JSNA
Joint Strategic Needs Assessment

COVID-19 in Richmond

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LONDON BOROUGH OF
RICHMOND UPON THAMES

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COVID-19 in Richmond (September 2021)

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This chapter is a brief analysis on the impact COVID-19 has had on the borough's residents. The findings are based on data from the PHE Situational Awareness Explorer dashboard, DAE (Data Access Environment) hospital admissions and the Primary Care Mortality database. It provides a brief overall picture on COVID-19 cases, hospitalisation, deaths and vaccinations from March 2020 to June 2021, and those most affected based on their demographics.

Summary

This report shows that COVID-19 does not affect all population groups equally. Local analysis, similar to the analyses at a regional and national level, shows that the individuals in older age groups, ethnic minority groups, older men and those living in areas of higher deprivation were at greater risk of worse outcomes from COVID-19.

Since the start of the pandemic and up to the end of May 2021, Richmond borough had 11,044 cases of COVID-19, 1,221 hospital admissions with either confirmed or suspected COVID-19 and 299 registered deaths. Locally, the rate of cases, hospitalisation and deaths have been lower than London and England.

- There were more cases of COVID-19 in females aged under 60 years compared to males; but more cases in males aged over 60 compared to females. Men were more likely to be admitted to hospital for COVID-19 compared to women and were more likely to die from the virus.
- The Black and Asian ethnic population were more at risk of testing positive for the virus compared to all other ethnic groups; more likely to be admitted to hospital (especially among the older aged ethnic minority population) for COVID-19 and die from it. The Black ethnic group, particularly Caribbean and African population, as well as the mixed ethnic group (particularly the mixed White and Black population) living in the borough were also seen to have the lowest uptake of COVID-19 vaccination.
- The more deprived areas of the borough were most affected by the virus and hospital admissions for COVID-19 were highest in the older age groups living within those areas, with 80% ofCOVID-19 hospital admissions seen within those aged 50+ years. Residents living in deprivation[1], especially within the wards of Hampton, Hampton North, Heathfield, Teddington and Whitton, were more likely to die from the virus. Vaccine uptake was the same from most deprived to least deprived areas of the borough among residents receiving dose 1 and dose 2.
- Vaccination uptake is lower among younger age groups, those living in areas of higher deprivation, and among mixed and black ethnic group.

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[1] Deprivation is based on a score that is given to small areas (Lower Super Output Areas (LSOAs)) in England. A score is a combination of seven domains where each domain reflects a different aspect of deprivation experienced by individuals living in an area. The score is used to rank all the LSOAs in England from most deprived to least deprived.

Table 1: Summary of COVID-19 cases, hospitalisations, deaths from COVID-19 and vaccination uptake.

	Richmond	London	England
COVID-19 Cases *(March 2020-May 2021)*	11,044 (5,545/100,000)	8,112/100,000	6,935/100,000
COVID-19 Hospitalisations *(March 2020-March 2021)*	1,221 (613/100,000)	814/100,000	708/100,000
Deaths from COVID-19 *(March 2020-May 2021)*	299 (150,000)	214/100,000	231/100,000
2 doses of vaccination coverage (*December 2020-June 2021*)	93,826 (59%)	8,708,379 (122%)[2]	64,624,360 (141%)

Source: GOV.UK Coronavirus in the UK for cases. Data Access Environment for hospital admissions. Primary Care Mortality database for deaths. PHE Situational Explorer for vaccination.

1. COVID-19 Cases in Richmond

The first confirmed case of COVID-19 in London was detected on the 12th of February 2020. By mid-March there had been 1,069 cases confirmed in London, 240 individuals admitted into hospital and 37 deaths to people who had had a positive test result for COVID-19 and died within 28 days of the first positive test[3]. COVID-19 cases in Richmond were analysed using Public Health England's situational awareness explorer dashboard[4]. Between 1st March 2020 and 31st May 2021, there were a total of 11,044 cases recorded in the borough (14% of them were identified through Pillar 1[5] testing; 86% cases identified through Pillar 2[6] testing); with a near even split in cases between males and females. 1% of cases did not have gender recorded.

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[2] Vaccine numbers from NHS digital vaccination data. Vaccine coverage calculated using ONS population estimates.
[3] Gov.UK Coronavirus (COVID-19) in the UK
[4] COVID-19 Situational Awareness portal requires access request from PHE.
[5] Pillar 1 is swab testing for the virus in PHE labs and NHS hospitals for those with a clinical need, and health and care workers.
[6] Pillar 2 is swab testing for the virus in the wider population, through commercial partnerships, either processed in a lab or more rapidly via LFD tests.

Trend of Positive Cases Over Time

Figure 1 shows the monthly rate of cases[7] in Richmond and London, between March 2020-May 2021. A similar picture was seen across the borough where rates of cases peaked in December 2020 (1,891/100,000), and the lowest cases were seen in June and July. Overall, the borough's rate of cases between March 2020 and May 2021 of 5,545/100,000, was lower than the London rate of 8,112/100,000.

Figure 1: Monthly incidence rates per 100,000 of COVID-19 cases in Richmond and London, persons, all ages, March 2020 to May 2021 (n=11,044 Richmond cases).
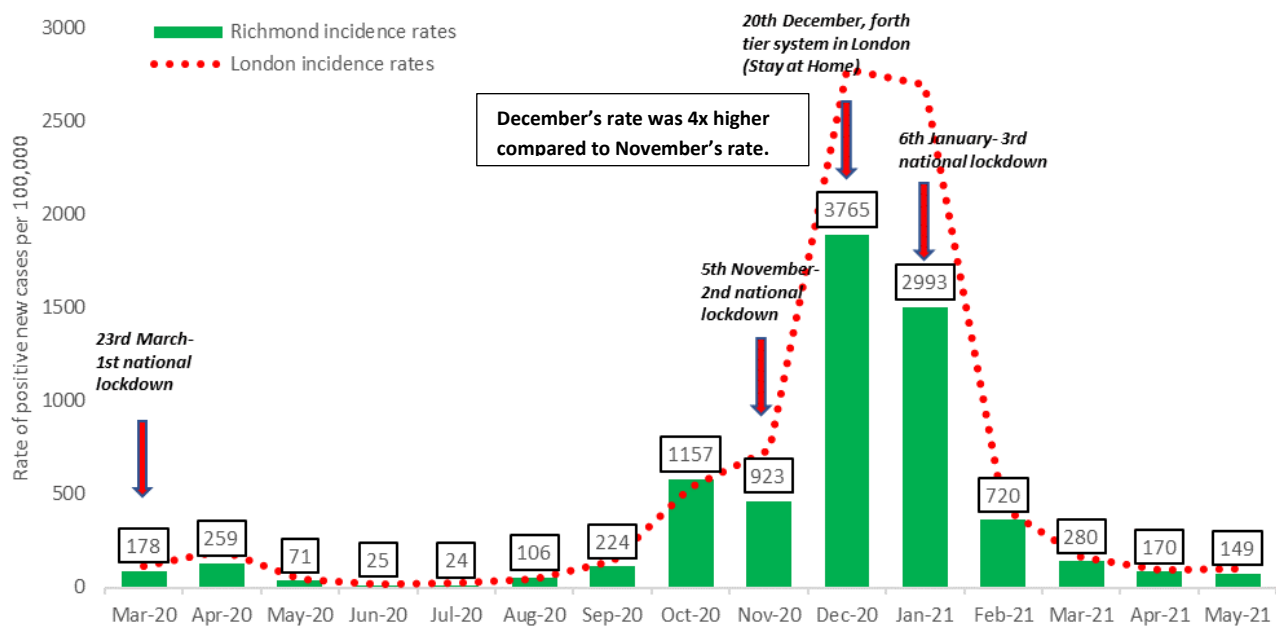
Source: GOV.UK Coronavirus in the UK. Using GLA 2018-based Housing-led Borough projections 2020.

Across London, the rate of COVID-19 cases peaked during December 2020 when cases reached 2,775/100,000[8], which then forced the introduction of the third national lockdown in January 2021. A similar picture was seen across England where the number of cases were at its highest on the 29th December 2020. The lowest rate in London was seen in June 2020.

Positive Cases by Age and Gender

Figure 2 shows the rate of cases per 100,000 by age band. By May 2021, there were more cases of COVID-19 among females in Richmond compared to males (n=5,844 versus 5,131 respectively).
All incidence rates exceeded 1,000/100,000 across all age groups in the borough, between March 2020 and May 2021. The highest rate of new cases was seen within the 20–29-year-olds followed by the 80+ age group.

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[7] Rates calculated using population data from GLA 2018-based Housing-led 2020 estimates.
[8] GOV.UK. GOV.UK Coronavirus (COVID-19) in the UK Coronavirus dashboard of cases.

Official

Figure 2: Age-specific rate per 100,000 of COVID-19 cases in Richmond and London*, March 2020-May 2021, with numbers above the bars.
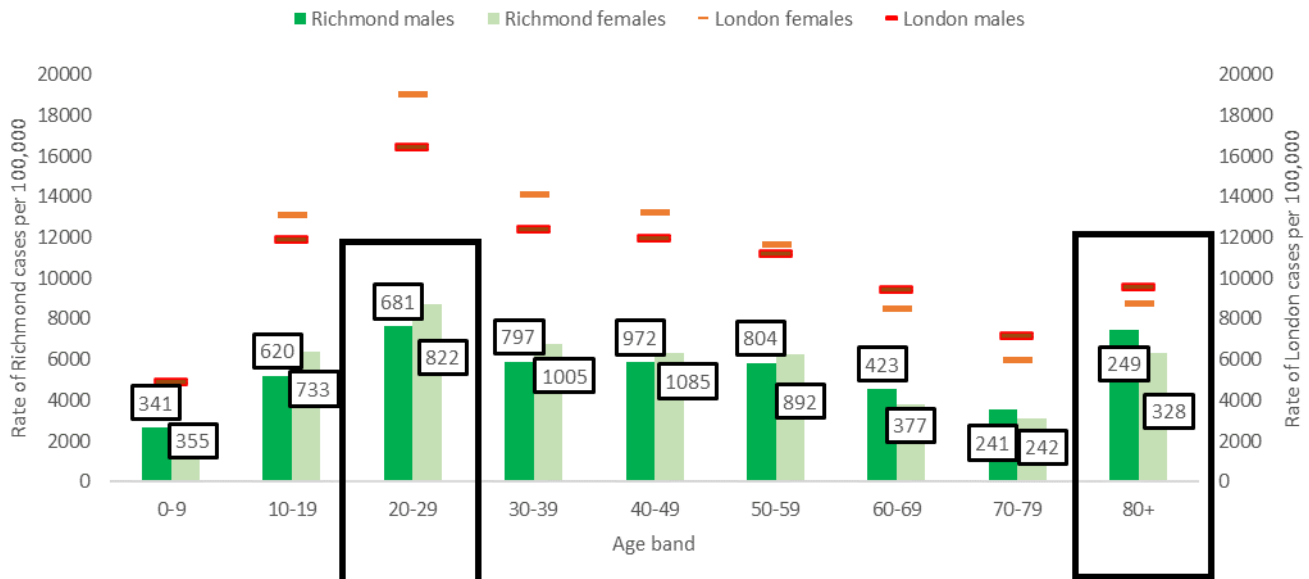
Source: Richmond rates: Public Health England COVID-19 Situational Awareness Explorer (March 2020-May 2021). Using GLA 2018-based Housing-Led Borough Projections.
*London rates: Gov.Uk Coronavirus in the UK *(March 2020-September 2021). Using GLA 2018-based Housing-Led Borough Projections.*

Across London and England[9] rates of cases in females were high compared to males in those aged under 60 years; this was a similar pattern seen across Richmond. Among borough residents aged 60+ years, diagnosis rates were higher in males compared to females, this picture followed a similar pattern to that seen across London.

