

Mind The Gap: Health Inequalities Action Plan for Kent

DATA REFRESH

Analytical Report

March 2019



Produced by

Rachel Kennard: Senior Intelligence Analyst (rachel.kennard@kent.gov.uk)

Gerrard Abi-Aad: Head of Health Intelligence (gerrard.abi-aad@kent.gov.uk)

Dr Allison Duggal: Consultant in Public Health (Allison.duggal@kent.gov.uk)

Correspondence: Gerrard Abi-Aad

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1. Executive summary

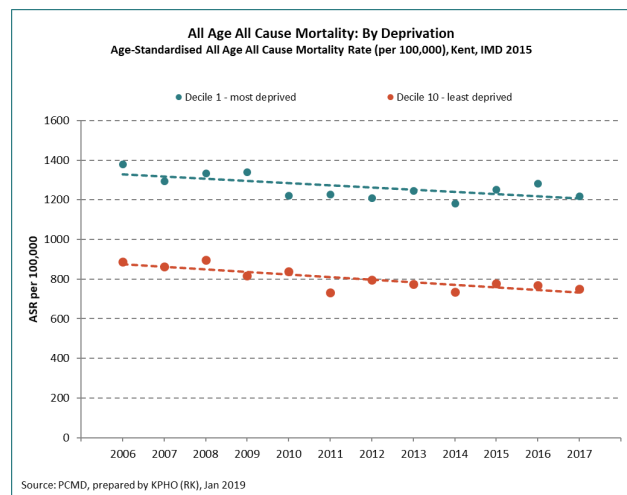
1.1 Introduction

This report provides an update to the [2016 Mind The Gap Analytical Report](#).

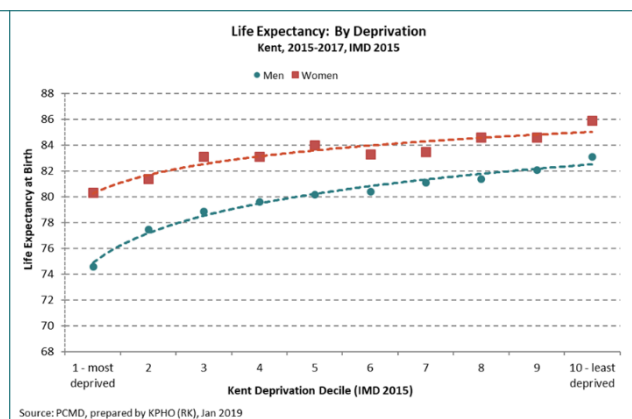
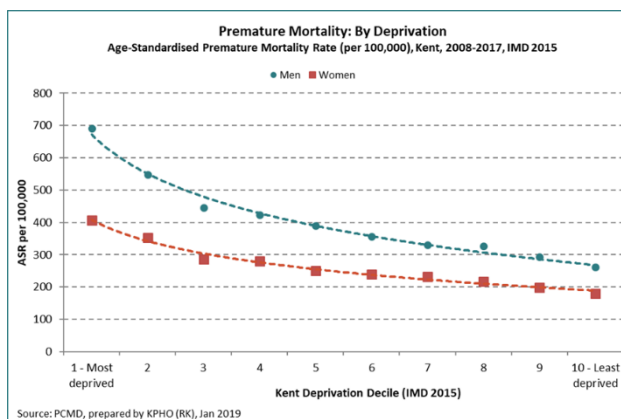
1.2 Key findings

1.2.1 Inequalities in health outcomes

While mortality rates in Kent have been falling over the past decade, the ‘gap’ in mortality between the most deprived and least deprived Lower Super Output deciles has persisted with the most deprived cluster of LSOAs experiencing an additional 400 deaths per 100,000 population per year on average.



The most deprived populations also have disproportionately worse premature mortality rates and life expectancy. This is demonstrated by the non-linear nature of the relationship between these high-level health outcomes and deprivation. The differences in premature mortality are of special interest because they imply the operation of an ‘unfair’ distribution of negative health determinants that are to an extent predicated by the circumstances one is born into. It also implies that these determinants operate inter-generationally because they tend to remain (to a large extent) geographically stable.



There are also inequalities in the causes of premature mortality. In the more deprived deciles, an increased proportion of the deaths are caused by cardiovascular, respiratory and GI disease.

1.2.2 Inequalities in the wider determinants of health

Steep inequality gradients are also evident across a large number of health and social indicators in Kent. On many measures the most deprived deciles fare disproportionately worse than their more affluent counterparts (i.e. there is a non-linear relationship with deprivation). For example, alcohol-related premature mortality more than five times higher in the most deprived decile than the most affluent decile.

1.3 Call to action

This work illustrates the requirement for focused and sustained partnership action to arrest adverse influences of the wider determinants of health when seeking to improve well-being and extend healthy life. It should also be noted that the impact of such efforts rarely become 'visible' immediately or even in the medium term. For, example the adverse effects of smoking can be broken down into immediate, intermediate and long-term outcomes. Some of the long-term impacts may include Cancer (colorectal, liver, lung, bladder, laryngeal, oral, and pharynx) which may manifest themselves decades after smoking was first started¹. Current interventions may only become evident long after the prevention programme began. Areas for action include:

- Educational and dwelling deficits (overcrowding) are clearly areas that can be influenced outside of the healthcare or public health spheres of control and yet they have a huge impact on health and well-being more broadly.
- Many inequalities are amenable to being reduced through earlier detection and preventative measures, such as lifestyle modification and management of long-term health risks.
- Commissioning interventions that are informed by behavioural insights may help in accessing hard to reach communities and may also inform the methods used to 'nudge' unhealthy behaviours, although this is an emerging area with a need for more evidence of positive effects.
- Given the multiple harms attributable to smoking (cardiovascular, cancer and otherwise), the three-fold difference in modelled smoking prevalence between the most and least deprived communities merits special attention and points to the need

¹ Public Health Implications of Raising the Minimum Age of Legal Access to Tobacco Products (<https://www.ncbi.nlm.nih.gov/books/NBK310413/>).

to intensify efforts at raising awareness of the risks of smoking and helping to quit smoking in marginalised deprived communities.

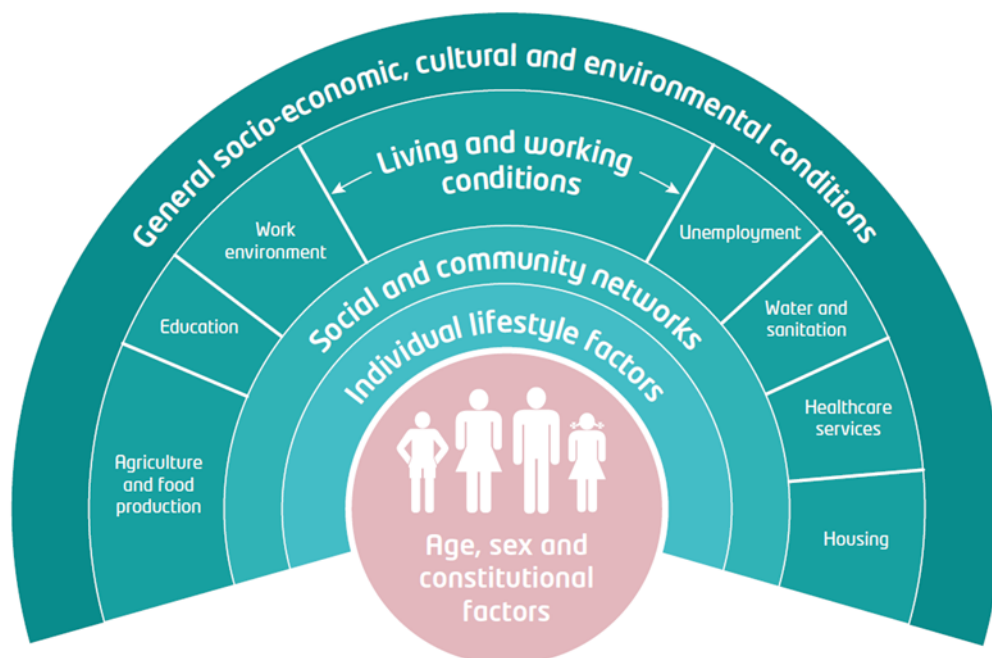
Enduring coordinated action to tackle the deleterious effects of these deficits will require time, effort, resources and sustained action and monitoring. Without such an approach it is difficult to envisage a meaningful reversal in the trends observed in this report or significant change in their geographic distribution.

2. Introduction & objectives

Health inequalities are the differences in health outcomes within and between communities. We measure health inequalities overall through health statistics such as life expectancy or all-age, all-cause mortality rates or more specifically for specific disease mortality rates such as cancers, cardiovascular or respiratory disease rates.

It is now widely recognised that our health as individuals is shaped by the conditions in which we are born, grow, live, work and age².

Policy makers for health have to consider the wider set of economic, political, and social forces and systems which influence our daily lives. These wider determinants of health drive the health inequalities which exist in society; that is, the unfair and avoidable differences in health status between individuals depending on their life circumstances.



Dahlgren and Whitehead's Social Model of Health (1991)

Whilst Kent scores above the England average on a range of health indicators, this hides the great diversity and disparities which exist within, and between, Kent's communities.

² UCL Institute of Health Equity. Fair Society, Healthy Lives: The Marmot Review - Strategic Review of Health Inequalities in England post-2010. 2010.

In 2012 the 'Mind the Gap' action plan was formulated by Kent County Council to reduce the gap in health status between the least deprived and most deprived communities in Kent³. The 2015 Public Health Annual Report⁴ was dedicated to health inequalities and reinforces the need to remain focussed on reducing the 'gap' in health outcomes across the county.

As part of the work surrounding the production of the 2015 Public Health Annual Report, the Kent Public Health Observatory (KPHO) were asked to provide intelligence and analytic support to bring greater understanding of the true nature of the health inequalities we see in Kent.

The specific objectives of our analysis were as follows:

- To explore trends in inequalities in health outcomes in Kent
- To explore inequalities in both health outcomes and the wider determinants of health
- To provide further understanding of the most deprived areas in Kent, using segmentation techniques to help describe our most deprived areas.

The findings of this analysis are presented in the [2016 Mind the Gap analytical report](#).

This report provides an update of the previous analysis in terms of:

- Figure updates to reflect the latest data for key data sources, such as mortality and hospital admissions
- Additional analysis of disease prevalence.



