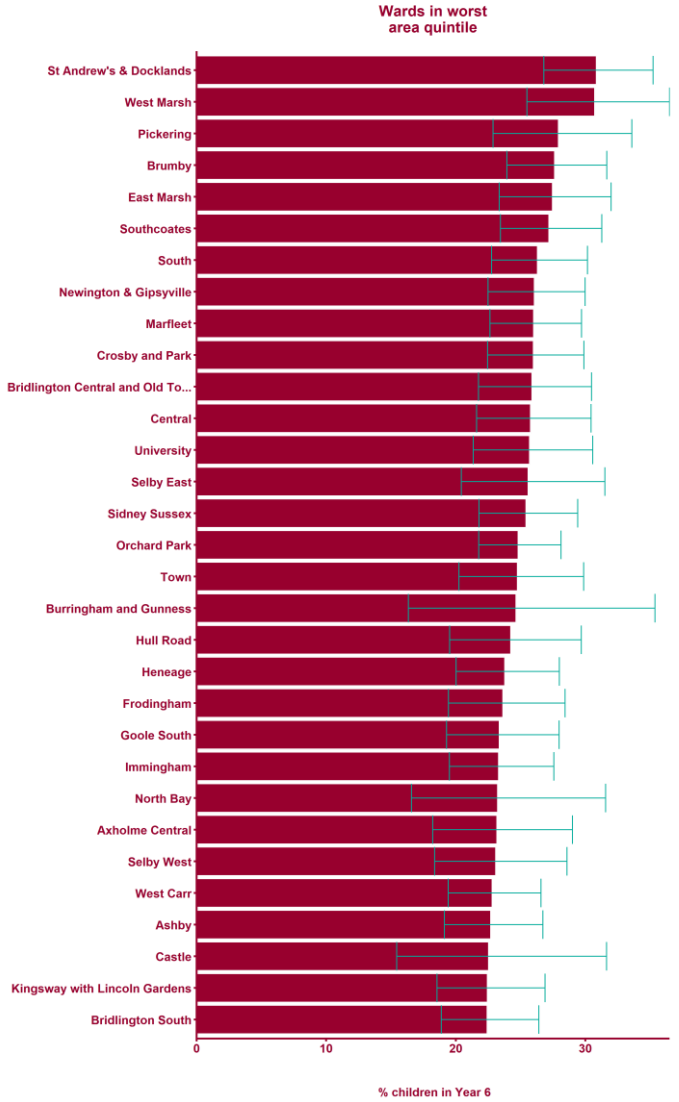




Obese children, Year 6 (2015/16 - 2017/18)

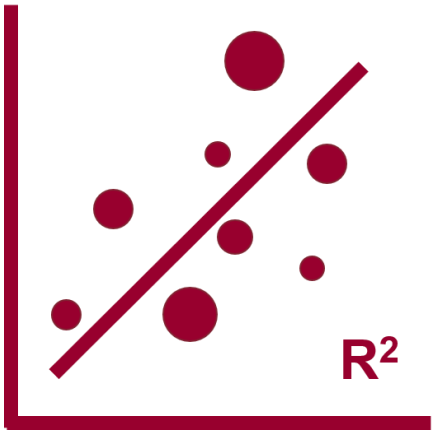






Further health inequalities strongly associated with deprivation in Humber, Coast and Vale

Some other indicators show a particularly strong association with deprivation (rank of IMD 2019 score) in this STP