Positive Cases by Ethnicity

The COVID-19 pandemic has had a disproportionate impact on ethnic minority communities who have experienced higher COVID-19 burden. Available evidence suggests a complex interplay of deprivation, environmental, and health-related behaviours. Ethnic minority groups are disproportionately affected by socio-economic deprivation, a key determinant of health status in all communities, but it is not clear if this relationship applies equally across all ethnic groups[10]. Ethnic minority groups generally tend to live in multigenerational or overcrowded households and have frontline key worker jobs which put them at higher risk of being exposed to the virus. People from minority ethnic groups are also more likely than people of White British ethnicity to be born abroad which means they may face additional barriers (e.g. language) in navigating health and care services[11]. Analysis shows London's Asian populations have been worst affected,

[9] GOV.UK. Coronavirus (COVID-19) in the UK. Coronavirus cases in England.
[10] Kings Fund. The Health of People from Ethnic minority grouped in England.
[11] Disparities in the Risk and Outcomes of COVID-19.

especially during the second wave of the pandemic (1st September 2020 to 22nd May 2021), followed by Black communities[12].

Ethnic minority groups accounted for 24% (n= 2,157) of COVID-19 cases in Richmond between March 2020 and May 2021[13]. In comparison, this percentage was higher than the average borough proportion of ethnic minority residents of 16%. **Figure 3** shows that Richmond's Black population (n=235), in particular the African population, were most affected by COVID-19, followed by Asian (in particular the Indian population) ethnic groups. This is similar to the picture seen across London[14]. There were 769 cases allocated to 'Other' ethnic group which also included Arab[15].

Figure 3: Rate of cases per 100,000 and number of COVID-19 cases among Black, Asian and minority ethnic groups in Richmond, March 2020-May 2021 (n=9,076)
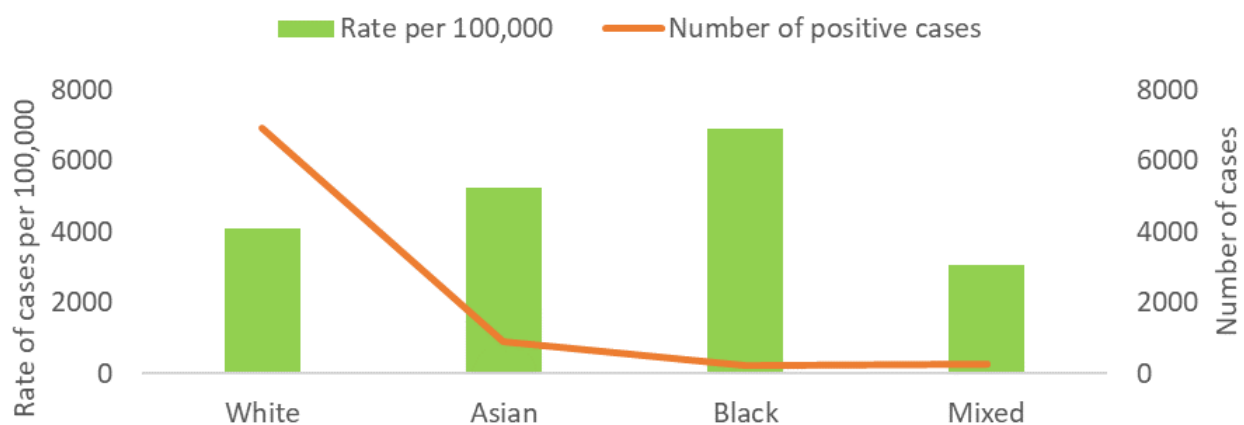
Source: Public Health England COVID-19 Situational Awareness Explorer. Using GLA 2016-based Housing-Led Ethnic Group Projections.

Positive Cases by Deprivation

The rates of COVID-19 cases in England were highest among people living in the most deprived areas and in urban areas throughout the pandemic and this was also observed locally.

Figure 4 shows that within more deprived areas, the proportion of COVID-19 cases are disproportionality higher than the borough's population size. A report by University College London stated that people living in the most deprived areas are less likely to be able to work from home and are more reliant on public transport which puts them at greater risk of exposure to COVID-19[16].

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[12] Public Health Matters: Tackling London's ongoing COVID-19 health inequalities.
[13] Cases with unknown ethnicity were excluded from this analysis. This accounted for approximately 1,957 individuals.
[14] Tackling London's ongoing COVID-19 health inequalities. Public Health Matters.
[15] 'Other ethnic group' was not included in the chart as it makes up a small proportion of the population and calculating the rate would be an unreliable analysis showing over representation compared to all other ethnic groups.
[16] University College London. People in Deprived areas three times more likely to use public transport for essential travel.

Figure 4: Percentage of COVID-19 cases by Index of Multiple Deprivation[17] compared to borough population by deprivation, March 2020-May 2021.
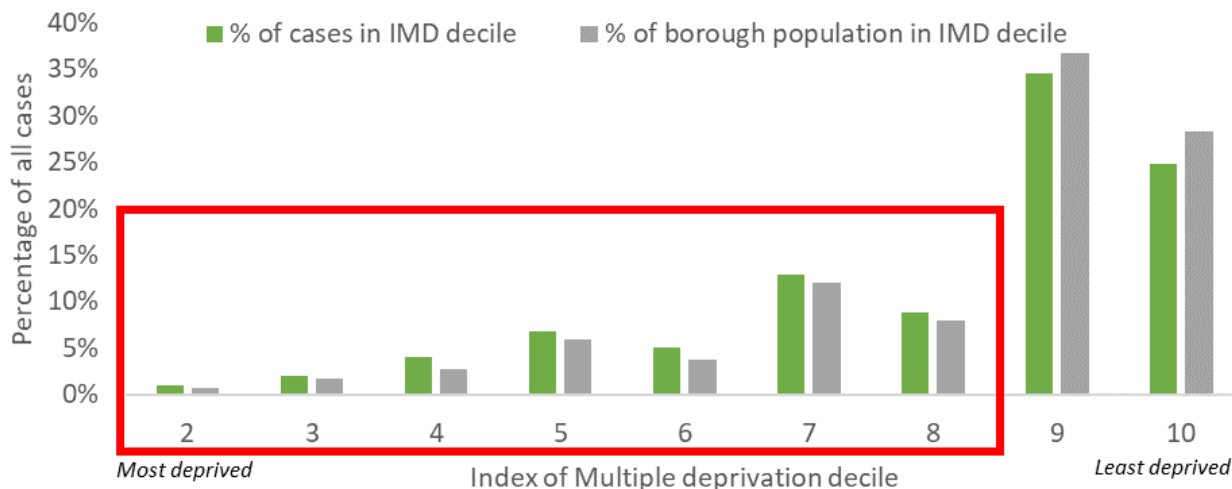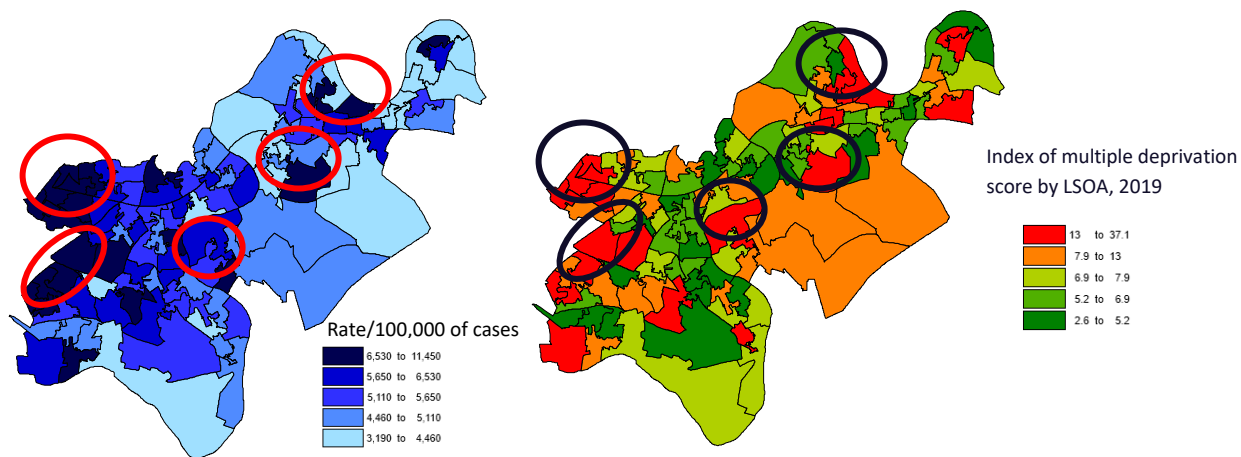

Source: Public Health England COVID-19 Situational Awareness Explorer. Using ONS Mid-2019 Annual Small Area Population Estimates and English Indices of Deprivation 2019

Figure 5: Rate of COVID-19 cases per 100,000 in Richmond (left) and deprivation index (right). March 2020-May 2021.

Source: Public Health England COVID-19 Situational Awareness Explorer. Using ONS 2019 mid-year population estimates

Figure 5 shows the rate of cases per 100,000 across Pillar 1 and Pillar 2 testing combined. The most deprived wards in terms of income deprivation affecting older people are within Hampton North; Heathfield; Barnes and North Richmond. The highest rates of cases were seen within LSOAs in Hampton North, Heathfield, Whitton, West Twickenham, parts of Hampton and Mortlake and Barnes Common wards. Parts of these wards also have some of the most deprived LSOAs with some residents having the highest clinical needs. Hampton and Heathfield

[17] The ten deprivation deciles are from the Index of Multiple Deprivation (IMD) 2019. Each Lower Super Output Area (LSOA) in England is ranked in terms of its deprivation level and allocated to a decile (1 is most deprived, 10 is least deprived).

are amongst the most populated areas for those aged 65+ and are also areas where high proportions of 65+ live in households where everyone is 65+. In addition to Hampton and Heathfield, Whitton and Hampton North have higher prevalence of heart disease, respiratory disease and other conditions. These areas are also relatively more deprived and have lower internet usage.[18]

2. Hospital Admissions

HES (hospital episode statistics)[19] data was used to analyse the number and characteristics of Richmond residents admitted to hospitals[20] with COVID-19 between March 2020 and March 2021. Data on hospital admissions with confirmed or suspected COVID-19 diagnosis was extracted using the following ICD 10 codes: U071 and U072. Data extracted from HES was limited to any admissions where either ICD 10 codes, U071 or U072, was mentioned within any of the number of diagnosis records of the patient.