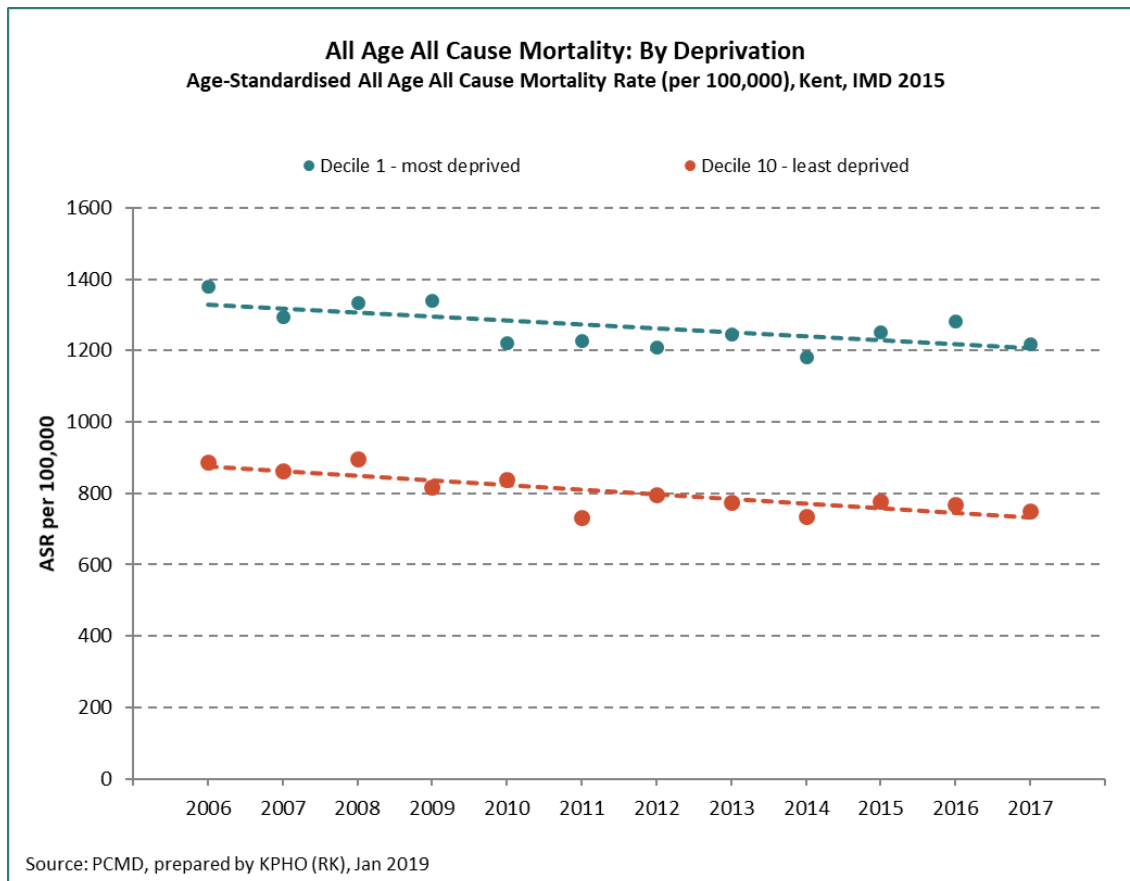
³ Kent County Council. Mind The Gap: Kent's Health Inequalities Action Plan 2012/15. 2012:1-62

⁴ Kent County Council. Kent Annual Public Health Report 2015: Health Inequalities (http://www.kpho.org.uk/_data/assets/pdf_file/0005/57407/Final-Public-Health-Annual-Report-2015.pdf).

3. Inequalities in mortality & life expectancy

3.1 Trends in health inequalities

The chart below shows how the differences in all age, all cause mortality rates in Kent for the most and least deprived deciles in Kent for the period 2006 to 2017⁵.



This chart shows that, while mortality rates have reduced over time in the upper and lower deciles, the ‘gap’ in mortality between the most and least deprived deciles persists. This indicates the requirement for persistent and targeted health improvement action, the divide may also point to the need for a more nuanced approach especially when attempting to target hard to reach communities. This persistent gap in health outcomes is not a phenomenon that is unique to Kent; the ONS recently reported that there has been a persistent fixed gap in the life expectancy across England as a whole⁶.

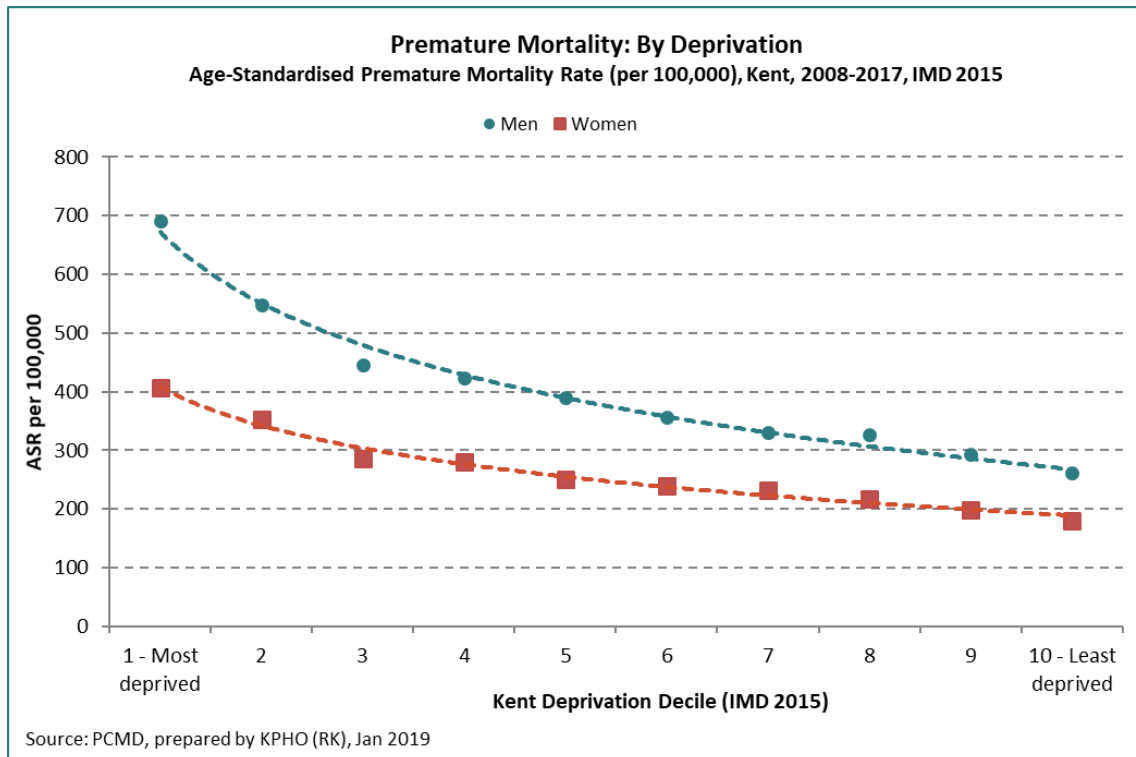
⁵ In this analysis deprivation is measured using the Index of Multiple Deprivation (IMD 2015) at LSOA-level, with the 902 LSOAs in Kent divided into population weighted deciles based on the overall IMD scores.

⁶ Office for National Statistics. Statistical Bulletin Health state life expectancies by national deprivation deciles, England and Wales: 2014 to 2016.

3.2 Inequality slopes

Health inequalities lead to inequalities in life expectancy. The analysis below looks both at life expectancy and premature mortality (deaths occurring under the age of 75 years) as it is these early deaths which lead to shorter life expectancy.

3.2.1 Premature mortality



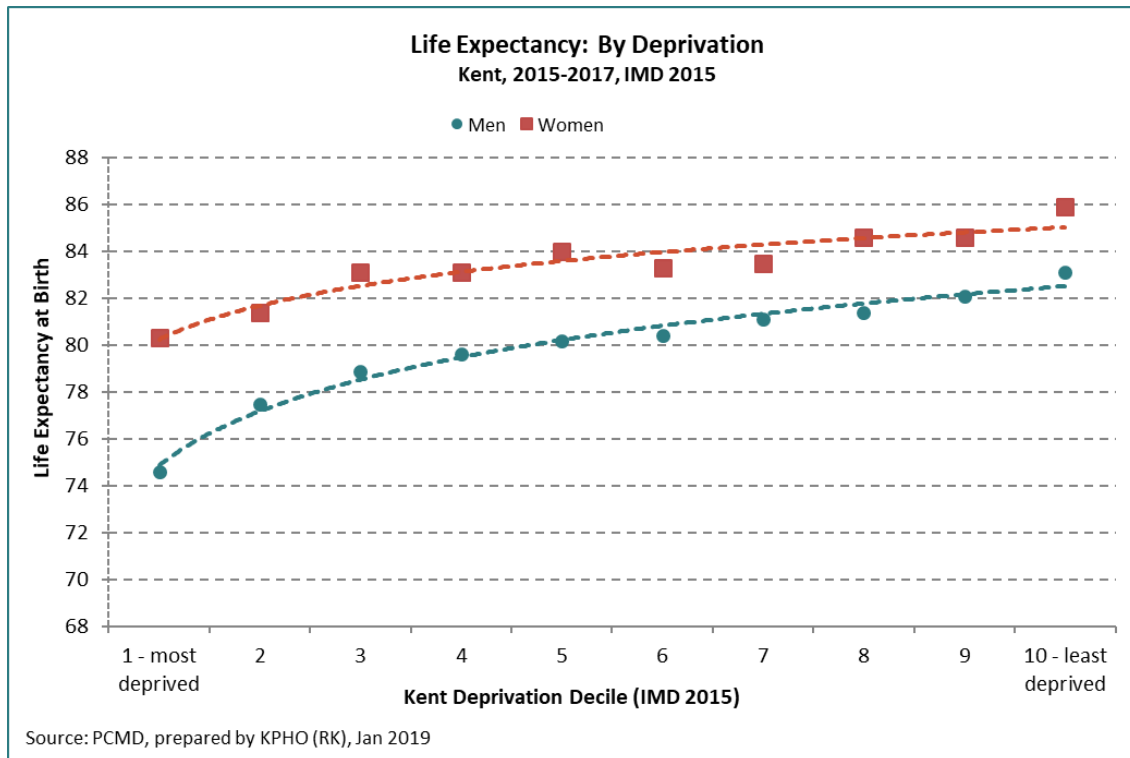
It is notable that the most deprived populations have disproportionately worse premature mortality, demonstrated by the non-linear curves of best-fit⁷. In the most deprived decile men and women fare especially badly, with women in the most deprived decile experiencing a mortality rate of around twice the rate experienced in the least deprived decile. For men in the most deprived decile, this difference is significantly in excess of double the rate in the least deprived decile.

In this analysis non-linear trend lines have been used to illustrate the curvy-linear or disproportionate relationship between deprivation and premature mortality.

⁷ Based on logarithmic trend lines.