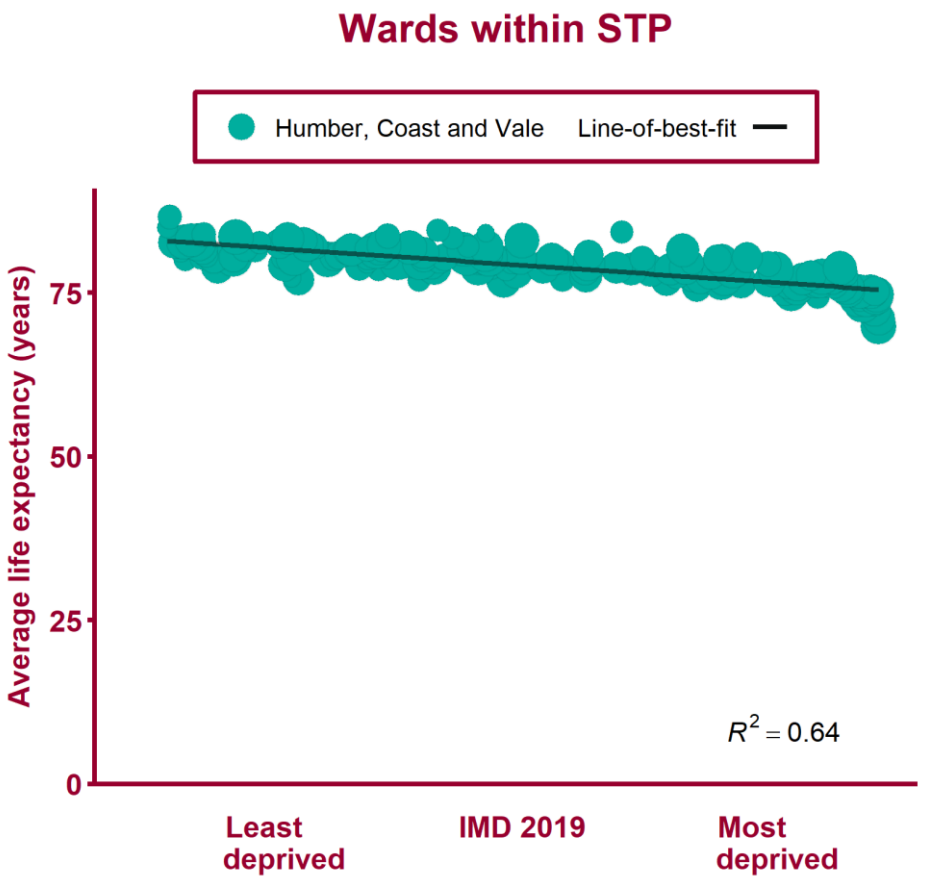
The following slide lists those indicators most strongly associated with deprivation locally, with the top three (not already analysed) explored further

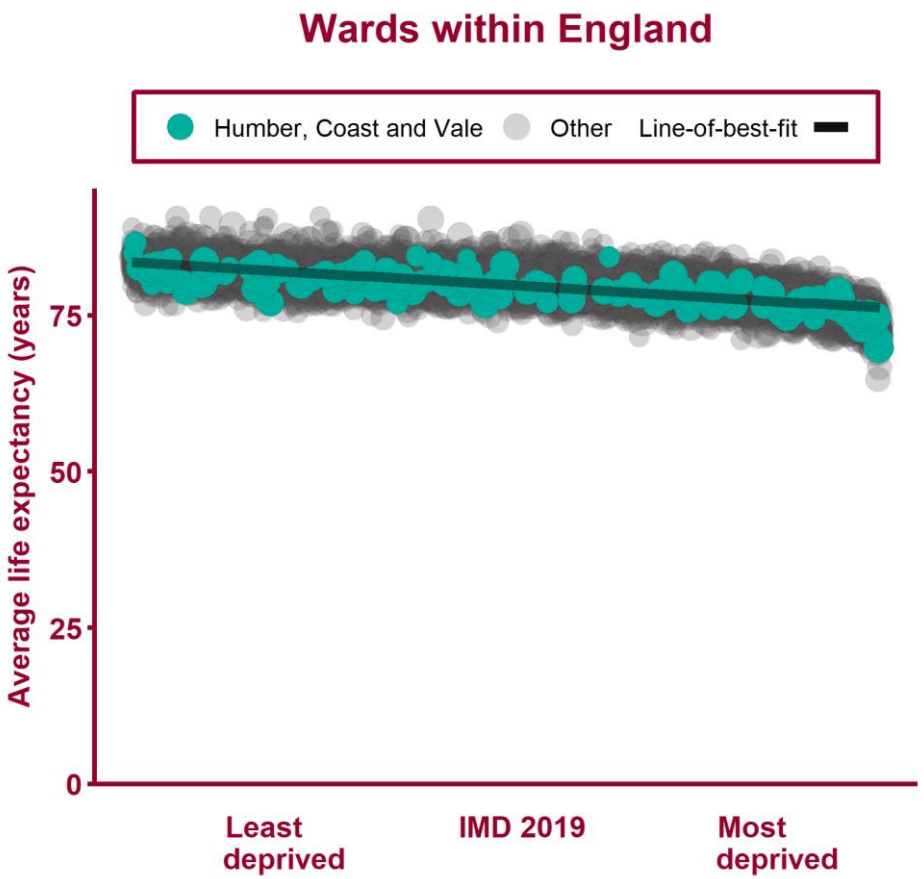
Health inequalities within Humber, Coast and Vale