68% of admitted COVID-19 patients had a primary diagnosis (main diagnosis) of either confirmed or suspected COVID-19 (the majority of which was confirmed).
The majority (52%) of Richmond residents, who were admitted to hospitals with COVID-19, attended a Kingston hospital trust for treatment, while 33% attended Kensington and Chelsea, followed by Westminster trust.

Trend in Hospital Admissions Over Time

Between March 2020 and March 2021, 1,221 Richmond residents were hospitalised with either confirmed or suspected COVID-19 [21]. The overall borough rate of 613/100,000 was lower than the London rate of 814/100,000[22] and England rate of 708/100,000[23].

Figure 6 below shows the trend in hospital admissions seen within Richmond. The trend seen here is similar to that seen across London, and as elsewhere in the country, with hospitalisation peaks following peaks in the number of cases.

In March 2020, Richmond saw its first peak of hospital admissions with 123 patients admitted. Following on from the implementation of the first national lockdown on 23rd March 2020, Richmond began to see a decline in COVID-19 hospital admission numbers from May onwards. However, from September the number of hospital admissions began to rise again and reached its peak in January 2021where the borough saw 357

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[18] DataRich. COVID-19 Vulnerabilities dashboard.
[19] Hospital data extracted from Data Access Environment (DAE) through NHS Digital.
[20] Hospital data analysis was based on local residents only, regardless of the hospital they attended
[21] 1,221 residents admitted includes those where either ICD-10 code of U071 or U072 appeared on any of their diagnosis (not just as the main diagnosis code and therefore main reason for hospitalisation).
[22] London rate of hospitalisation was calculated using the number of patients admitted to hospital between March 2020 and May 2021 (n=73,216) from GOV.UK Coronavirus dashboard, and the GLA population denominator.
[23] England rate of hospitalisation was calculated using the number of patients admitted to hospital between March 2020 and May 2021 (n=400,446) from GOV.UK Coronavirus dashboard, and the ONS 2020 mid-year population estimates.

residents admitted for COVID-19 during that month. This rise in admissions may have been the result of some restrictions being lifted in July- where pubs, restaurants, hotels and hairdressers were allowed to open and two households were able to meet indoors.

Figure 6: Monthly incidence rates per 100,000 of COVID-19 hospital admissions in Richmond residents, all ages, March 2020-March 2021 (number =1,221)
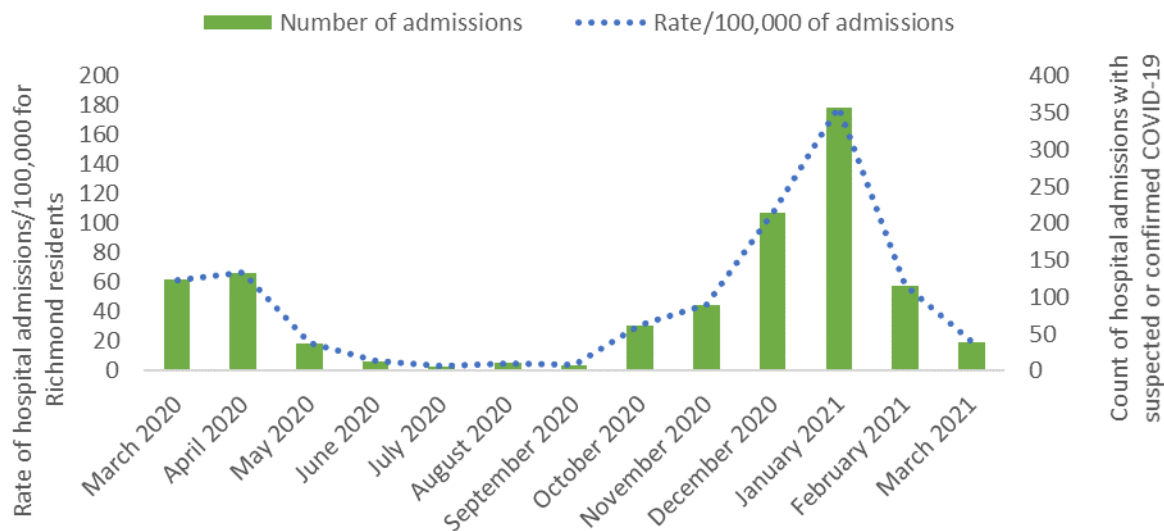
Source: Data Access Environment (hospital admissions). Data extracted 30th June 2021. Using GLA 2018-based Housing-Led Borough Projections.

Hospital Admissions by Age and Sex

Since the start of the pandemic, hospital admission rates across London were higher within the 85+ year old cohort (8,185/100,000) compared to all other age groups[24]; this was similar to what was seen across England[25]. In Richmond, hospital admissions were highest in the older age groups with over 80% of admissions seen within those aged 50+ years (**Figure 7**).

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[24] Gov.UK. Healthcare admission rates by age in London.
[25] Gov.UK. Coronavirus healthcare admission rates by age in England.

Figure 7: Age-specific rates per 100,000 of hospital admissions of Richmond residents by age group, March 2020-March 2021. Numbers above bars (total number of those with age recorded= 1,212)
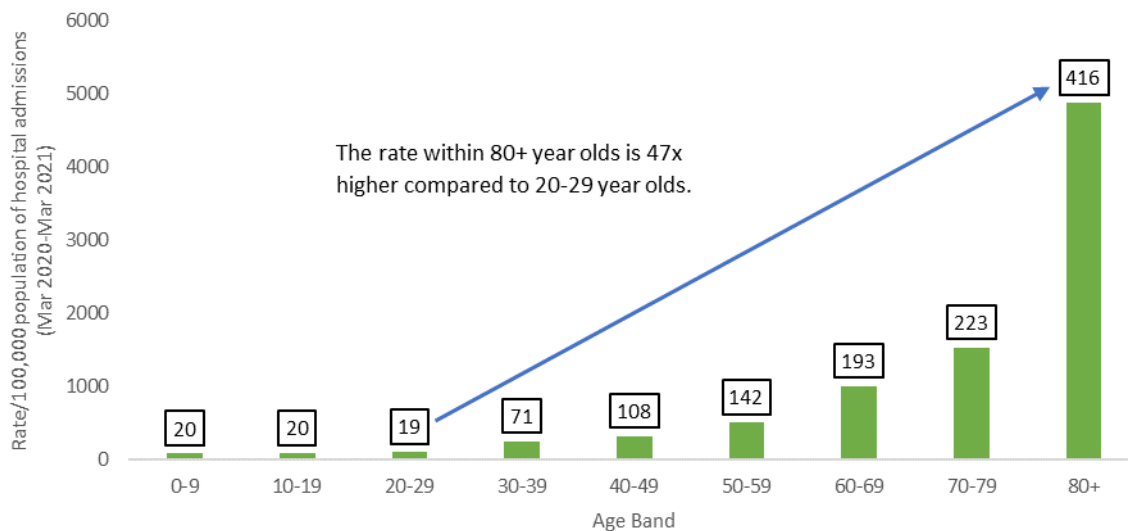
Source: HES (hospital episode statistics)). Data extracted 30th June 2021. Using GLA 2018-based Housing-Led Borough Projections

Overall, there were more COVID-19 hospital admissions amongst males (54%) compared to females (46%) with COVID-19 diagnosis rates increasing with age for both genders (**Figure 8**). Hospitalisation was higher among males aged between 40-69 years compared to females; 42% versus 30%. However, the chart also shows that among the 70+ year olds, hospitalisation was higher among females, compared to males.

Figure 8: Percentage of COVID-19 hospital admissions by age and sex, March 2020-March 2021 (number of admissions aged 20+ years= 1,172)
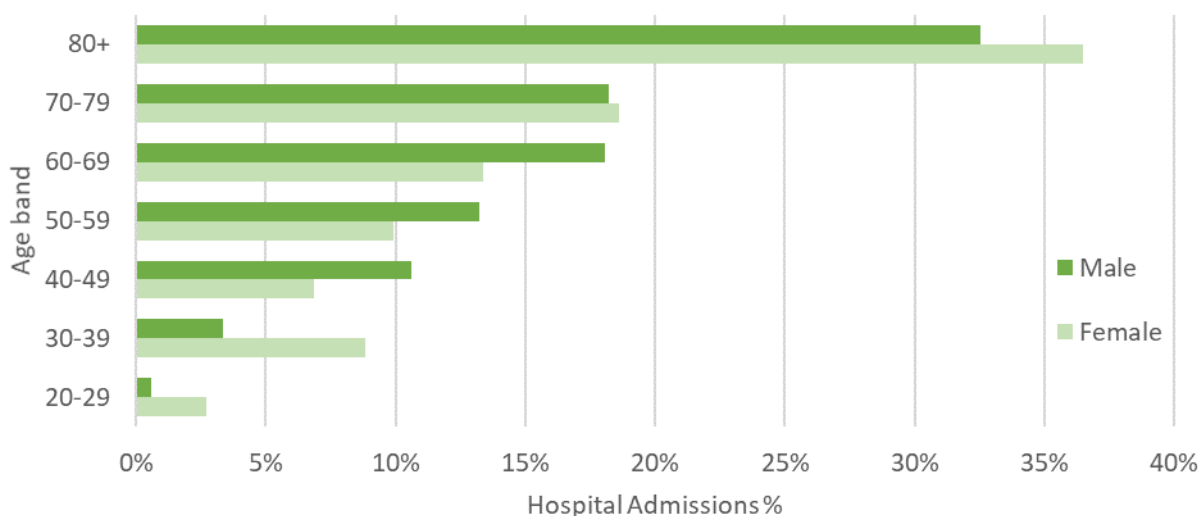
Source: Data Access Environment (hospital admissions). Data extracted 30th June 2021
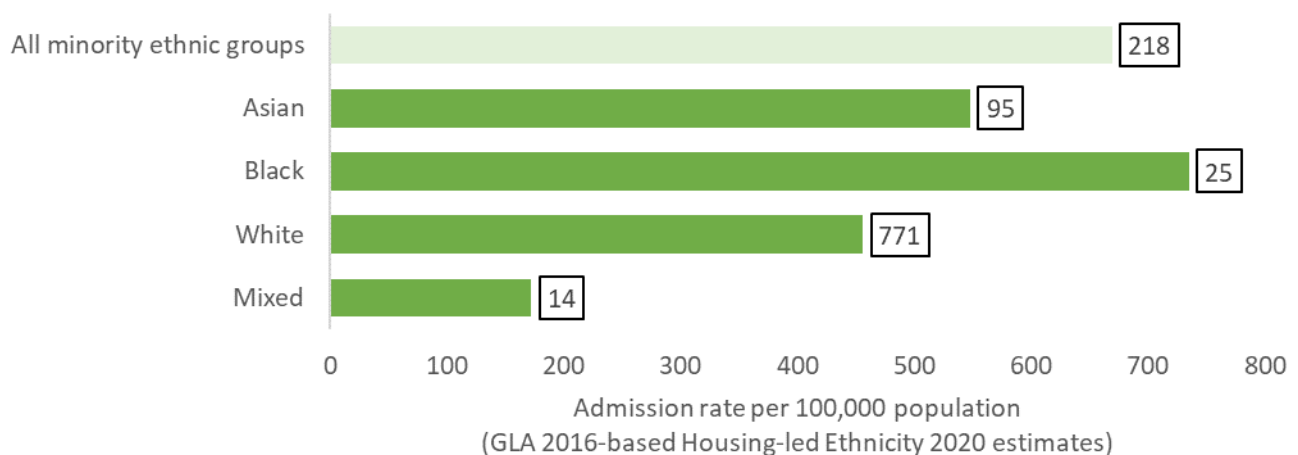
Hospital Admissions by Ethnicity