3.2.2 Life expectancy

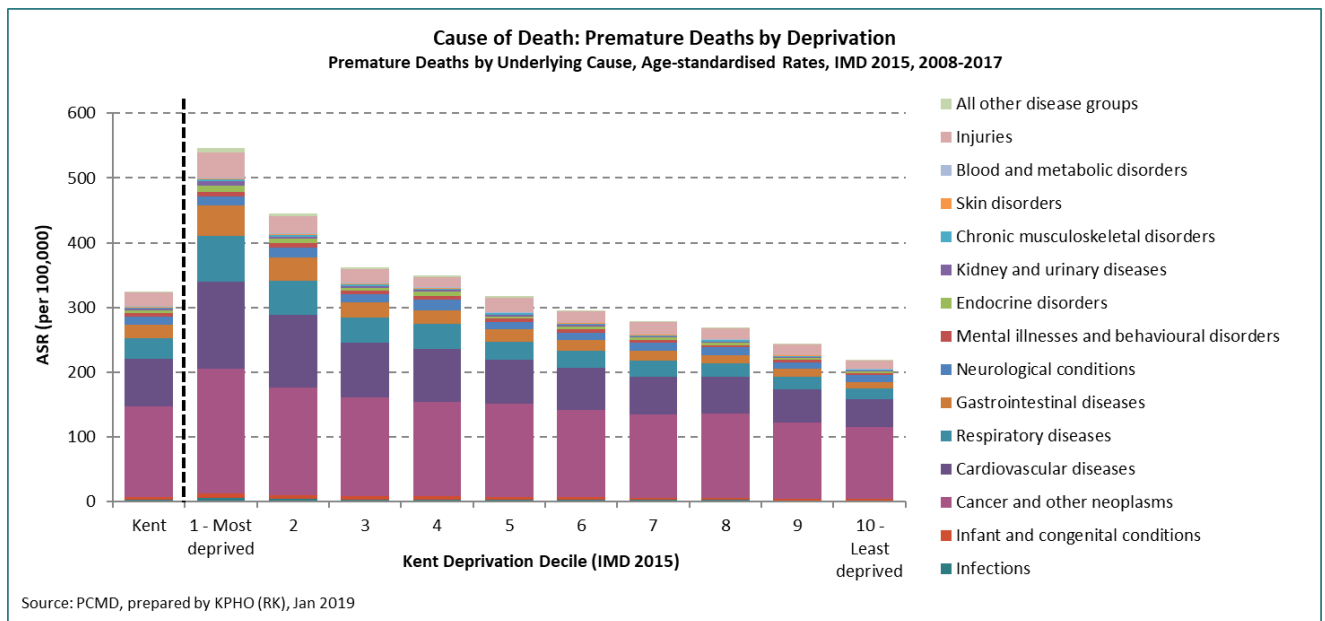
The chart below shows a similar analysis for life expectancy at birth.



Similar curvy-linear patterns are observed for life expectancy, with the most deprived populations having disproportionately worse life expectancy when compared with least deprived populations. It is notable that on average men living in the most deprived areas in Kent have a 6-year life expectancy gap when compared with men living in the least deprived areas. While the trend is similar for women, the absolute gap is smaller.

3.3 Causes of death

The chart below disaggregates premature death rates by the underlying cause of death and deprivation.



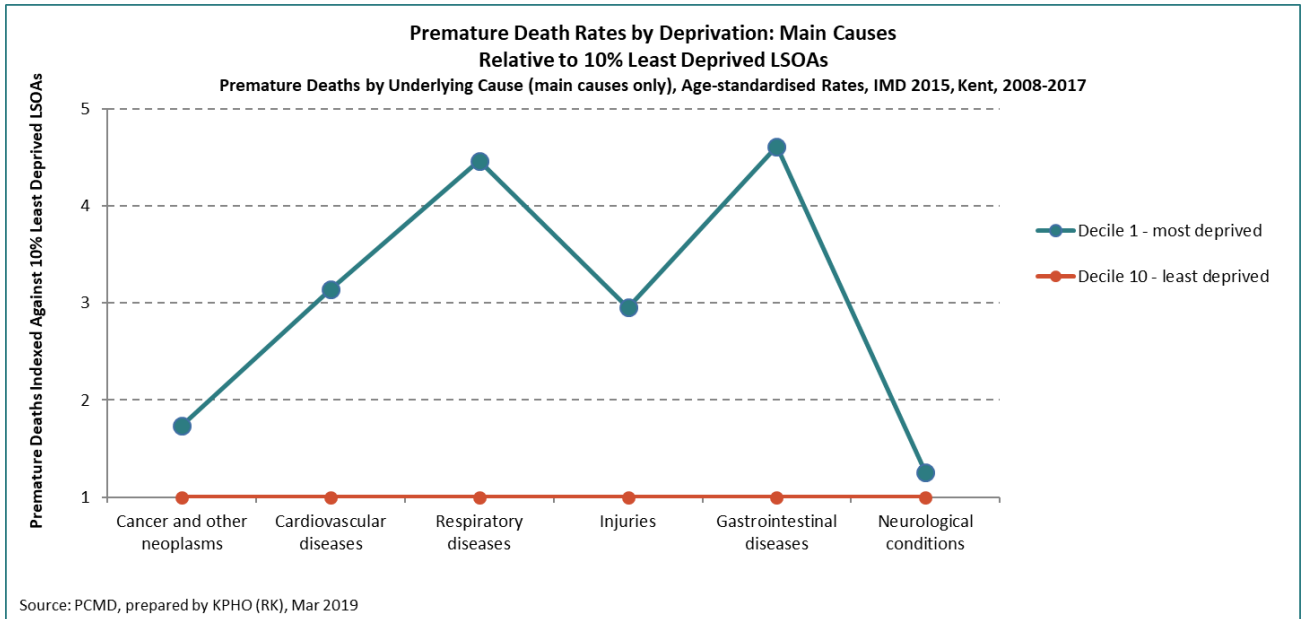
This analysis not only demonstrates the higher rate of premature deaths in the most deprived deciles but also differences in the causes of premature mortality.

Cancer is the largest cause of premature mortality overall. But in the more deprived deciles, an increasing proportion of the deaths are caused by cardiovascular, respiratory and Gastrointestinal (GI) disease.

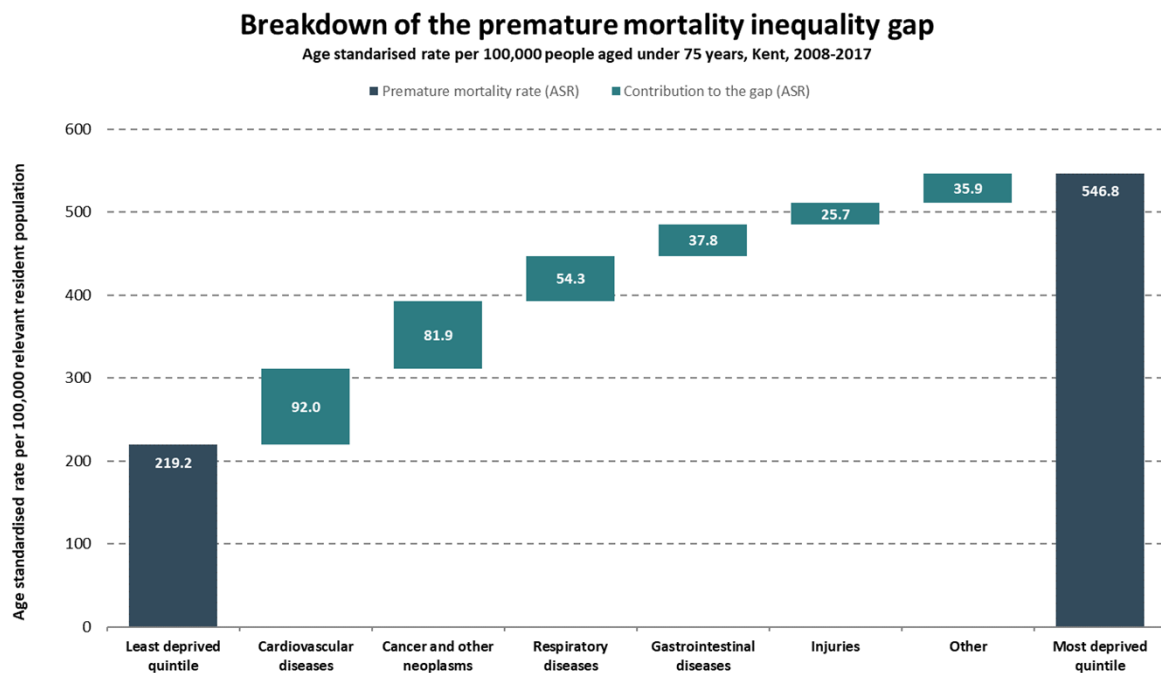
These inequalities are demonstrated clearly in the chart below, which shows the ratio of premature mortality among the least deprived decile to the most deprived decile – for example deaths for respiratory disorders among people living in the most deprived decile exhibit a greater than fourfold magnitude when compared with rate among people living in the least deprived decile.

This chart illustrates the scale of inequality between deprivation extremes in the County, many of which are predicated by the intergenerational impacts of deprivation and to a lesser extent the perverse equity gradient that disproportionately affects marginalised groups in deprived communities. This is an important finding, since these inequalities are amenable to being reduced through earlier detection and preventative measures, such as lifestyle modification and management of long-term health risks.

(Note: while the relative risk may be high the absolute difference in premature mortality may be small)



The chart below provides a breakdown of the total premature mortality inequality gap by cause. More than half (53%) of the gap is accounted for by inequalities in deaths from cardiovascular disease and cancers.



Source: PCMD, prepared by KPHO (RK), Feb 2019

| 4. Inequalities in the wider determinants of health

Given the inequalities in mortality rates and life expectancy, we would expect to see inequalities evident in the wider determinants of health. In this section we explore the relationship between deprivation and a range of measures of health outcomes (including disease prevalence), health risks and behaviours and the wider determinants of health.

These analyses are based on LSOA-level deprivation, with LSOAs grouped into deciles, and so requires LSOA-level data for each of the wider determinants. Analysis has been conducted for known social determinants of health where such data exist or where data can be modelled at LSOA level⁸. The analysis includes disease prevalence figures derived from the GP records contained within the Kent Integrated Dataset (KID).

The charts show inequality slopes for a range of health outcome measures, disease prevalence, measures of health risks and behaviours, and wider determinants of health.