(Sorted by R-squared value)

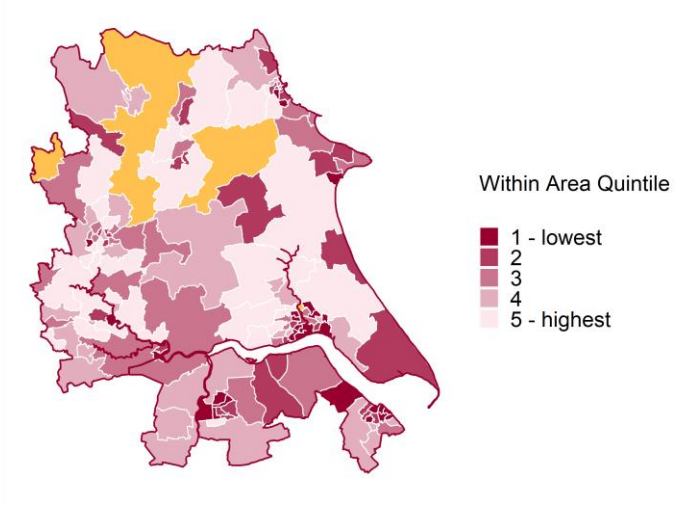
Indicator	*R-squared value*
Deaths from all causes, under 75 years	0.66
Life expectancy at birth for males	0.64
Deaths from causes considered preventable, all ages	0.64
Obese children, Year 6	0.60
Hospital stays for alcohol-related harm, Broad definition	0.60
Incidence of lung cancer	0.59
Emergency hospital admissions for COPD	0.59
GCSE Achievement	0.58
Deaths from circulatory disease, under 75 years	0.57
Children with excess weight, Year 6	0.56
Deaths from respiratory diseases, all ages	0.55
Deaths from all cancer, under 75 years	0.53
Life expectancy at birth for females	0.52
Child Development at age 5	0.51
Deaths from all causes, all ages	0.50

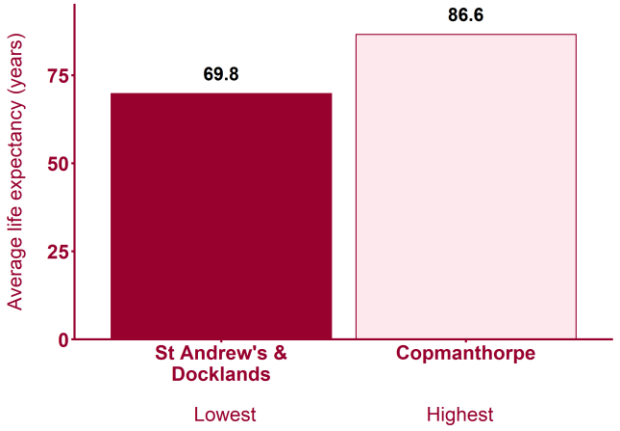
Life expectancy at birth for males (2013 - 17)