People from minority ethnic groups were more severely affected by COVID-19 and have a three-fold higher risk of requiring hospitalisation once infected with the virus compared to the White ethnic groups[26].

The ethnicity of patients admitted to hospital with either confirmed or suspected COVID-19 was analysed. 19% of hospital admissions did not have ethnicity recorded and therefore were excluded from the following analysis. Where ethnicity was recorded, minority ethnic groups[27] accounted for 22% of hospital admissions (16% of local population is from minority ethnic groups), compared to 78% of White ethnic group.

Figure 9 shows the rate of hospitalisation among minority ethnic groups and White ethnic group. There was a total number of 218 hospital admissions of minority ethnic groups, compared to 771 admissions of residents from White ethnic group. The Black (specifically African population) and Asian (specifically the Chinese and Pakistani population) ethnic groups had the highest admission rates between March 2020 and March 2021. This was similar to what was seen across England with the Black and Asian ethnic groups having higher hospital admission rates compared to all other ethnic groups[28]. The lowest rate of admissions was seen within those from a mixed ethnic background. There were 84 admissions in patients from 'Other' ethnic group[29].

Figure 9: Hospital admission rate per 100,000 among confirmed and suspected Richmond COVID-19 patients with known ethnicity recorded (numbers above bars), March 2020-March 2021.

Source: Data Access Environment (hospital admissions). Data extracted 30th June 2021. Using GLA 2016-based Housing-Led Ethnic Group Projections.

[26] Kings College London. Black and Asian patients have increased risk of severe COVID-19 at different stages of the disease.
[27] BAME-Black, Asian and minority ethnic group
[28] Public Health England CHIME tool. Monthly age-standardised hospital admission rate per 100,000 person-years, for COVID-19 in England by ethnic group, March 2020 to May 2021.
[29] There were 232 records with no ethnicity recorded.

Figure 10***:* Age-specific hospitalisation rates per 100,000 among confirmed and suspected Richmond COVID-19 patients of minority ethnic groups and White ethnic groups, gender and age band, March 2020-March 2021.
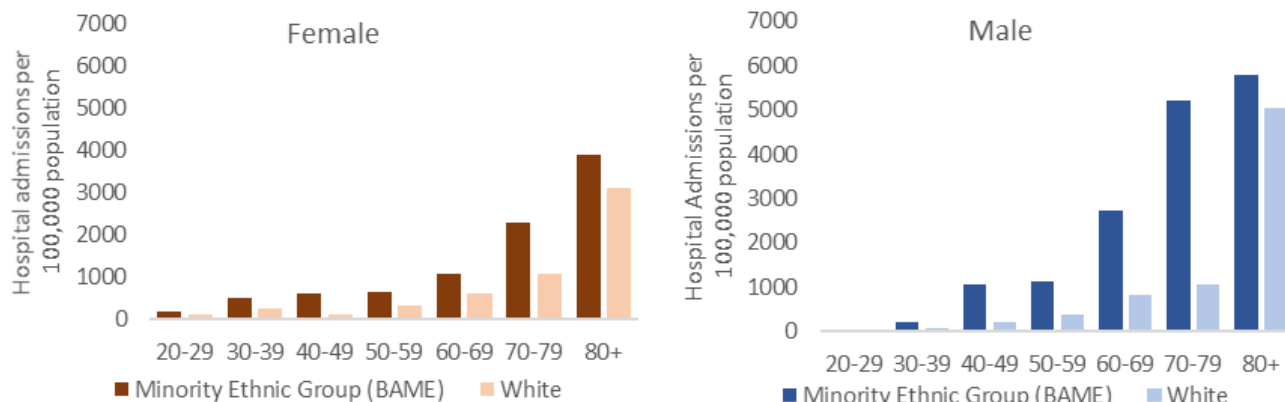
Source: Data Access Environment (hospital admissions). Data extracted 30th June 2021. GLA 2016-based Housing-led Ethnicity 2020 estimates.

Figure 10 shows that hospitalisation was higher among older aged minority ethnic groups; especially males. Of the 1,221 hospital admissions involving confirmed or suspected COVID-19; 240 (20%) of patients died in hospital. Of those deaths, 86% had a primary diagnosis of either suspected or confirmed COVID-19; with males accounting for 59% of deaths and females 41% of deaths. Death rates were highest among Black ethnic group, followed by Asian ethnic group. The lowest rate of deaths was among those from mixed backgrounds. There were 7 deaths from patients of Other ethnic groups (**Figure 11**).

Figure 11: Hospital death rates per 100,000 where primary diagnosis is attributed to COVID-19, by ethnic group, March 2020-March 2021 (number of deaths above bars).
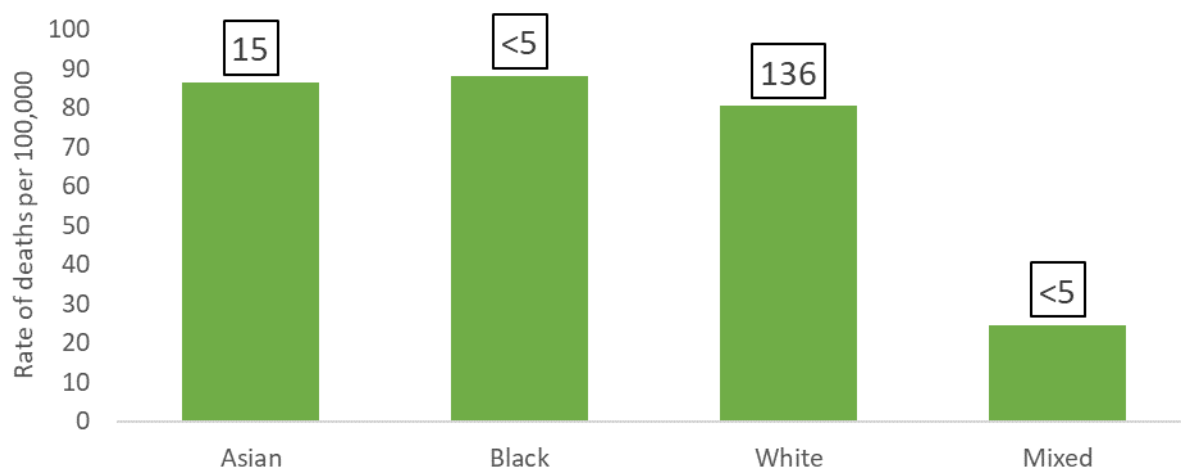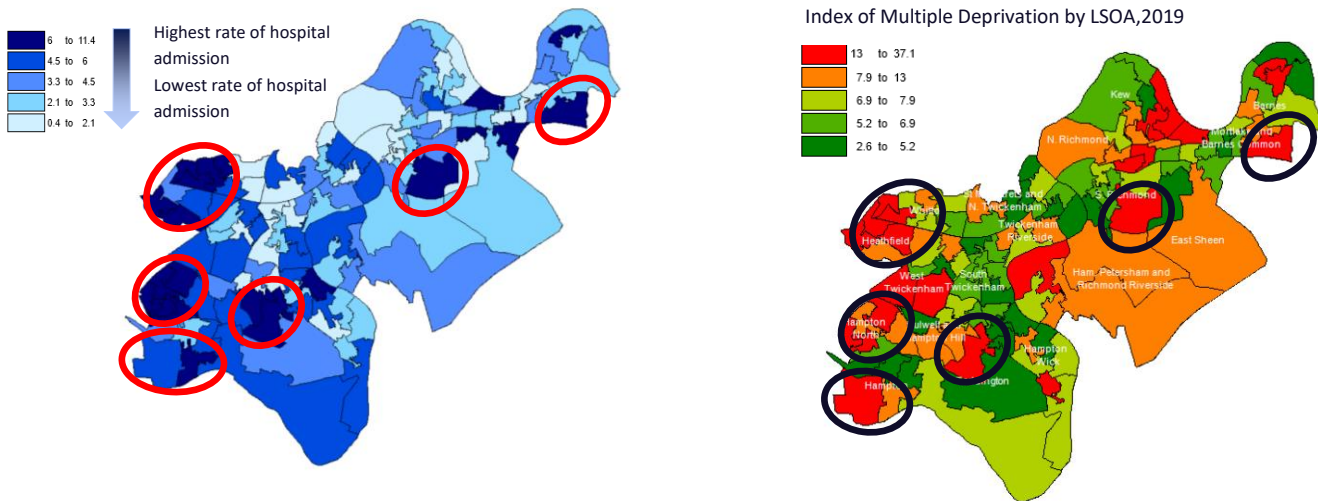

Source: Data Access Environment (hospital admissions). Data extracted 30th June 2021. GLA 2016-based Housing-led Ethnicity 2020 estimates.

Hospital Admissions by Deprivation

People who live in areas of higher deprivation are more likely to be admitted to hospital due to COVID-19. In England, official analysis of patients admitted to hospital with COVID-19 reported that 45% of patients were from the most deprived 20% of the population[30].

Figure 12 shows that the highest rates of hospital admissions (dark blue areas on the map on the left) were from areas which were also the most deprived in the borough (red areas on the map on the right).

Figure 12: Hospital admission rates per 1,000 of patients with confirmed COVID-19 (as primary diagnosis and main reason for admission to hospital), March 2020-March 2021

Source: HES (hospital episode statistics). Data extracted 30th June 2021. Using ONS Mid-2019 Annual Small Area Population Estimates and English Indices of Deprivation 2019.