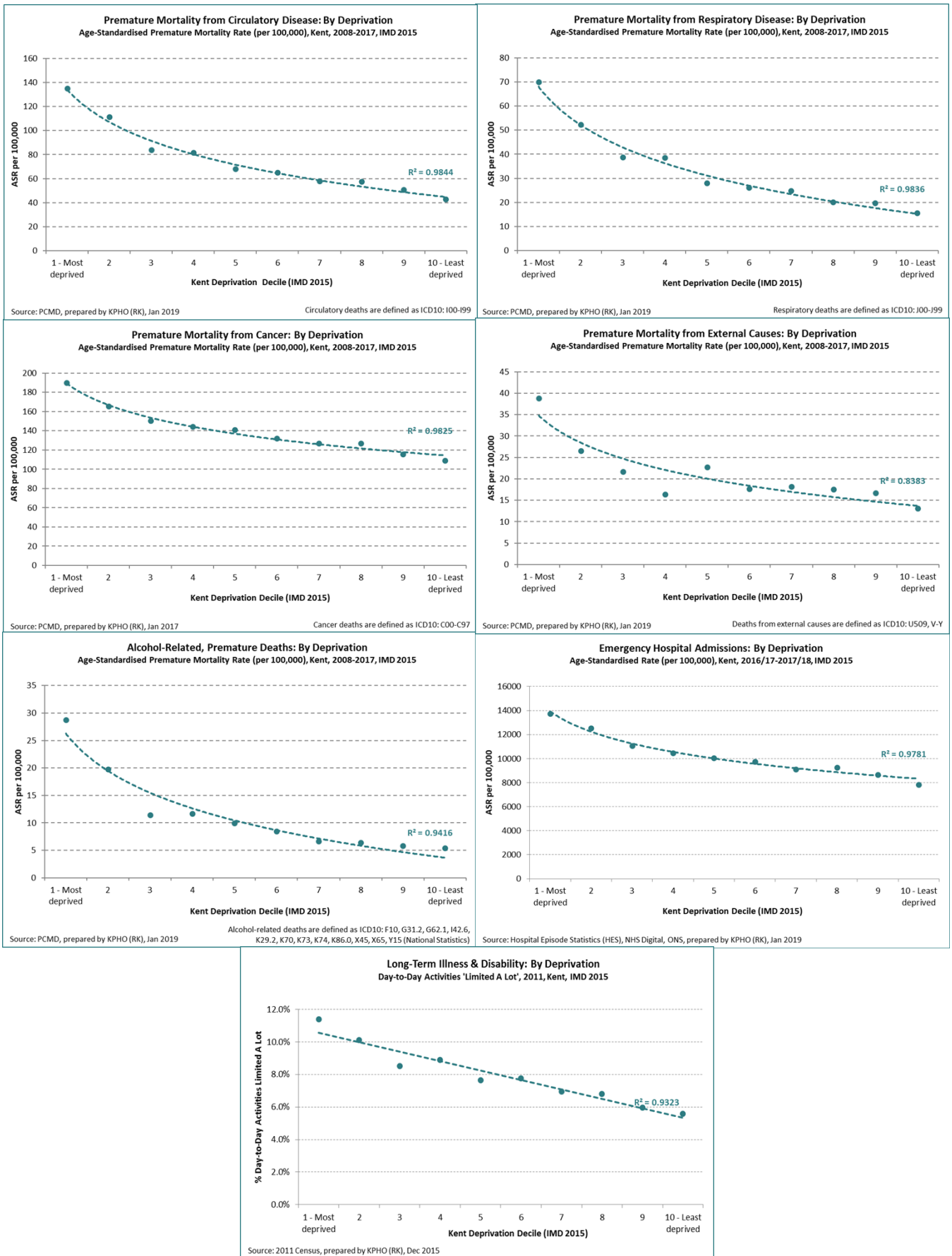
It is striking how steep and consistent the inequality gradients are across a large number of health and social indicators in Kent.

For example, in the most deprived decile, 66% of children do not achieve 5 good GCSEs, compared to 23% in the most affluent decile. Taking the charts together, it is evident how poor social conditions and unhealthy behaviours reinforce one another and accumulate in individuals throughout their lives. Where the relationship is linear, those in the most deprived deciles fare worse than those in the least deprived deciles, to a degree that is proportionate to the slope of inequality. On many measures the gradient is not linear but rather curves sharply for the most deprived deciles. In these instances, the most deprived deciles fare disproportionately worse than their more affluent counterparts. For example, alcohol-related premature mortality is more than five times higher in the most deprived decile than the most affluent decile.

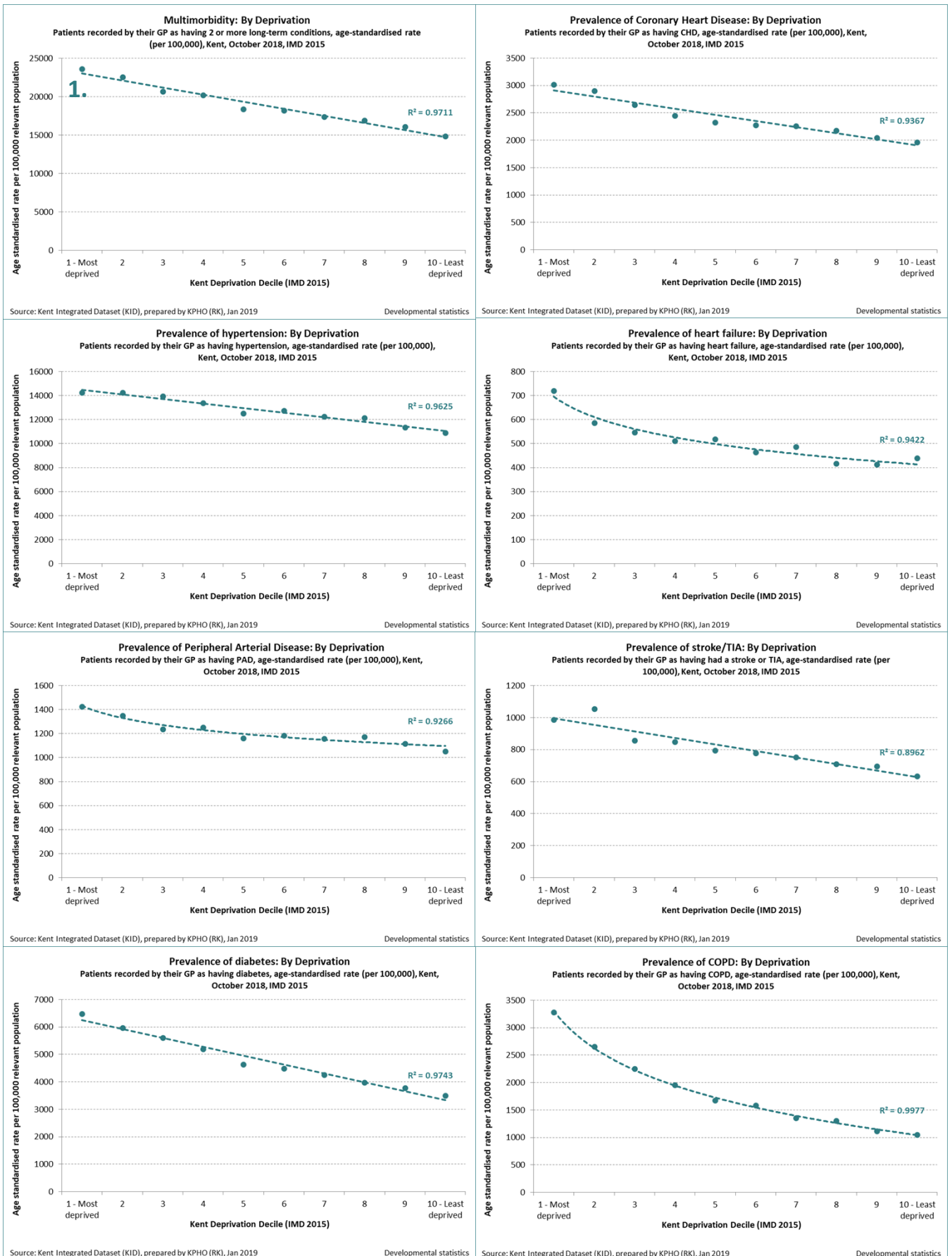
For smoking prevalence, the deficit is also striking with the most deprived decile showing a three-fold difference when compared with the least deprived community. Given the multiple harms attributable to smoking (cardiovascular, cancer and otherwise), this finding in particular merits special attention and points to the need to intensify efforts at raising awareness of the risks of smoking and helping to quit smoking in marginalised deprived communities.

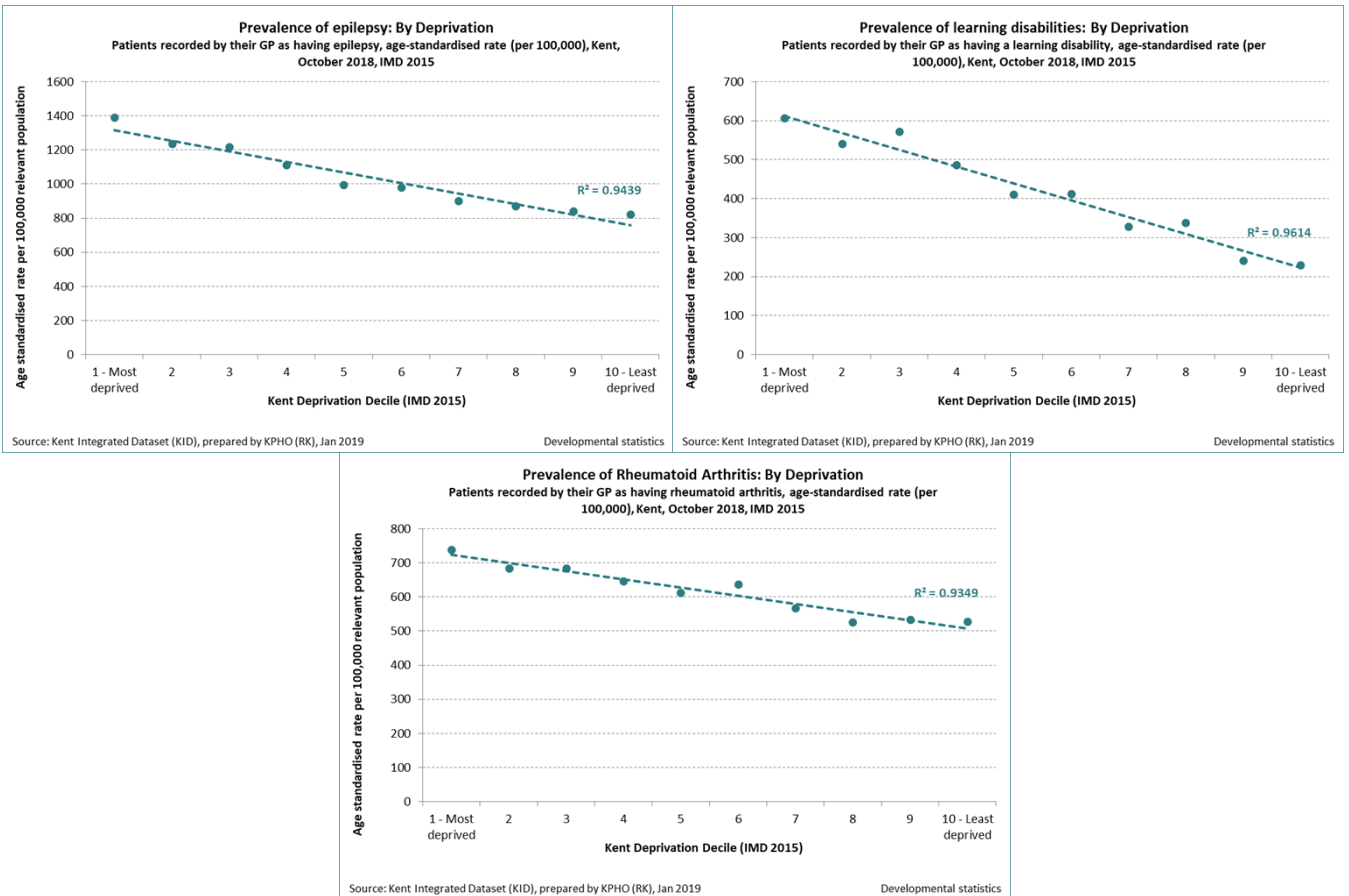
⁸ Appendix A provides details of the data sources and modelling approaches.