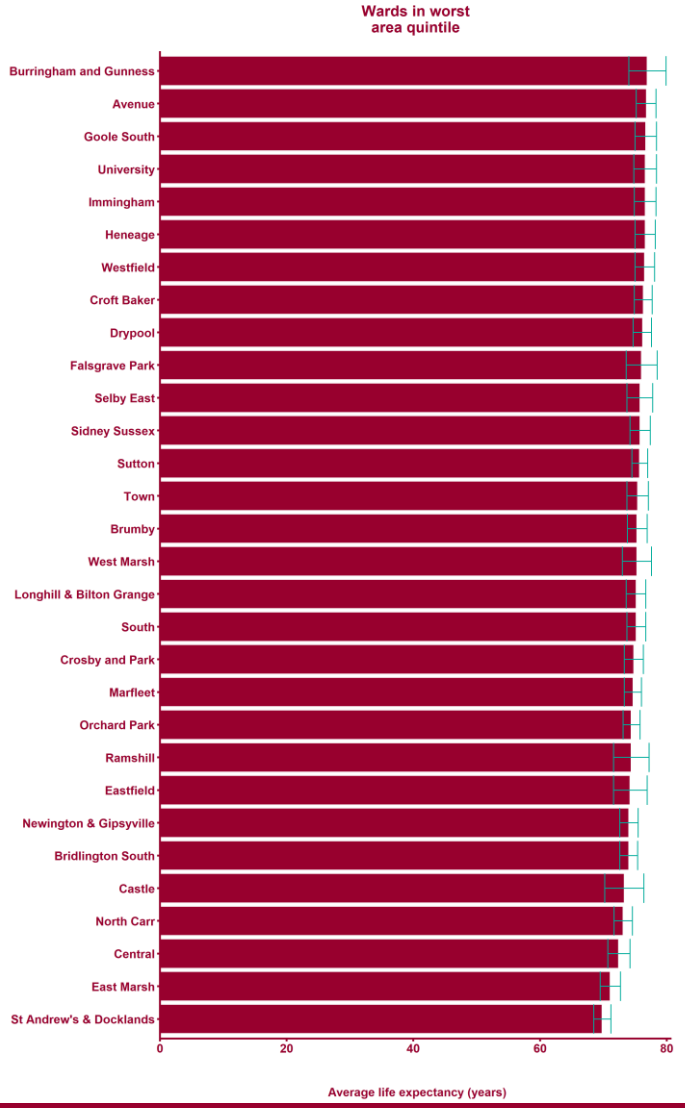




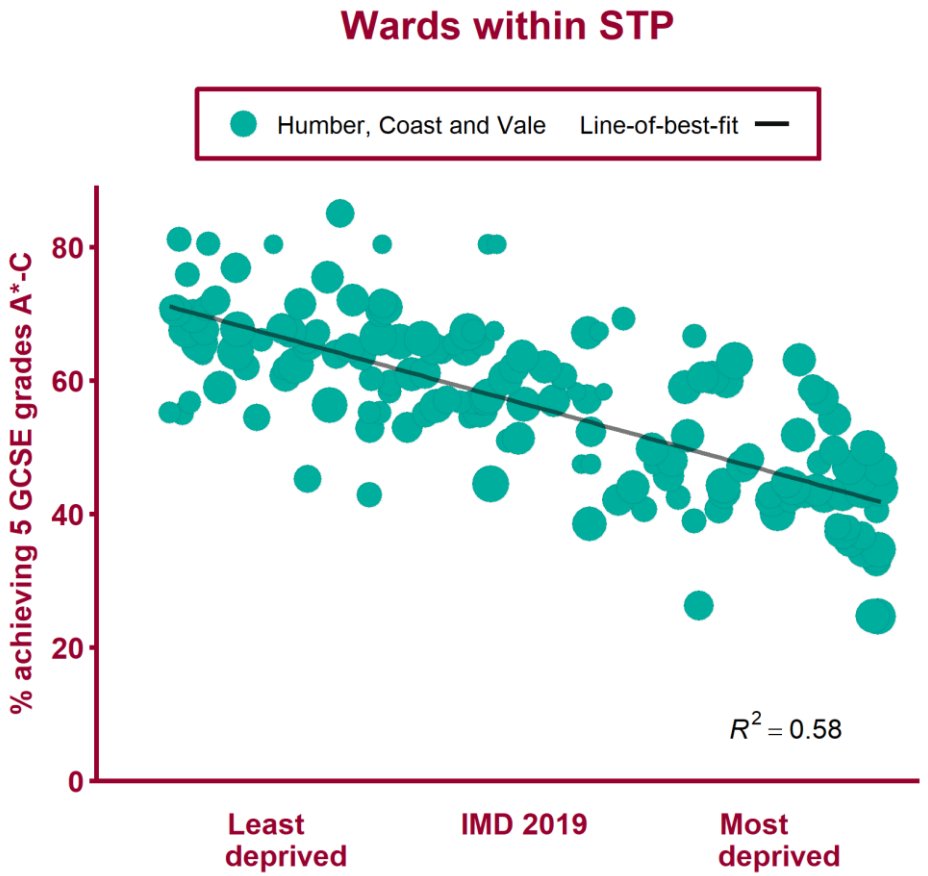
Life expectancy at birth for males (2013 - 17)