Figure 13 shows Richmond residents living in the most deprived areas of the borough were twice more likely to be admitted to hospital with COVID-19 compared to those living in the least deprived areas of the borough.

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[30] The Independent SAGE Report 21: COVID-19 and Health Inequality

Figure 13: Hospital admission rates per 100,000 by index of multiple deprivation, March 2020 to March 2021 (number =1,221)
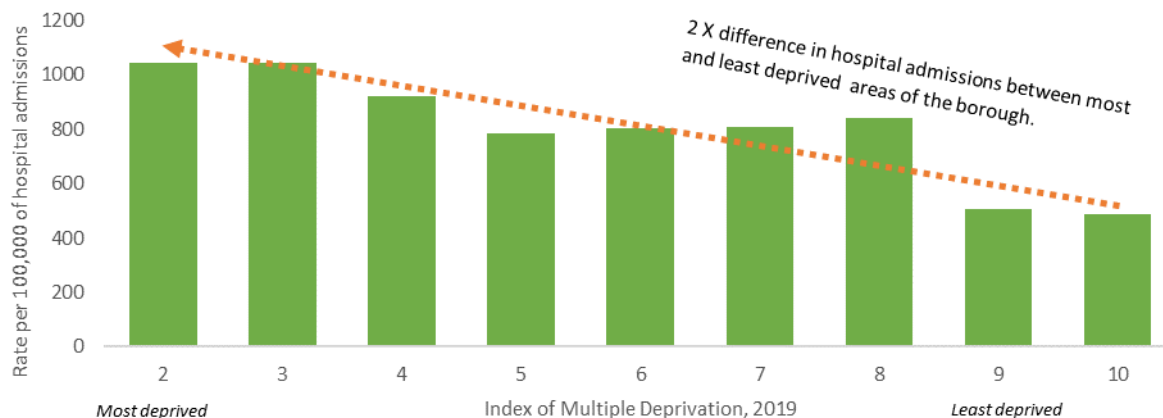

Source: Data Access Environment (hospital admissions). Data extracted 30th June 2021. Using ONS Mid-2019 Annual Small Area Population Estimates and English Indices of Deprivation 2019.

3. Mortality from COVID-19

Mortality data was extracted from the Primary Care Mortality Database (PCMD); which is managed by NHS Digital. They use monthly death records from the Office of National Statistics (ONS) which is based on registered deaths.

Analysis was carried out where there was any mention of COVID-19 on the individual's death certificate and covered the time period of February 2020 to May 2021. Of the 1,708 registered deaths in Richmond, 299 (18%) had COVID-19 listed as their underlying cause of death (main cause of death). Locally, 75% (n=225) of deaths from COVID-19 occurred in hospital; 17% (n=51) occurred in care homes and 7% (n=20) within the patient's own home. All other deaths took place in other settings such as hospices.

Trend in Mortality Over Time

Between March 2020 and May 2021, there were 299 COVID-19 related deaths (150/100,000) registered to Richmond residents (**Figure 14**), which was lower than the London rate of 214/100,000[31] and England rate of 231/100,000[32]. The peaks in deaths in the chart below followed local peaks in cases and hospitalisations, and period of highest COVID-19 deaths were the same as London.

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[31] Rate of deaths calculated using GLA 2018-based Housing-led borough projections.
[32] Rate of deaths calculated using ONS mid-year population estimates 2019.

Figure 14: Number of COVID-19 deaths in Richmond, March 2020 to May 2021.
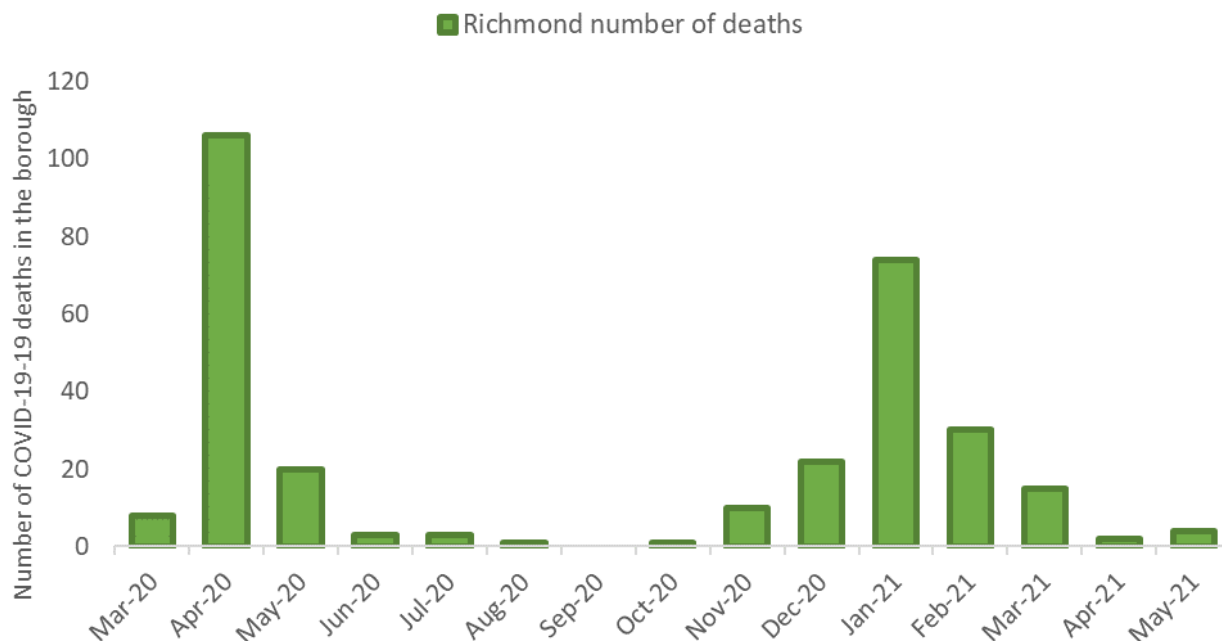
Source: Richmond number of deaths: Primary Care Mortality Database.

Mortality by Age and Sex

Of the 299 COVID-19 related deaths in the borough, 293 were to residents aged 50+ years, and four-fifths (n=246) were to residents aged 70+ years. Across London and England, the greatest proportion of deaths from COVID-19 was seen within the older aged population, 70+ year olds, which peaked in April 2020 and January 2021[33]. **Figure 15** shows the rate of deaths from COVID-19 in Richmond residents by age band.
Similar to London and England, the number of deaths were higher in males compared to females across all age groups, with the 80+ year old males having a death rate 1.5 times higher than females of the same age group.

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[33] Gov.UK. Deaths in London and England.

Figure 15: Age-specific death rates per 100,000 (number are above the bars) in Richmond residents, by age band, March 2020-May 2021. (number =293).
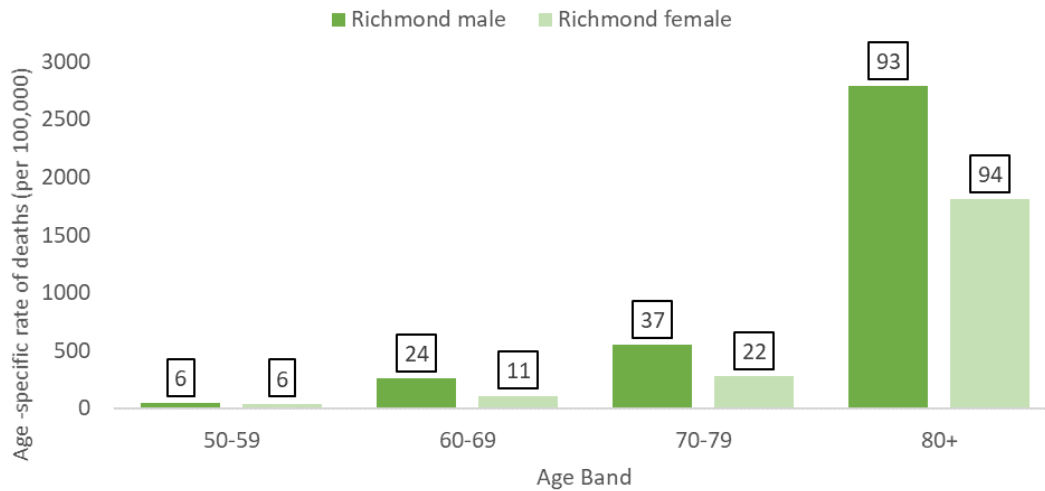
Source: Primary Care Mortality Database. Using GLA 2018-based Housing-Led Borough Projections

Mortality by Deprivation

Office for National Statistics data shows that people who live in the most deprived areas of England and Wales are around twice as likely to die after contracting COVID-19[34].

In Richmond, residents living within the most deprived LSOAs (deprivation deciles 2 and 3) experienced higher rates of death from COVID-19 compared to those living in the more affluent areas of the borough (deprivation deciles 9 and 10) (**Figure 16**).

Figure 16: COVID-19 death rate[35] per 100,000 by deprivation decile in Richmond, March 2020-May 2021.
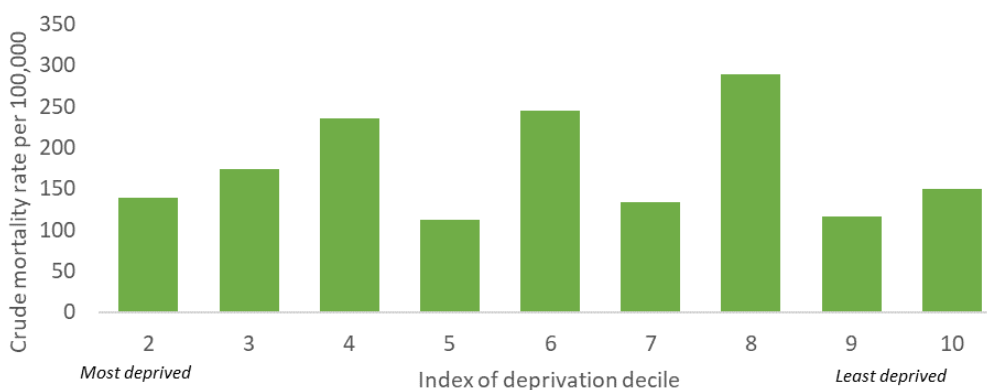
Source: Primary Care Mortality Database. Using ONS Mid-2019 Annual Small Area Population Estimates and English Indices of Deprivation 2019.

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[34] Local Government Association. Deprivation and Poverty- The Impact of COVID-19.
[35] Rate of deaths by deprivation is not age adjusted.

Figure 17 shows those areas with highest mortality rates (darker blue), are also some of the most deprived areas in the borough (red areas).