4.1 Inequality slopes: Health outcomes

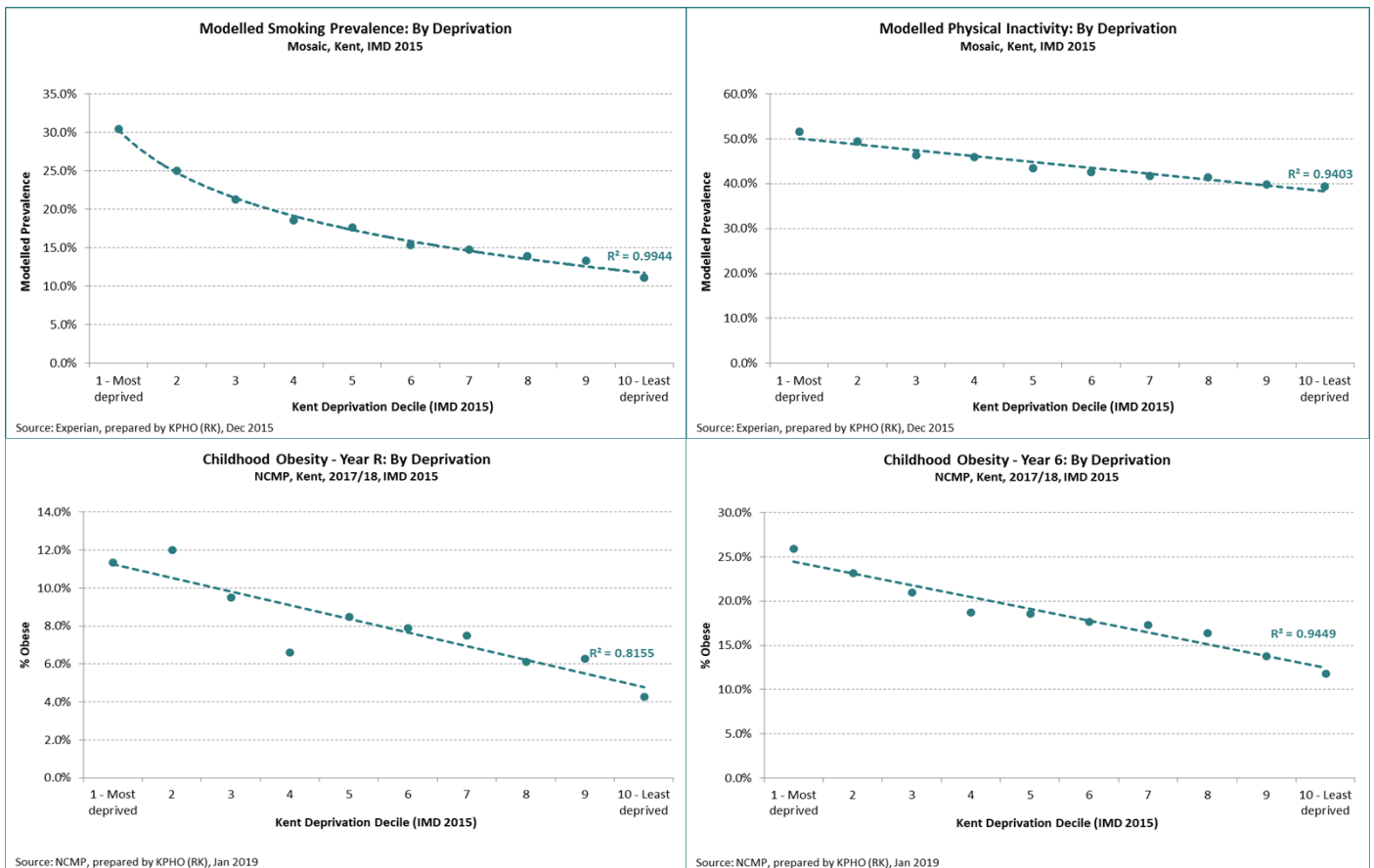


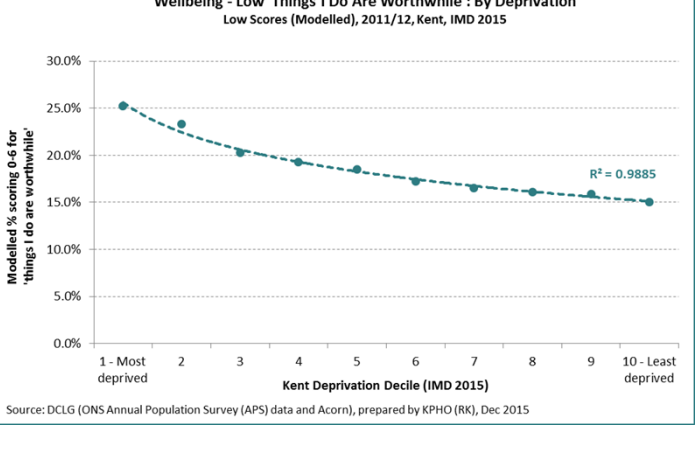
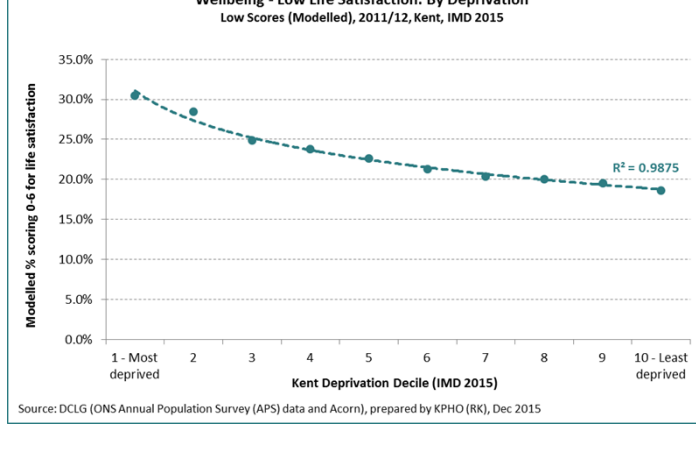
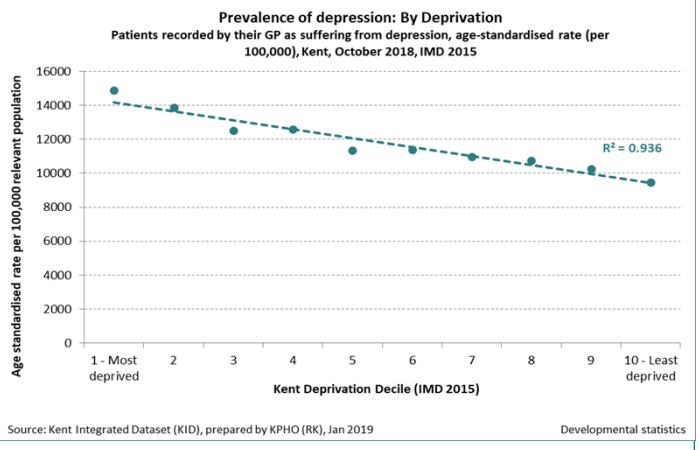
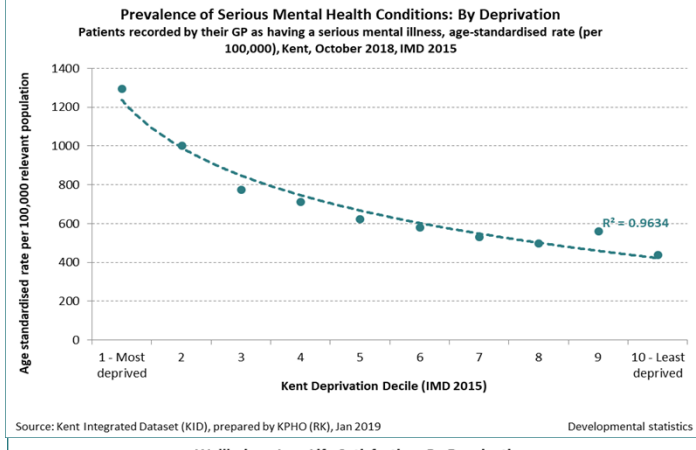
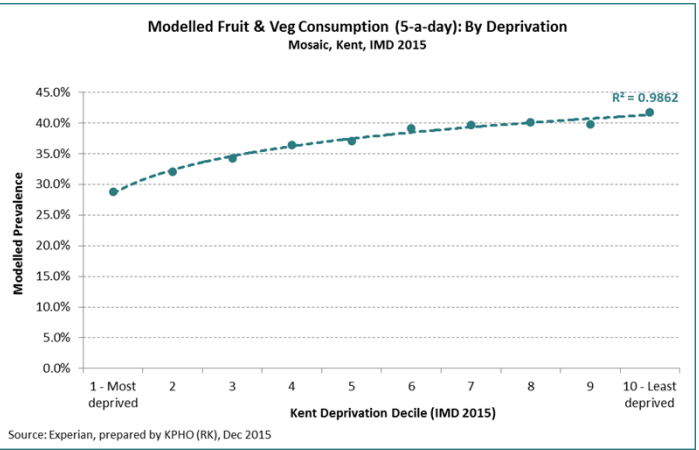
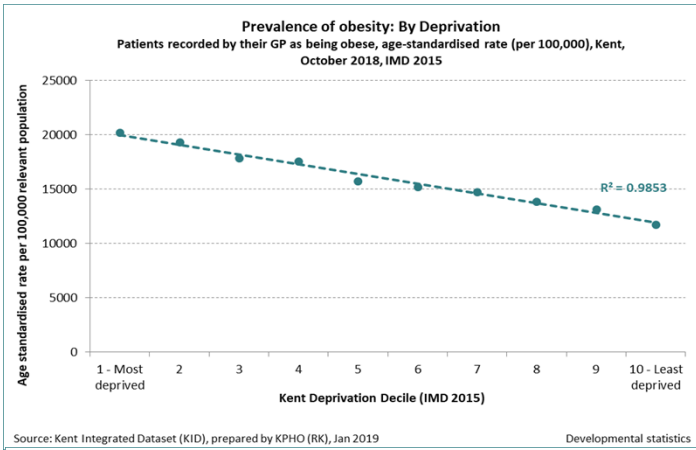
4.2 Inequality slopes: Disease prevalence