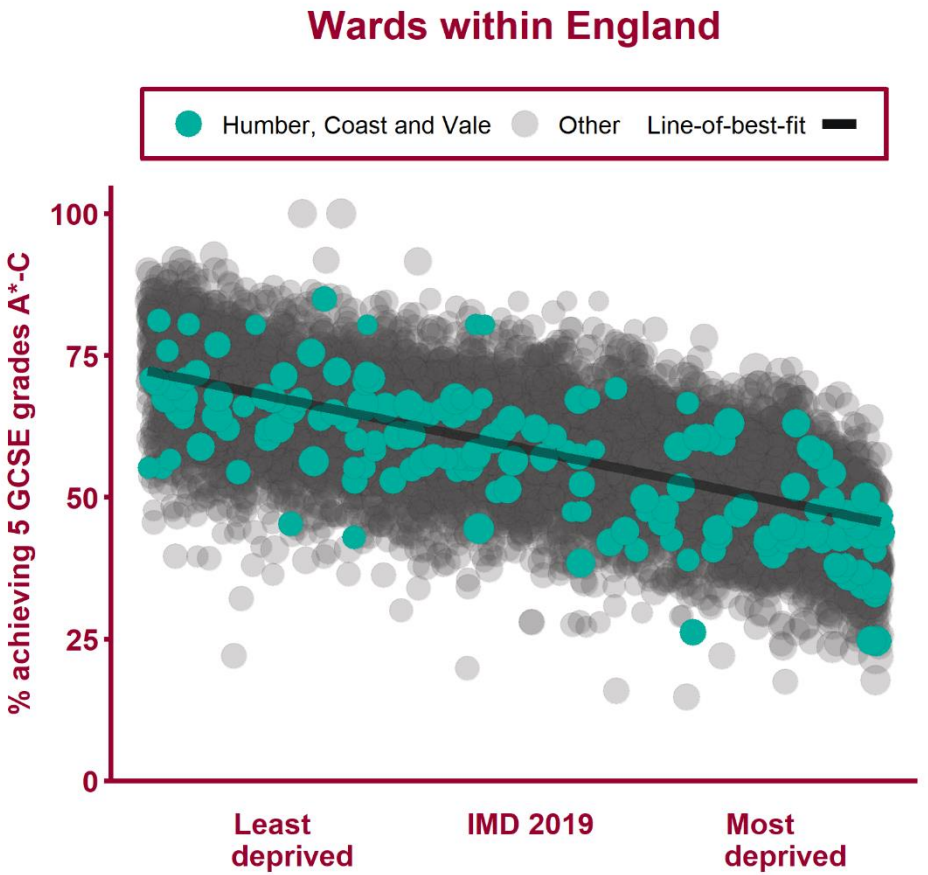




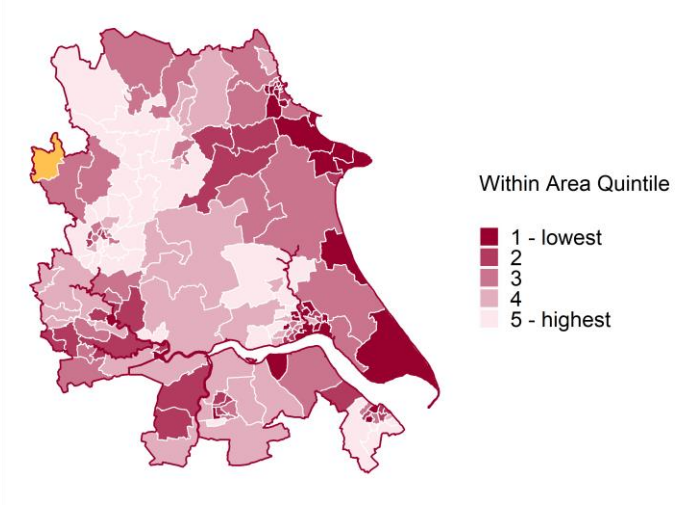


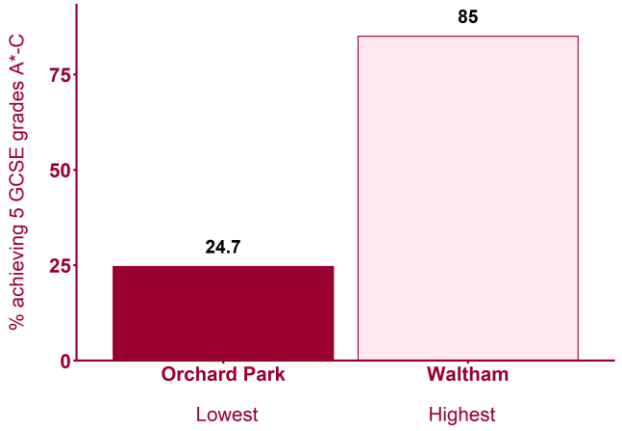
GCSE Achievement (2013/14)