Figure 17: COVID-19 death rates per 1,000 by LSOA in Richmond, March 2020 to May 2021 (left map); Index of multiple deprivation, 2019 (right map)

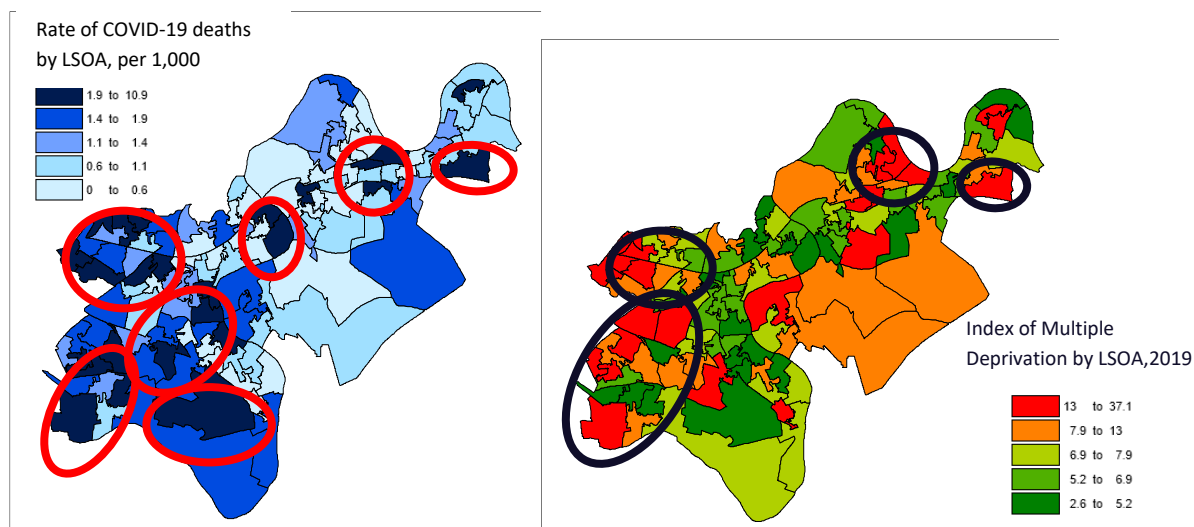*Source: Primary Care Mortality Database. Using ONS Mid-2019 Annual Small Area Population Estimates .*

4. Vaccinations

COVID-19 vaccinations in Richmond were analysed using Public Health England's Situational Awareness Explorer dashboard. Vaccine uptake was calculated using the Office for National Statistics (ONS) 2020 mid-year population estimate. As a result, vaccine rates and numbers reported here will differ from those published on GOV.UK because GOV.UK uses the National Immunisation Management Service (NIMS), which is based on those registered with a GP. NIMS population estimates are higher because local residents are not required to register with a local GP and people do not always update their address with their GP once they move.
It is important to note that vaccine rates calculated using these denominators should be considered as an estimate, as there are issues with both denominators. The ONS estimate of residents covers population at a smaller area level, which leads to some coverage estimates being an over estimate. Although 2020 mid-year population estimate has been available since June 2021, 2019 mid-year estimates were used to calculate coverage at LSOA[36] level. This was because the 2020 mid-year estimates are not yet available for regional, ICS/STP and CCG[37] geographies.

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[36] Lower Super Output Area (LSOA) is a geographic area that has an average population of 1500 people or 650 households.

[37] Integrated Care System (ICS) is an advanced version of an STP. Organisations within an ICS (commissioners and providers) take collective responsibility, often in partnership with local authorities, for resources and population health. Sustainability and transformation partnership (STP) enables NHS organisations, local authorities and clinical

Number of COVID-19 Vaccines Administered in Richmond

Between 8th December 2020 and 30th June 2021, a total of 136,492 dose 1 vaccinations (87%)[38] and 93,826 dose 2 vaccinations (59%)[20] were administered to Richmond residents[39]. Based on the ONS population estimates, 87% of Richmond residents had received at least one dose of a COVID-19 vaccine and 59% were fully vaccinated. COVID-19 vaccination roll-out programme began in December 2020 and **Figure 18** shows the cumulative number of COVID-19 vaccinations administered in Richmond over time.
For latest vaccine numbers and coverage data, visit GOV.UK.

Figure 18: Cumulative number of COVID-19 vaccinations administered in Richmond by month, for all ages – December 2020 – June 2021
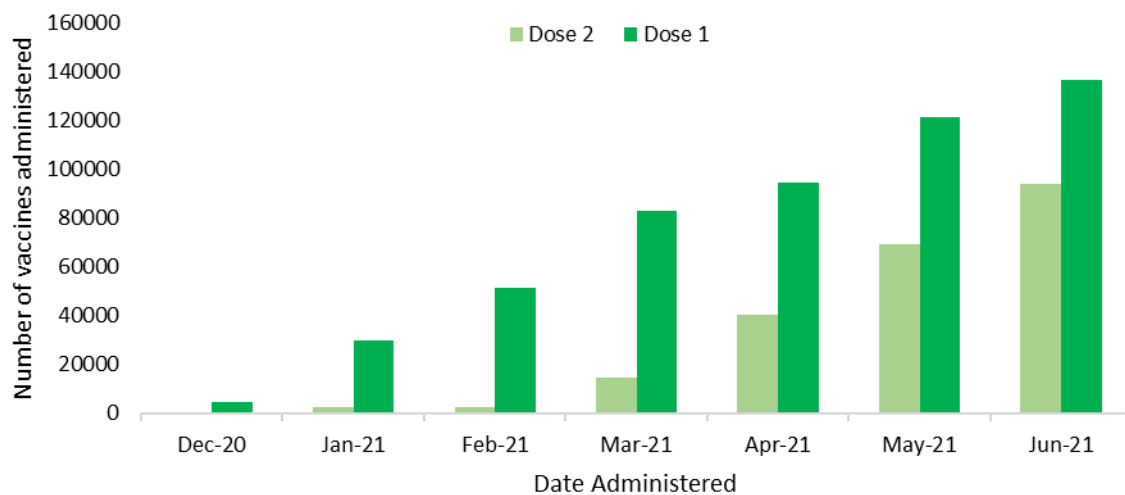
Source: PHE Situational Explorer dashboard

Vaccination Uptake by Age and Gender

Table 2 above shows the number of Richmond residents vaccinated by age group. Over 90% of 50+ year olds were fully vaccinated by 30th June 2021. At the beginning of April 2021, the Government opened up the vaccination age cohort to 40+ year olds. By the end of June, 86% of 40-49 year olds in the borough had received their 1st vaccination dose. By mid-June, those aged 21+ years were allowed to receive their COVID-19 vaccinations; and by the end of June, 80% of the borough's 20-29 year old cohort had received dose 1 of their vaccinations. By the end of June, dose 1 vaccine uptake among the younger age cohort was higher in females (56%) than in males (49%). However, in the older cohort (40+), males saw a higher vaccine uptake (91%) than females (87%).

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commissioning groups (CCG) to work together to improve the health and wellbeing of a population of a particular area. CCGs commission most of the hospital and community NHS services in the local areas for which they are responsible.
[38] ONS 2020 mid-year population estimates were used to calculate vaccine uptake.
[39] Residents vaccinated with first dose are partially vaccinated and those who have received their second dose are fully vaccinated. Vaccine coverage is based on the number of residents aged 16+.

The uptake among younger age groups in Richmond has improved and latest data can be found on **GOV.UK**

Table 2: Number of Richmond residents vaccinated by age group in Richmond, December 2020 – June 2021

Age Groups	Number of Dose 1 administered	Vaccine uptake	Number of Dose 2 administered	Vaccine uptake
Under 20	3311	42%	643	8%
20-29	14,616	83%	3,559	20%
30-39	22,313	83%	7,100	26%
40-49	29,287	86%	18,258	54%
50-59	26,922	96%	25,367	90%
60-69	17,999	94%	17,291	90%
70+	22,044	95%	21,608	93%
Total	136,492	87%	93,826	59%

Source: PHE Situational Explorer dashboard

Figure 19 shows the vaccine uptake for each dose by age group.

Figure 19: Dose 1 and 2 vaccine uptake by age group, December 2020-June 2021
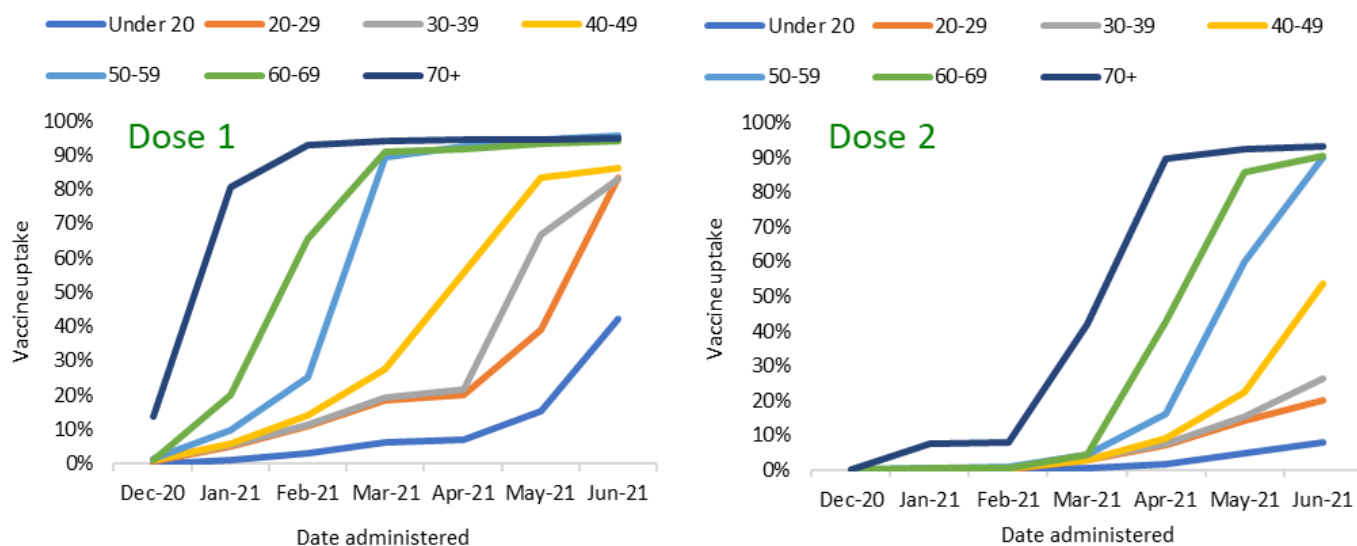
Source: PHE Situational Explorer dashboard.