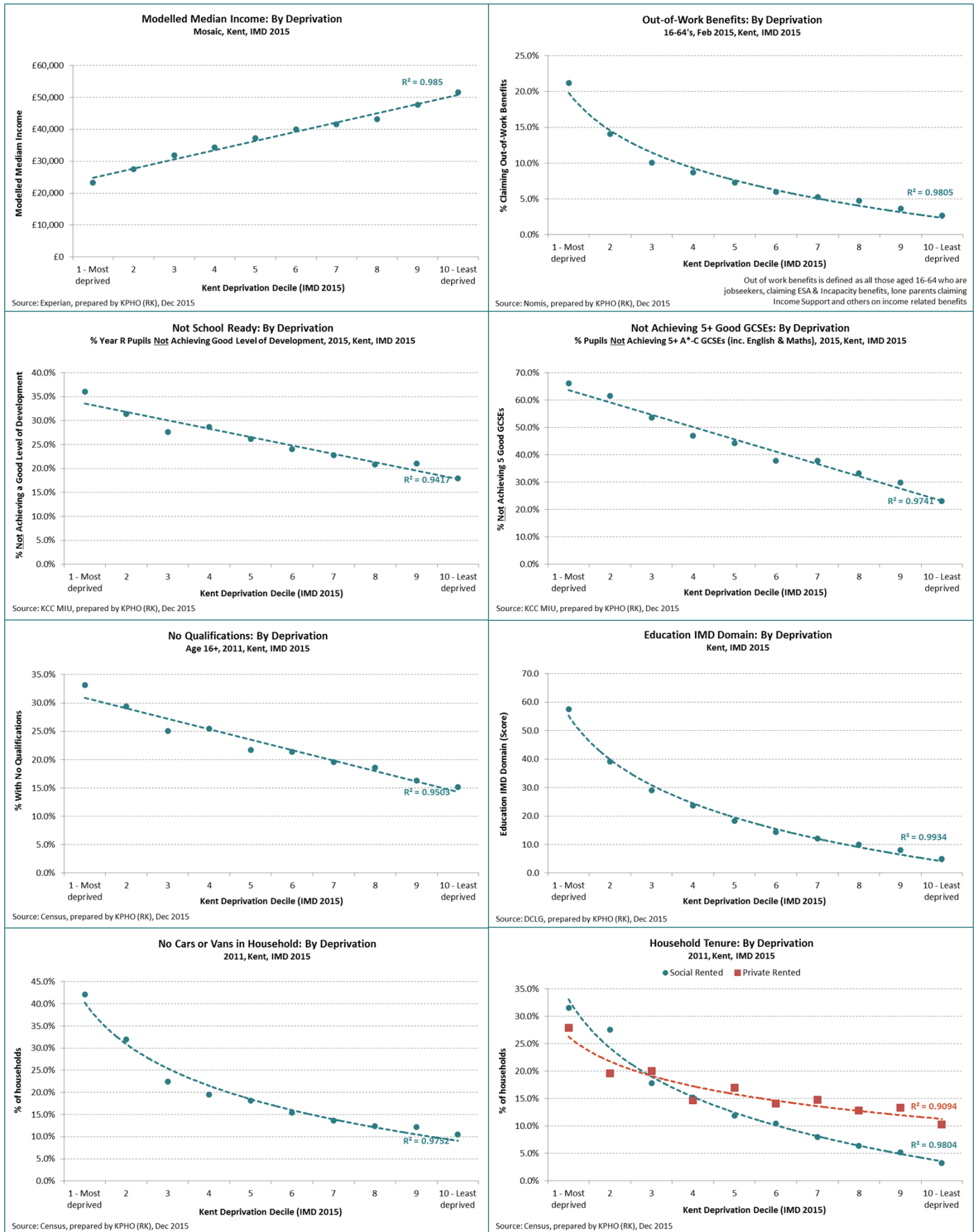


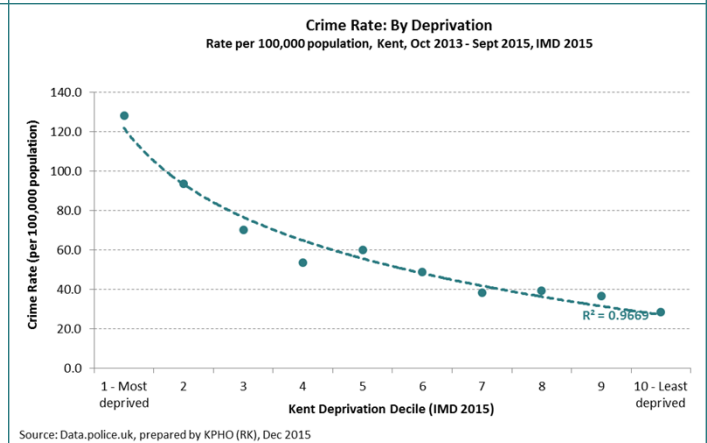
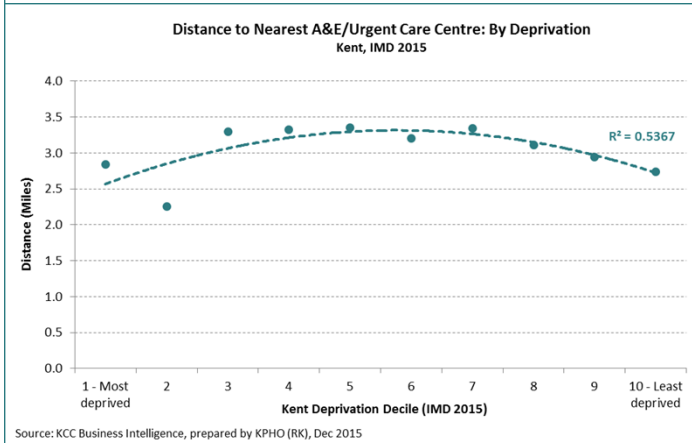
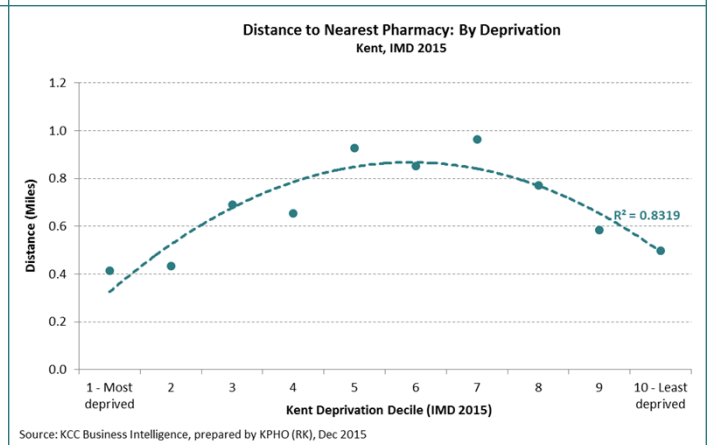
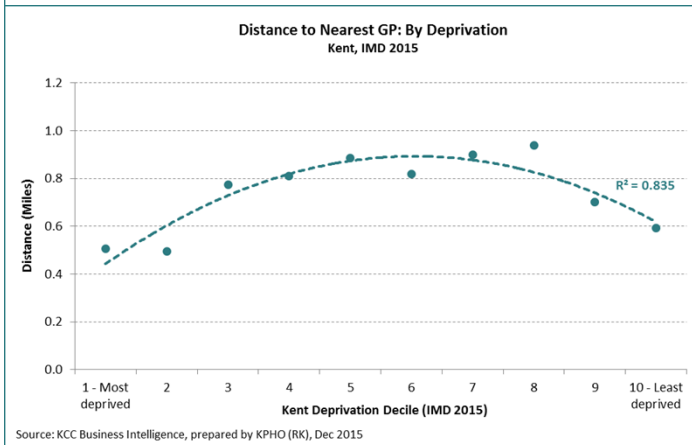
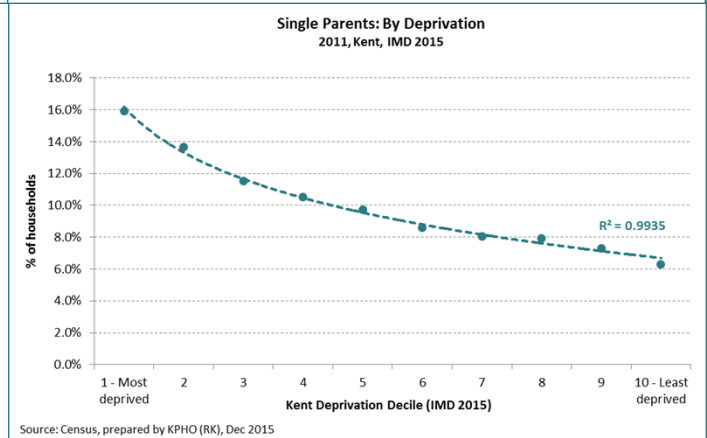
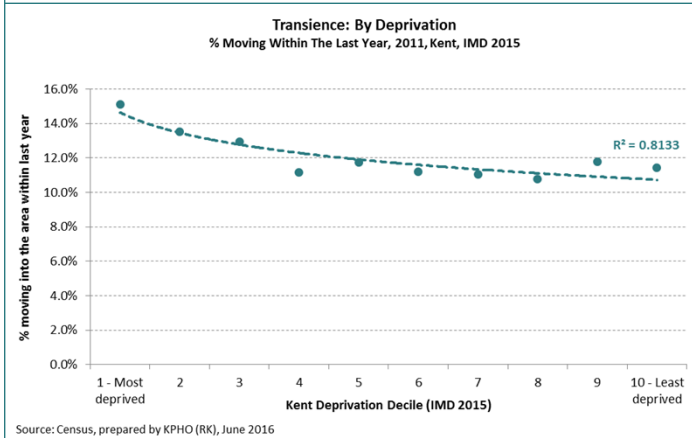
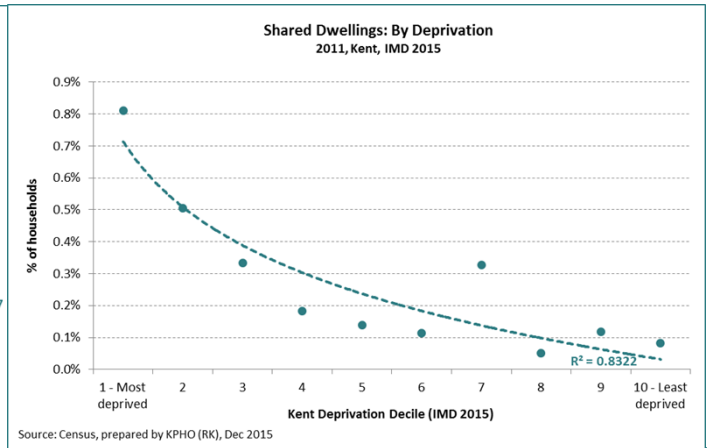
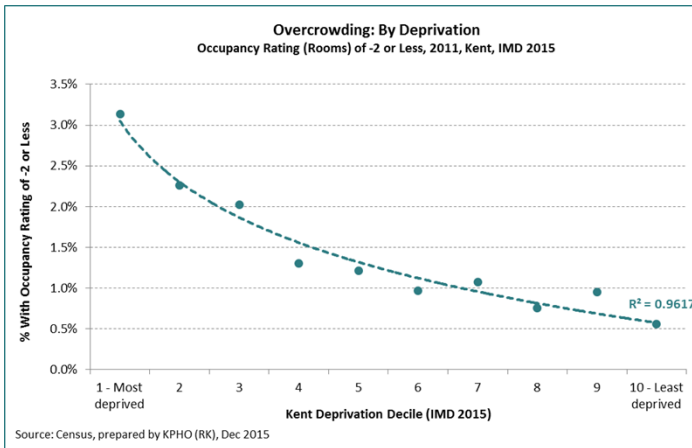
4.3 Inequality slopes: Health risks & behaviours

