Get fit to fight COVID-19 – the data behind the story

With COVID-19 causing a national lockdown, people across the UK sought to get themselves healthier to fight the disease. Joe Wicks lockdown workouts have become a bit of a craze, as well as sales of new bikes between £400 and £1,000 more than doubling in April (according to Reid, 2020). Smokers quitting due to COVID-19 was also found in a study according to ASH (Action on Smoking and Health). More Metrics data shows the impact of adopting healthier habits by assessing biological age and identifying the difference this makes to COVID-19 infection and mortality rates.

Key findings:

- Obesity has a clear impact on a person's biological age.
- Obesity and a higher biological age appears to have a direct effect on the chance of survival from COVID-19.
- Obesity has no effect on infection rates.

This summary uses a small selection of variables from More Metrics data. Local area data is provided at a variety of geographical areas, including Parliamentary Constituency level, Ward and intermediate groupings of postcodes. All data can be accessed by postcode. Here we have used the following data at Output Area level:

- **Smoking** – The proportion of the population that smoke (0 to 100%).
- **Obesity** – The proportion of the population who are obese (0 to 100%).
- **Biological Age** – A location's biological age (an estimate of age adjusted for health and lifestyle) which can be compared to the midpoint of the age group for a difference comparison.
- **COVID to All Cause Death Ratio** - The number of COVID-19 deaths as a proportion of deaths from all causes (0 to 100%).
- **COVID Infection Rate As Is** - This is an estimate of the cumulative infection rate defined as the proportion of the population aged over 10 that has been infected at some point with COVID-19 (0 to 100%).

Using this range of data, it is possible to identify significant variation between locations in terms of obesity and smoking propensity which impacts biological age and potentially deaths involving COVID-19.
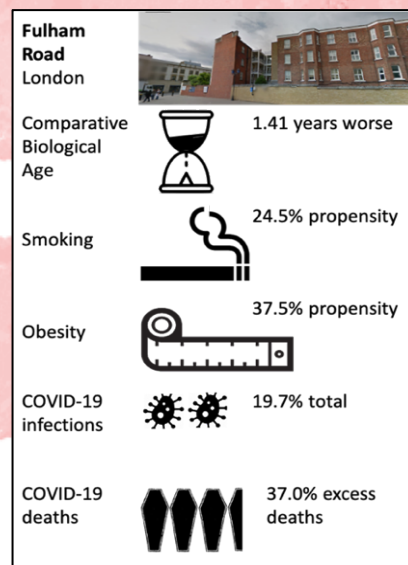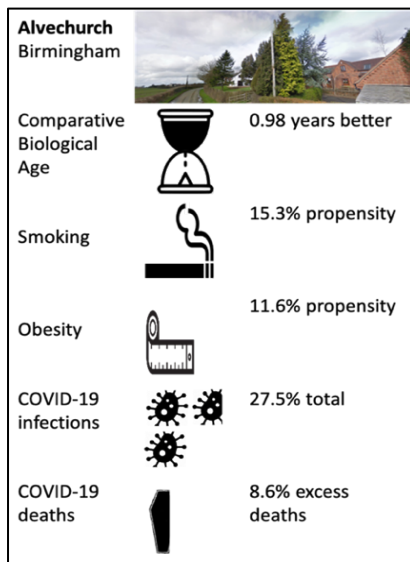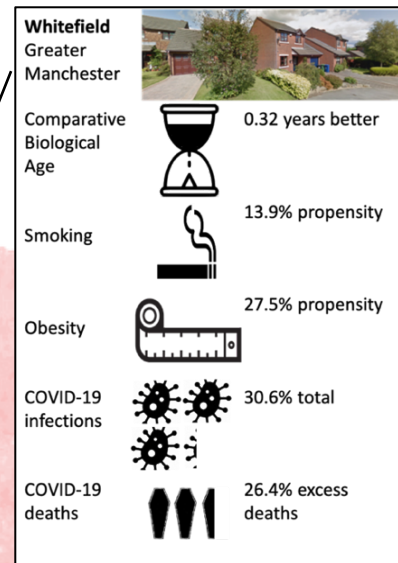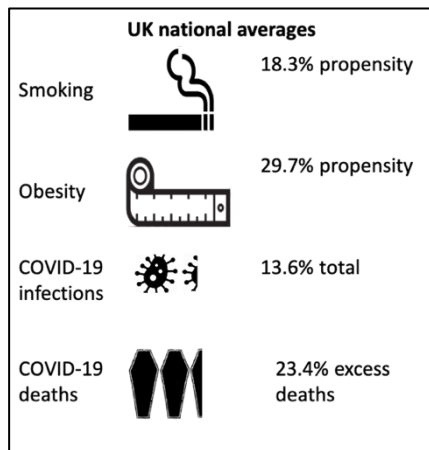
Insights