Vaccination Uptake by Ethnic Group

Figure 20 shows the vaccine uptake rates among ethnic groups in Richmond. 18% had no ethnicity recorded and were therefore excluded from this analysis. Dose 1 vaccine rates was highest amongst White ethnic group (58%) followed by Asian ethnic group (57%). The lowest uptake was seen among those from black and mixed ethnic groups. As of 30th of June, 18,707 (71%) ethnic minority Richmond residents received dose 1 of their COVID-19 vaccinations and 12,238 (47%) received their second dose. Mixed ethnic groups were less likely to be vaccinated with the first dose of the vaccine (31%), particularly those of White and Black Caribbean

background (19%) compared to their Asian (Indian – 75% and Chinese – 74%) and White British (54%) counterparts. Vaccine uptake was low among the black ethnic group in Richmond, particularly those of Caribbean (39%) and African (46%) backgrounds.

A high dose 1 vaccine uptake among ethnic minority residents can be seen across most LSOAs in Richmond. However, in comparison to other LSOAs, a low dose 1 vaccine uptake was seen in LSOAs within South Richmond, Hampton Wick, Kew and Heathfield wards. Though Richmond is one of least deprived boroughs in London, Heathfield ward has some of the most deprived LSOAs in terms of income deprivation in Richmond and has a large proportion of ethnic minority residents living with them. These could explain the hesitancy to receive the vaccine.

Figure 20: Vaccine uptake among ethnic groups in Richmond, December 2020 - June 2021
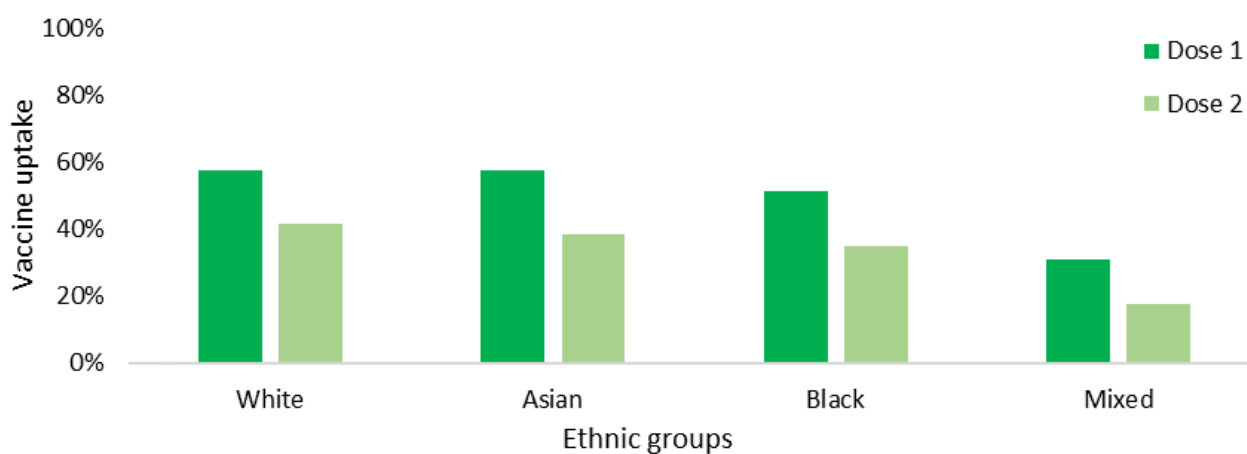
Source: PHE Situational Explorer dashboard.

Vaccination Uptake by Deprivation

Richmond is one of the least deprived boroughs in England. Richmond has less people living in more deprived deciles (deciles 2-6) compared to those living in least deprived areas. **Figure 21** shows dose 1 vaccine rates[40] by LSOA among residents aged 50+ in Richmond.

There was a weak correlation between vaccine coverage and those living in more deprived LSOAs in the borough. There was an equal level of vaccine coverage across deprivation deciles among residents receiving dose 1 and dose 2 with an approximately 5% - 10% difference in vaccine coverage between the most and least deprived LSOAs in the borough.

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[40] ONS 2019 mid-year population estimate was used to calculate vaccine uptake. Vaccine coverage is based on the number of people aged 50+.

Figure 21 Vaccine coverage by deprivation decile among residents aged 50+ in Richmond
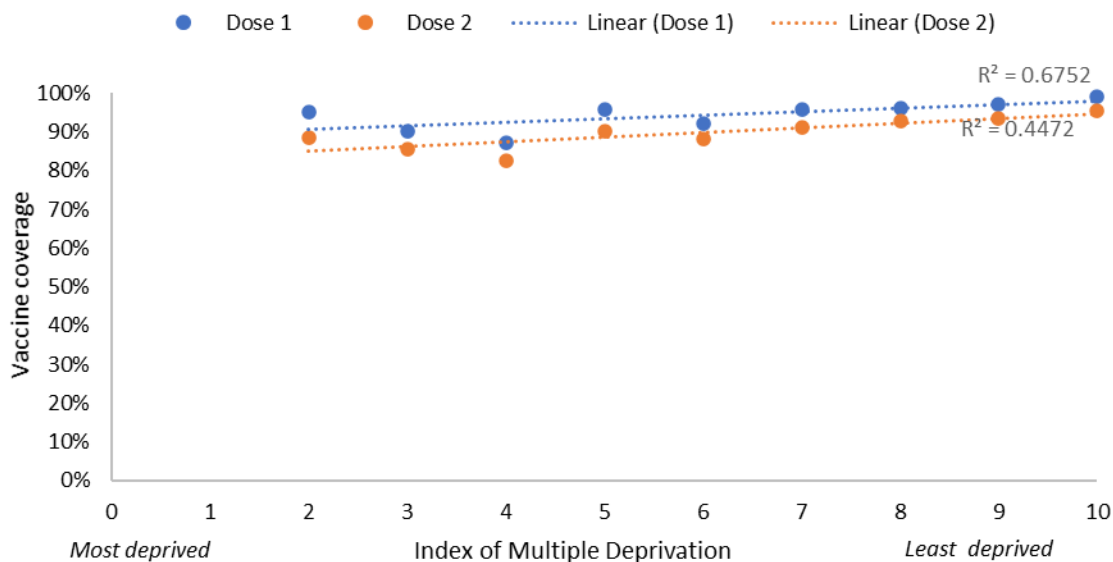
Source: PHE Situational Explorer dashboard

5. Post Covid Syndrome

The term 'long COVID' is commonly used to describe signs and symptoms that continue or develop after acute COVID-19. It includes both **ongoing symptomatic COVID-19** (from 4 to 12 weeks) and **Post COVID-19 syndrome** (12 weeks or more). **Post Covid Syndrome** (PCS) usually presents with clusters of symptoms, often overlapping, which can fluctuate and change over time and can affect any system in the body. Post-COVID-19 syndrome may be considered before 12 weeks while the possibility of an alternative underlying disease is also being assessed.

The most common symptoms include extreme fatigue (55%), breathlessness, problems with memory and concentration ('brain fog'), difficulty sleeping, chest pain, palpitations, dizziness, depression and anxiety. Not all people have the same risk of experiencing Long Covid. Variation exists in population in disease severity, mortality and prevalence of PCS.[41]

The ONS's Coronavirus Infection Survey of households in April 2021[42] found that 21% of respondents who tested positive for COVID-19 still reported symptoms at 5 weeks after infection and 13.7% of respondents who tested positive for COVID-19 still reported symptoms at 12 weeks after infection. May 2022 data shows that currently 1.44 million people (2.24% of the population) were experiencing self-reported PCS. Using local Richmond population figures, this would mean that approximately 4,500 people in the borough will be living

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[41] Office For Health Improvement & Disparities. Post-Covid-19 syndrome London region: Health Needs Assessment of Post-COVID-19 syndrome in London", December 2021

[42] Office of National Statistics. Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK: 1 June 2022

with PCS, with approximately 20% of those reporting that their ability to undertake day-to-day activities were "limited a lot" by their symptoms.

Figure 22: The impact of Post COVID Syndrome on daily activities
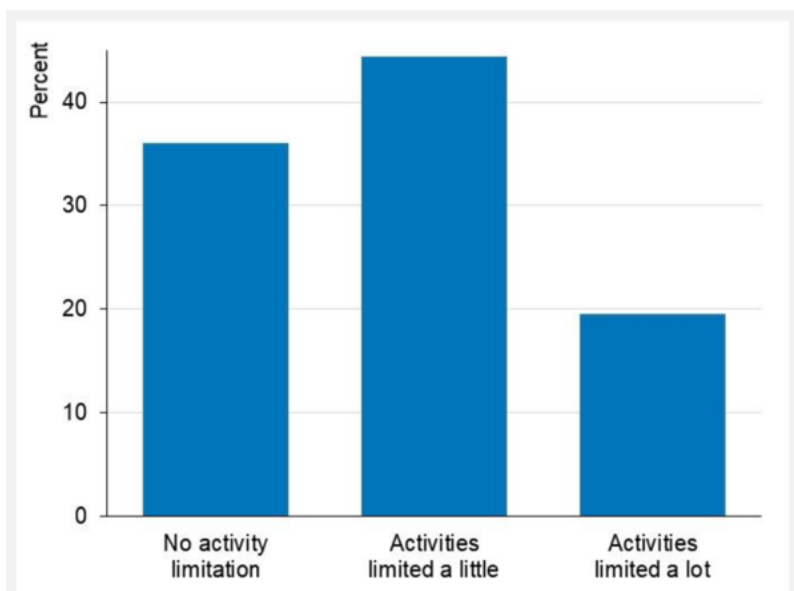
Source: Long COVID: What the statistics are telling us, Daniel Ayoubkhani, Health Analysis & Life Events / Methodology and Quality, ONS 11 January 2022

Due to Post Covid's nature - as a long term, fluctuating condition affecting multiple bodily symptoms and often affecting previously active, well people - supporting people with Post Covid requires a whole system approach, including acute health services, primary care, community services, social services, the voluntary sector, other sectors, such as schools, employers and the wider communities people live in. Post Covid support should be focussed on preventing ill-health and long-term complications of Post Covid, helping people to resume their activities of daily living and improving access to Post Covid services for people who need support.

London-wide Needs Assessment

Due to the relatively small numbers in each borough, the Office for Health Improvement and Disparities have conducted a Health Needs Assessment of Post Covid across London. This has demonstrated that at highest risk of developing PCS are **middle-aged females** (**Figure 23**), as well as people with **pre-existing conditions** such as **obesity, hypertension, poor mental health**.