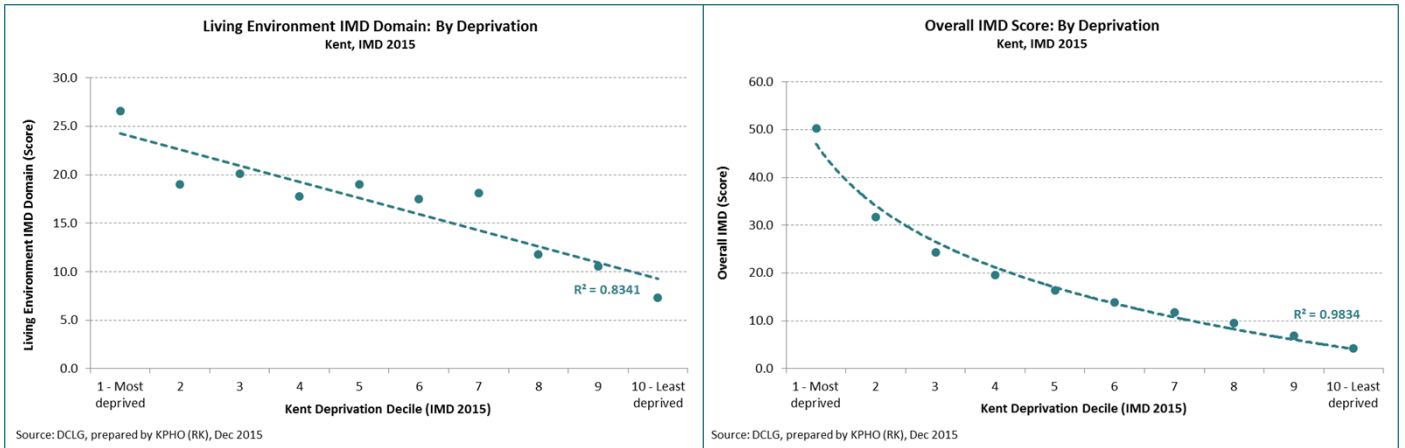




4.4 Inequality slopes: Wider determinants of health



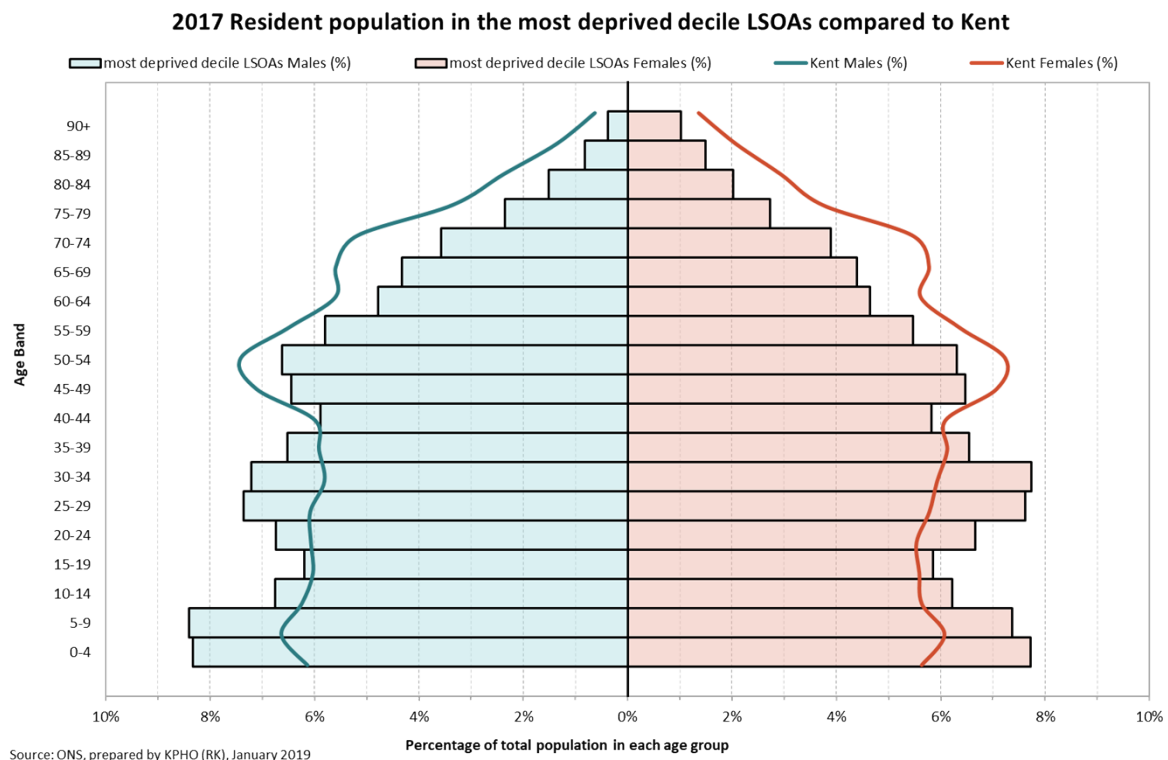




5. Profile of the most deprived decile

5.1 Population

The chart below shows the age structure of the population of the 88 LSOAs falling into the most deprived decile compared with Kent as a whole. This chart highlights the fact that the most deprived areas in Kent have high numbers of young adults and of young children and are disproportionately represented by the 30 to 39 age bracket.



5.2 Wider determinants of health

The chart overleaf provides a summary of the characteristics of the most deprived decile areas in terms of health outcomes (including disease prevalence), health risks and behaviours, and the wider determinants of health. In these presentations the most deprived decile areas have been indexed against the average for Kent for each individual characteristic. For details of the data sources used for each characteristic see Appendix A.

Relative to the least deprived communities in Kent this analysis shows that people living the most deprived areas are more likely to be characterised as having:

- High levels of shared dwellings and overcrowding (*)
- Poor living environment and high crime rates
- Low incomes
- High levels of out-of-work benefit claimants (*)
- Poor scores for education
- High levels of renting, particularly social renting
- High levels of movement/transiency.

In terms of health risks and behaviours, the most deprived deciles areas have:

- High smoking prevalence
- High obesity rates
- High levels of serious mental illness and high levels of recorded depression (*)
- Low levels of wellbeing.

In terms of health outcomes, the most deprived decile areas have:

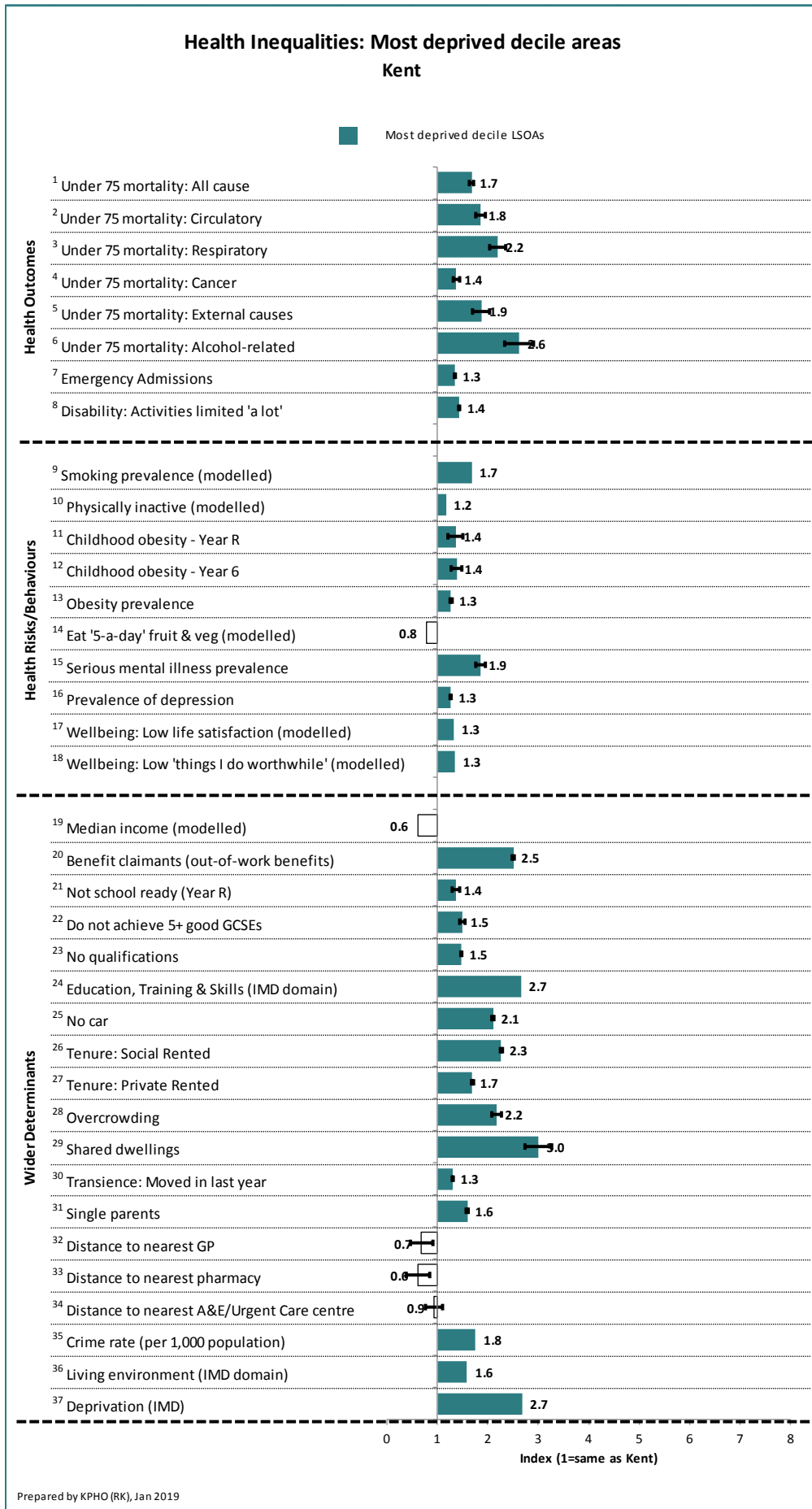
- High premature mortality rates, with alcohol-related premature mortality (*)
- High emergency hospital admission rates
- High rates of disability ('activities limited a lot').

