

## APPENDIX 2 – SUMMARY OF KEY DRIVERS OF DEATHS AND CASES PER 1000 (CONTROLLING FOR OTHER VARIABLES)

### Key Drivers – Death Rate

Crime, poor education and low income are the strongest drivers of death rate. Ethnicity is also an important driver and has the greatest effect on death rate.



Crime rates, poor education and low incomes are the most important drivers of death rate in England.

Of these three characteristics, crime has the largest effect on death rate, followed by income deprivation.

Interestingly, income deprivation among the over 60s is a negative driver of death rates, perhaps with poorer elderly people more likely to be staying home.

Although ethnicity is a weaker driver of death rate than it was of case rate, it is nevertheless one of the top five drivers of death rate and has the biggest effect on a region's death rate decile.

Accessibility of housing and local services is a negative driver of death rate.

Age is an important driver of death rate, with those regions with a high proportion of over 70s and a low proportion of under 25s more likely to have a high death rate.

Quality of life, population density and population size all impact death rates negatively.

Quest	Description	Effect	Johnson Importance
Crime_score	Risk of personal and material victimisation at local level	0.3714	21%
Eduk_score	Lack of attainment and skills in the population	0.1774	19%
Income_score	% in population experiencing deprivation relating to low income	0.2916	18%
Income_older_score	% of those aged 60+ experiencing income deprivation	-0.1218	9%
Ethnicity_NonWhite	% Non-White ethnicity background	0.4696	7%
Barriers_score	Physical and financial accessibility of housing and local services	-0.1570	7%
Prop_Age_70plus	% of Population - Aged 70+	0.2991	5%
Prop_Age_0_24	% of Population - Aged 0-24	-0.2376	5%
Living_score	Quality of both the 'indoor' and 'outdoor' local environment	-0.2134	4%
Population_density_sq_km	Population density per sq km	-0.1772	3%
All_ages_population	Population - all ages	-0.1298	2%

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### Key Drivers – Case Rate

Ethnicity is one of the most important drivers of case rate in England and has the biggest effect on a region's case rate.



Quest	Description	Effect	Johnson Importance
Crime_score	Risk of personal and material victimisation at local level	0.2665	21%
Ethnicity_NonWhite	% Non-White ethnicity background	0.5408	21%
Prop_Age_70plus	% of Population - Aged 70+	-0.2058	18%
Income_score	% in population experiencing deprivation relating to low income	0.2474	15%
Eduk_score	Lack of attainment and skills in the population	0.1043	10%
Population_density_sq_km	Population density per sq km	-0.2651	6%
All_ages_population	Population - all ages	-0.1246	5%
Barriers_score	Physical and financial accessibility of housing and local services	-0.1089	2%
Living_score	Quality of both the 'indoor' and 'outdoor' local environment	-0.1117	1%

There has been some coverage in the UK press that BAME communities are at greater risk of COVID-19 and our analysis support this. In fact, ethnicity is one of the most important drivers of case rate in England and also has the biggest effect on a region's case rate decile.

Crime rates are an equally important driver, although the effect on a region's case rate decile is lower.

The correlation between ethnicity and crime is not high.

The percentage of the population aged 70+ has a negative impact on case rates, with younger populations more likely to leave the home, opening them up to infection.

More deprived regions, in terms of income and education, are more likely to have higher case rates.

Income deprivation is strongly correlated with both crime levels and ethnicity.

The more densely populated a region is, the lower its case rates are likely to be. This may be because people in less densely populated regions have to travel further for work, school or shopping. It may also be because rural locations have less access to home delivery.

Other, weaker drivers of case rates include population size (negatively), deprivation of housing and local services and quality of life scores.

In the Excel file, you will see additional drivers analysis run for case rates in different age groups.

Crime rates, ethnicity and income deprivation consistently emerge as the most important drivers of case rates across age groups. Furthermore, ethnicity has the biggest effect on a region's case rate at all ages.

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