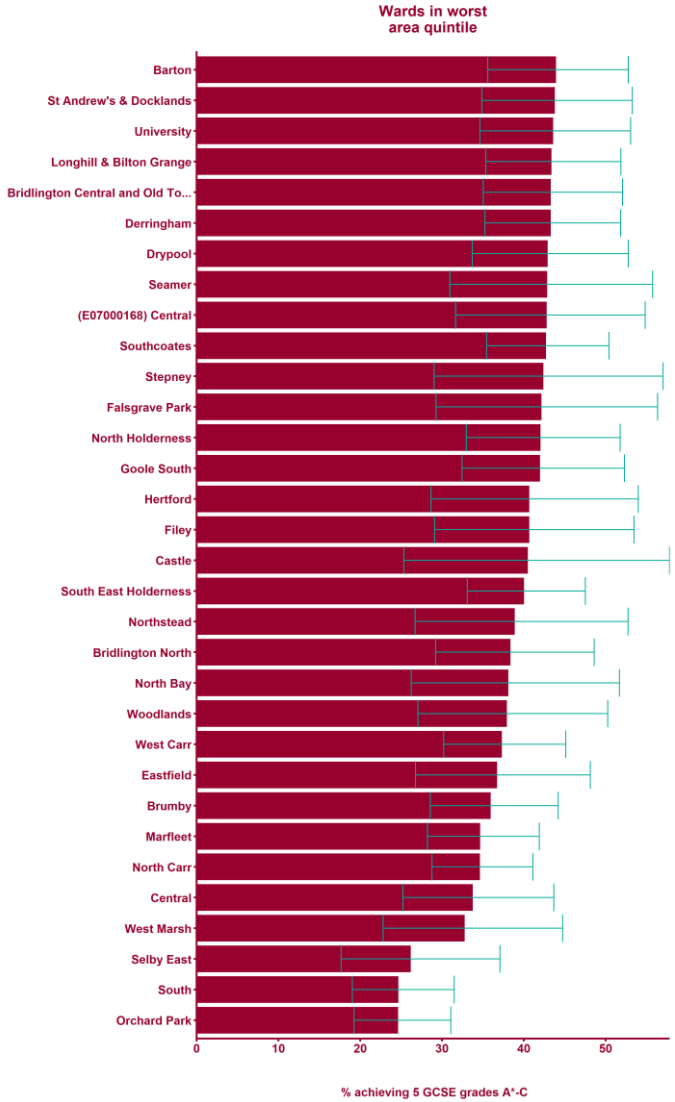




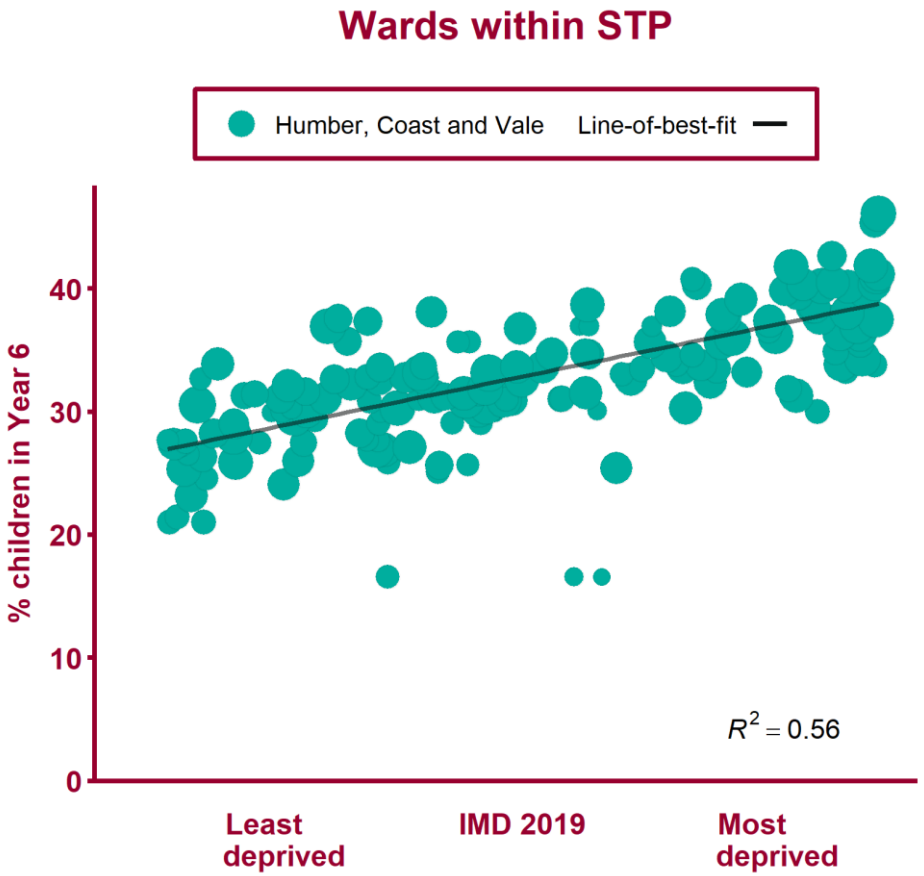
GCSE Achievement (2013/14)