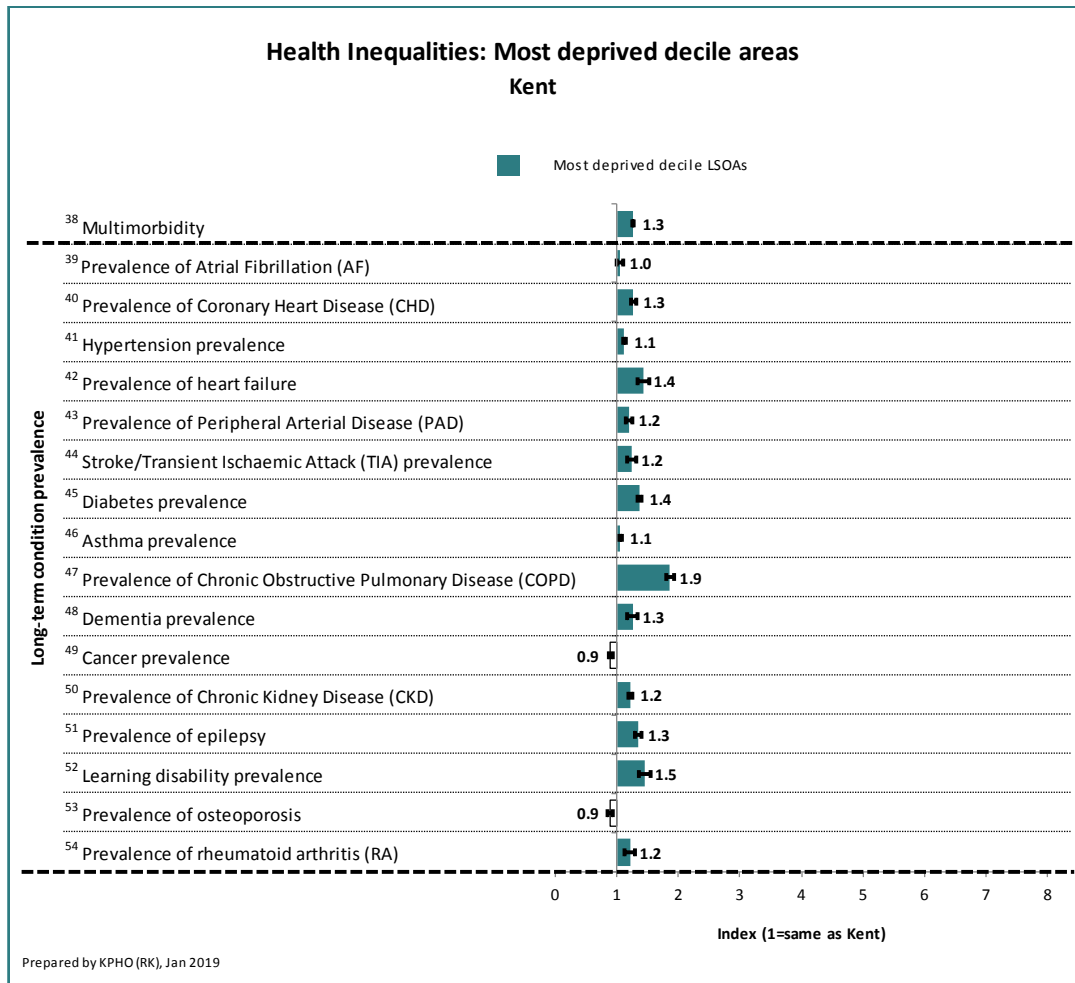
In terms of long-term condition prevalence, the most deprived decile areas have:

- High recorded prevalence rates for a range of long-term conditions, circulatory conditions, respiratory conditions, epilepsy and learning disabilities
- High recorded rates of multimorbidity.

The 'aggregation' of these deficits is extremely important because they illustrate scope of the additive determinants that impact negatively on people's lives and which influence outcomes across the life course including life expectancy. This analysis also illustrates the requirement for highly focused and targeted partnership action to arrest the influence of these determinants when seeking to improve well-being and extend healthy life. For example, educational and dwelling deficits (overcrowding) are clearly areas that can be influenced outside of the healthcare or public health spheres of control and yet they have a huge impact on health and well-being more broadly. Enduring coordinated action to tackle the deleterious effects of these deficits will require time, effort, resources and sustained action and monitoring. Without such an approach it is difficult to envisage a meaningful reversal in the trends observed in this report or significant change in their geographic distribution.

(*) denotes measures where there is a more profound difference between the most deprived decile and the Kent average.





| Appendix A: Data sources

The charts in Section 5 summarising the characteristics of each deprivation type in terms of health outcomes, health risks and behaviours, and the wider determinants of health show data derived from the following sources:

- 1-6** Age-standardised mortality rates, 2008-2017. Source: PCMD. **2** ICD10: I00-I99. **3** ICD10: J00-J99. **4** ICD10: C00-C97. **5** ICD10: U00-Y99. **6** ICD10: F10, G31.2, G62.1, I42.6, K29.2, K70, K73, K74, K86.0, X45, X65, Y15.
- 7** Emergency admissions, 2016/17-2017/18. Source: Hospital Episode Statistics.
- 8** % self-reporting day-to-day activities 'limited a lot', 2011. Source: Census.
- 9** Modelled based on smoking prevalence data by Mosaic type. Source: Experian (TGI: 'Heavy', 'Medium' & 'Light' smokers combined).
- 10** Modelled based on % who do not exercise by Mosaic type. Source: Experian (TGI).
- 11-12** % children measured who were obese, 2017/18. Source: NCMP.
- 13** Recorded obesity prevalence based on GP records held in the Kent Integrated Dataset (KID) expressed as an age-standardised rate per 100,000, October 2018. Source: KID.
- 14** Modelled based on % who claim to eat '5-a-day' fruit and vegetables by Mosaic type. Source: Experian (TGI).
- 15-16** Recorded serious mental illness and depression prevalence based on GP records held in the Kent Integrated Dataset (KID) expressed as an age-standardised rate per 100,000, October 2018. Source: KID.
- 17-18** Modelled wellbeing based on ONS Annual Population Survey (APS) data by Acorn type, 2011/12. Source: DCLG. **17** % scoring 0-6 for 'Overall, how satisfied are you with your life nowadays?' **18** % scoring 0-6 for 'Overall, to what extent do you feel the things you do in your life are worthwhile?'
- 19** Modelled based on median household income data by Mosaic type. Source: Experian (ConsumerView).

- 20** % claiming out of work benefits (defined as all those aged 16-64 who are jobseekers, claiming ESA & incapacity benefits, lone parents claiming Income Support and others on income related benefits), February 2015. Source: DWP (from Nomis).
- 21** % Year R pupils not achieving a good level of development, 2015. Source: KCC, MIU.
- 22** % pupils not achieving 5+ A*-C GCSEs (including English & Maths) at the end of Key Stage 4, 2015. Source: KCC, MIU.
- 23** % with no qualifications (based on persons aged 16+), 2011. Source: Census.
- 24** Education, Training & Skills IMD domain (average score), 2015. Source: DCLG.
- 25** % of households with no car or van, 2011. Source: Census.
- 26** % of households living in social rented accommodation, 2011. Source: Census.
- 27** % of households living in private rented accommodation, 2011. Source: Census.
- 28** % of households with an occupancy rating of -2 (i.e. with 2 too few rooms), 2011. Source: Census.
- 29** % of households with accommodation type 'shared dwellings', 2011. Source: Census.
- 30** % of households not living at the same address a year ago, 2011. Source: Census. Please note that OAs E00124937 & E00166800 have been removed from this analysis due to the undue influence of Eastchurch prison on levels of transience.
- 31** % of households with no adults or one adult and one or more children, 2011. Source: Census.
- 32-34** Distance to nearest GP/pharmacy/A&E or Urgent Care centre (in miles, as the crow flies from population weighted centroid of LSOA), 2015. Source: KCC Business Intelligence.
- 35** Crime rate (recorded crime per 1,000 population), Oct 2013 - Sept 2015. Source: data.police.uk.
- 36** Living Environment IMD domain (average score), 2015. Source: DCLG.

- 37** Index of Multiple Deprivation (IMD) (average score), 2015. Source: DCLG.
- 38-54** Recorded disease prevalence based on GP records held in the Kent Integrated Dataset (KID) expressed as an age-standardised rate per 100,000, October 2018. Source: KID.

For some of the variables above, modelling techniques have been used to derive LSOA-level estimates for use in the analysis.

Mosaic Modelling

Experian’s Mosaic classification system has been used to produce modelled estimates for smoking prevalence, physical inactivity, consumption of fruit and vegetables, and income.

Taking smoking as an example, prevalence estimates have been produced at LSOA-level by combining the Mosaic type-level population profile of each individual LSOA with smoking rates for each Mosaic type (as contained within the Mosaic Grand Index). Thus, the model relies on the assumption that smoking rates for a given Mosaic type, calculated by Experian at national level, apply to people of that Mosaic type within Kent.

Kent Integrated Dataset

Recorded disease prevalence has been produced using the GP records included within the Kent Integrated Dataset (KID) within the LTC table. Figures are based the 205 Kent & Medway GPs flowing data into the KID at the time of the analysis and reflect the position as recorded on GP systems at the end of October 2018.

The multimorbidity prevalence figures presented in this report reflect those recorded within the KID as having two or more of the following 19 long-term conditions:

- AF
- CHD
- Hypertension
- Heart Failure
- PAD
- Stroke
- Diabetes
- Asthma
- COPD
- Dementia
- Cancer
- CKD
- Epilepsy
- LD
- Osteoporosis
- RA
- Obesity
- MH
- Depression