- On Fulham Road in London at the postcode SW6 1BG, across all age groups from 18-24 to 85+, there is higher than UK average obesity and the mean smoker value across the same age groups is also higher than the UK average. The comparative biological age difference indicates that people here generally have a biological age beyond their years. In terms of COVID-19 statistics, these are both higher than the UK averages.

- By contrast, in Alvechurch Birmingham at postcode B48 7DB, the obesity, smoker and biological age data all indicate people are living healthier lives than the average. COVID-19 deaths are lower than the UK average although infections are significantly higher than the UK average. People in this area are living healthier lives than average with low obesity giving them a greater chance of surviving COVID-19.

- A location with near average obesity is Whitefield in Manchester, specifically at the postcode M45 7DL. The smoker value is below the UK average and both measures contribute to a comparatively improved biological age. COVID-19 deaths are just above the UK average, with the infection rate being significantly higher than the rest of the UK. Given this area has lower than average obesity and smoker values, the above average death ratio can perhaps be explained by the higher than average infection rate feeding through to mortality.

Sources

Reid, C., 2020. *'Explosive' Growth In Bicycle Sales During First Month Of Lockdown, U.K.'S Bicycle Association Reveals*. Forbes. Available at: https://www.forbes.com/sites/carltonreid/2020/06/26/bicycle-sales-witnessed-explosive-growth-in-first-month-of-lockdown-uks-bicycle-association-reveals/#c003af939830. Accessed 31 July 2020.

Action on Smoking and Health. 2020. *COVID-19 Drives 'Astonishing' Quit Rate Among Young Smokers: Experts Ask If Trend Will Survive Loosening Lockdown - Action On Smoking And Health*. Available at: https://ash.org.uk/media-and-news/press-releases-media-and-news/covidyoungsmokers/. Accessed 31 July 2020.

UK national averages

Smoking		18.3% propensity
Obesity		29.7% propensity
COVID-19 infections		13.6% total
COVID-19 deaths		23.4% excess deaths

Whitefield
Greater Manchester

Comparative Biological Age		0.32 years better
Smoking		13.9% propensity
Obesity		27.5% propensity
COVID-19 infections		30.6% total
COVID-19 deaths		26.4% excess deaths

Alvechurch
Birmingham

Comparative Biological Age		0.98 years better
Smoking		15.3% propensity
Obesity		11.6% propensity
COVID-19 infections		27.5% total
COVID-19 deaths		8.6% excess deaths

Fulham Road
London

Comparative Biological Age		1.41 years worse
Smoking		24.5% propensity
Obesity		37.5% propensity
COVID-19 infections		19.7% total
COVID-19 deaths		37.0% excess deaths

The data for all areas suggests that as obesity and smoking generally decrease, there is a consequent decrease in biological age and in turn a reduction in the COVID to all cause death ratio. Further analysis of More Metrics data can support more investigation to determine which of smoking and obesity is more detrimental to biological age and even which is more dangerous when responding to COVID-19.

Across the three examples examined above, More Metrics data has been used to identify:

- Smoking and obesity rates
- Biological age in these locations and how this correlates to the obesity and smoker rates
- COVID deaths and infection rates that can be compared directly against UK averages to compare to the other variables to support analysis of the link between a healthy lifestyle and fighting COVID-19.

Get access to our data

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