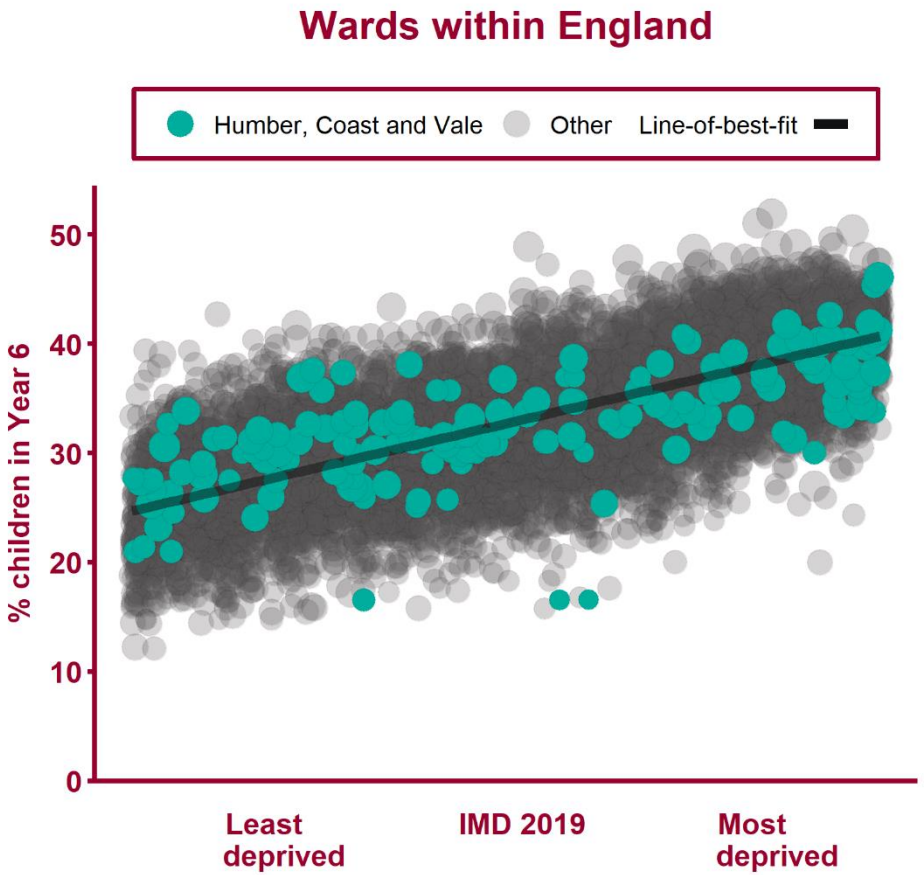




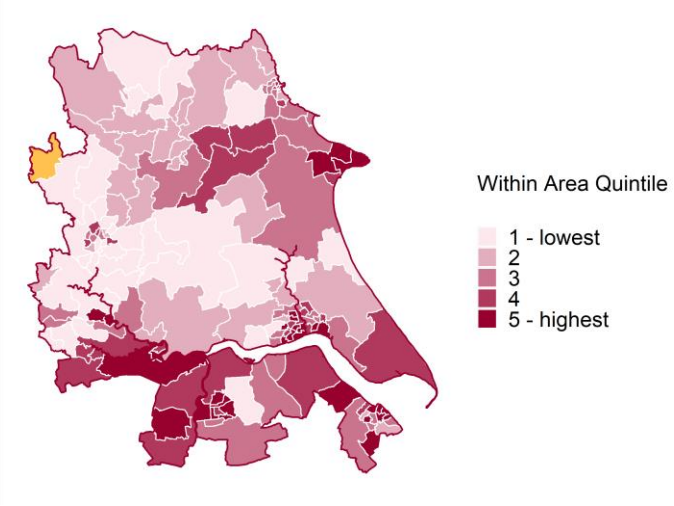


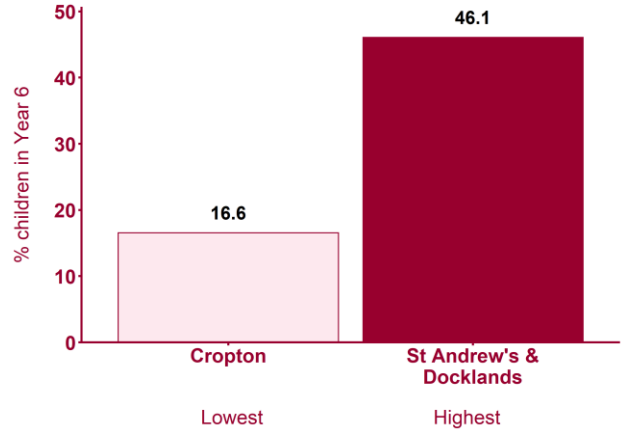
Children with excess weight, Year 6 (2015/16 - 2017/18)

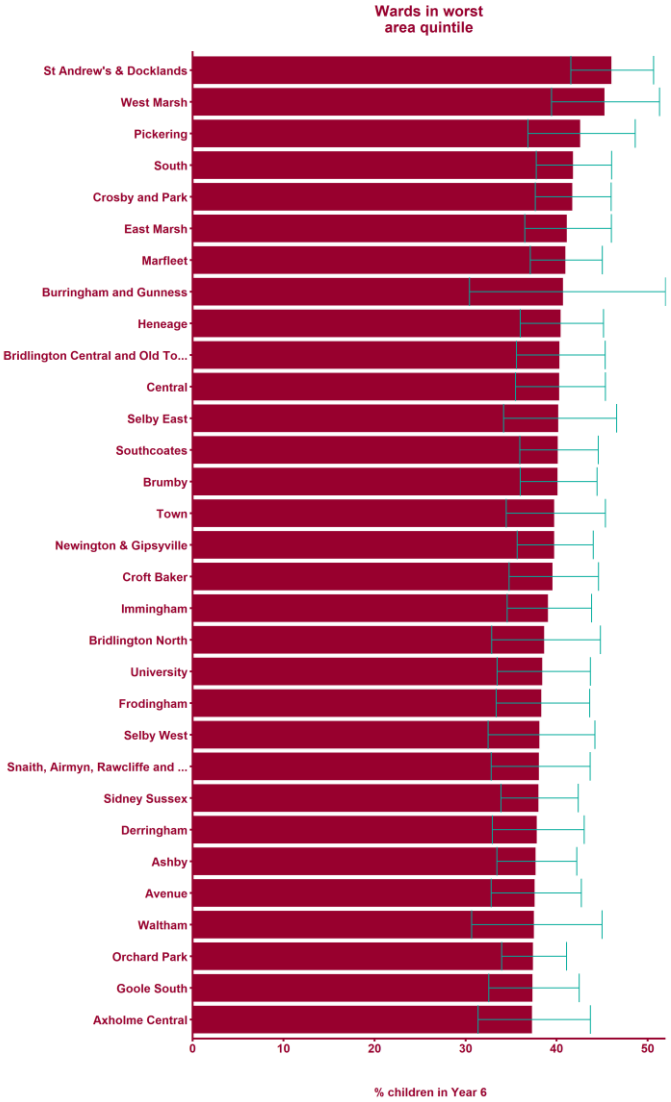




Children with excess weight, Year 6 (2015/16 - 2017/18)







Feedback

We would be very interested to hear your views on these Health Inequalities Slides

If you would like to let us know your thoughts, or have any questions, then please contact your regional LKIS team at the address below:

LKISYorkshireandTheHumber@phe.gov.uk