Figure 23: Post COVID-19 cases requiring support by age and sex
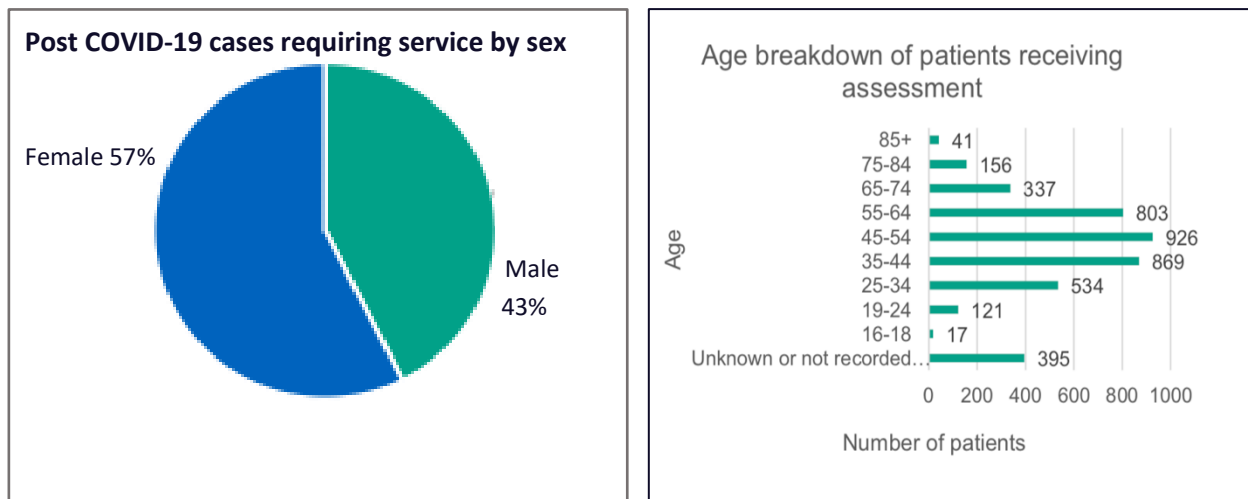
Post COVID-19 cases requiring service by sex

Female 57%

Male 43%

Age breakdown of patients receiving assessment

Age	Number of patients
85+	41
75-84	156
65-74	337
55-64	803
45-54	926
35-44	869
25-34	534
19-24	121
16-18	17
Unknown or not recorded…	395

Source: Office For Health Improvement & Disparities. Post-Covid-19 syndrome London region: Health Needs Assessment of Post-COVID-19 syndrome in London, December 2021

People who have been most exposed to Covid-19 infection are also more at risk, e.g. **health workers, teachers, police, prison staff, transport staff, care home workers.**

There is **lack of consistent ethnicity data** for modelling PCS cases. Some studies suggest that whereas Covid-19 disproportionately affects BAME groups, Post Covid may affect White British groups more. The prevalence of PCS cases is higher in less deprived areas. The PCS service uptake is also higher in less deprived areas (**Figure 24**).

Figure 24: Prevalence of Post COVID Syndrome by duration, deprivation and self-reported health status
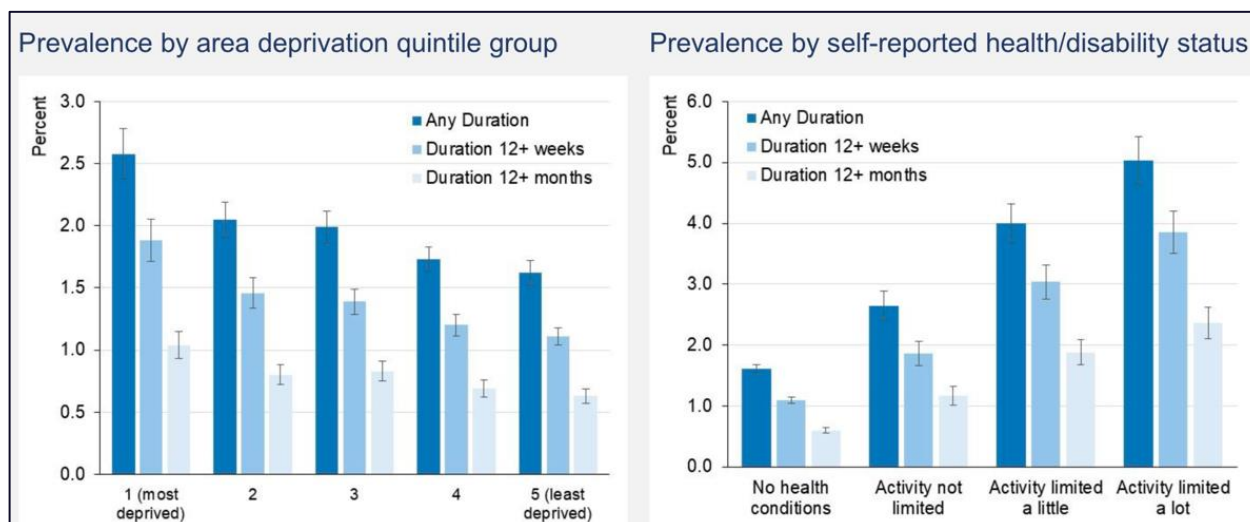

Source: Office For Health Improvement & Disparities. Post-Covid-19 syndrome London region: Health Needs Assessment of Post-COVID-19 syndrome in London, December 2021

Only 52% of cases were assessed in post-COVID-19 assessment centres. 16 London assessment clinics have received 5151 referrals between April-Sept 2021. Common route of referrals is primary and secondary care; with few referrals made through community or other services. Many of the interventions used to support

people with Post Covid are based on management of chronic fatigue syndrome. Evidence for the efficacy and cost-effectiveness of these interventions in managing Post Covid is at an early stage.

Richmond Estimates of Post Covid Syndrome Prevalence

Data from 2021 shows that Richmond has more Post Covid cases than would be expected from its population size. Richmond has 2.19% of London's population but 2.86% of its Long Covid cases. Although the actual numbers of people are small, this does equate to 31% more than expected based on population size alone (the largest proportional difference in South West London).

Although some of this difference may be attributed to case finding and referral rates, it is worth noting that Kingston, which share acute and community Post Covid services with Richmond, have only have 22% more cases that expected. Richmond's demographic profile means that a higher proportion of residents are at risk of Post Covid Syndrome. For example, compared to the London average, Richmond has an older population, a higher proportion of women, and a higher proportionate of White British residents.

Table 3 examines Richmond's demographic risk factors for PCS.

Table 3: Post Covid demographic risk factors in Richmond

Risk factor	Rationale for Risk Factor identified in London[43][44]	Population in Richmond[45][46]
Age	Moderate to good evidence to support the finding that **working age individuals** are the most likely to experience Long COVID, which has negative implications for the workforce and wider economy. **The prevalence of Long COVID was greatest in those aged 35-69 years.**	The proportion of Richmond's population in **age groups from 35 – 69 was significantly higher** than the London-wide prevalence. In Richmond, these age groups accounted for 49% compared to 43% across London.

Population projection for all persons by 5-year age group

Date: 2020 Source: GLA

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[43] Office For Health Improvement & Disparities. Post-Covid-19 syndrome London region: Health Needs Assessment of Post-COVID-19 syndrome in London, December 2021

[44] Long COVID: What the statistics are telling us. Daniel Ayoubkhani, Health Analysis & Life Events / Methodology and Quality, ONS 11 January 2022

[45] PHE Fingertips data 2019-20

[46] JSNA, Nov 2021

| Gender	ONS data suggests % of people with self-reported Long COVID was **greatest in females**. Moderate to good evidence to support the finding that women are more at risk of Long COVID, particularly fatigue.	Compared to an equal proportion of men and women in London overall, **Richmond has relatively more women,** with 51.4% of the population female, compared to 48.6% male.
Deprivation	Prevalence rates of self-reported long COVID exhibited a clear deprivation gradient. Individuals in the most deprived quintile group of the Index of Multiple Deprivation experienced the highest rates (2.1%) and those in the least deprived quintile group experienced the lowest rates (1.4%) of PCS.	Richmond is a relatively affluent borough, ranking within the least deprived third of LAs nationally for five of the seven deprivation domains. However, deprivation is not evenly distributed. Health conditions are poorer in the top quintile for deprivation in Richmond, and in 2017–19, a male living in the most deprived decile of the borough was expected to live 6.3 years shorter than his counterpart living in the least deprived. We can therefore expect that Post Covid will be higher in the more deprived areas.
Covid Rates	Areas with high rates of Covid infections will have higher rates of PCS in their populations.	It is possible to identify areas in Richmond that have had higher rates of Covid (particularly in earlier waves).
Vaccination status	Likelihood of long COVID in adults reduced after vaccination, which was sustained after 2nd dose.2	Richmond borough had one of the highest rates of full vaccination (3 doses plus booster in London for >12yo). However, this masks variation across the Borough.
Ethnicity	Data on ethnicity and Long COVID symptoms is mixed, with some studies reporting lower rates of Long COVID symptoms in individuals with a non-white ethnic background (ONS, 2021).	The largest ethnic group in Richmond are those identifying as White British. Almost 1 in 6 identify as Black, Asian and Minority Ethnic (BAME), a lower proportion than is seen in London and outer London. The BAME population is younger with a higher proportion of children (and therefore at lower risk of Post Covid overall, as already described).
Co-Morbidities	Moderate to good evidence to support that hypertension was the most common comorbidity with prevalence ranging from 15% to 41.9%. Another study indicates diabetes, hypertension and high cholesterol all have an increased odds ratio for Long Covid symptoms at 4 weeks post infection.	Diabetes prevalence in Richmond patients aged 17+ years in 2019/20 was 4.1% which was lower than the London and England rates. The borough ranked the 2nd lowest across London. Similarly, 9.7% (23,174) patients in Richmond were recorded with hypertension. The borough rate was lower than the London and England average and ranked 10th lowest across London, however there may be undiagnosed
Obesity	Obesity is an established risk factor for Post Covid. The REACT study found that persistent, Long COVID symptoms were more common in people who were overweight/obese.	In 2019/20, Richmond's percentage of adults (aged 18+) classified as overweight or obese was 51.9%, which is the 11th lowest rate in London, 17.4% lower than the England average and 6.9% lower than the London average.

Kingston & Richmond Post Covid Services

A Kingston & Richmond Post Covid Steering Group was set up in 2021 to develop a pathway of services to support patients with PCS, recognising that a multidisciplinary approach would be needed to meet people's needs (**Table 4**).

Table 4: Kingston & Richmond Post Covid Steering Group membership

Membership of the Steering Group is wide and includes representatives from:		It is also a multidisciplinary group with members from different professional backgrounds:	
• Kingston Hospital Foundation Trust • Hounslow & Richmond Community Healthcare NHS Trust*	• General practice • Richmond Healthwatch* • Richmond Wellbeing Service* Richmond Council Public Health & Adult Social Care* and Kingston equivalents	• Occupational therapists • Physiotherapists • GPs • Respiratory Consultants • Psychotherapists	• Public Health Consultants • Service leads • Development and transformation leads • Communications

Through the steering group, a relatively comprehensive pathway has been developed to manage patients with acute medical issues, as well as mental health and rehabilitation support. The main features include PCAS, Long Covid Community Clinics, psychological support through Richmond Wellbeing, and PCAS, Community Clinic, Richmond Wellbeing, Primary Care support and signposting to self-help and voluntary sector organisations (**Figure 25**).

Figure 25: Diagram showing Post Covid pathway in Kingston & Richmond

Kingston and Richmond Post COVID Pathway
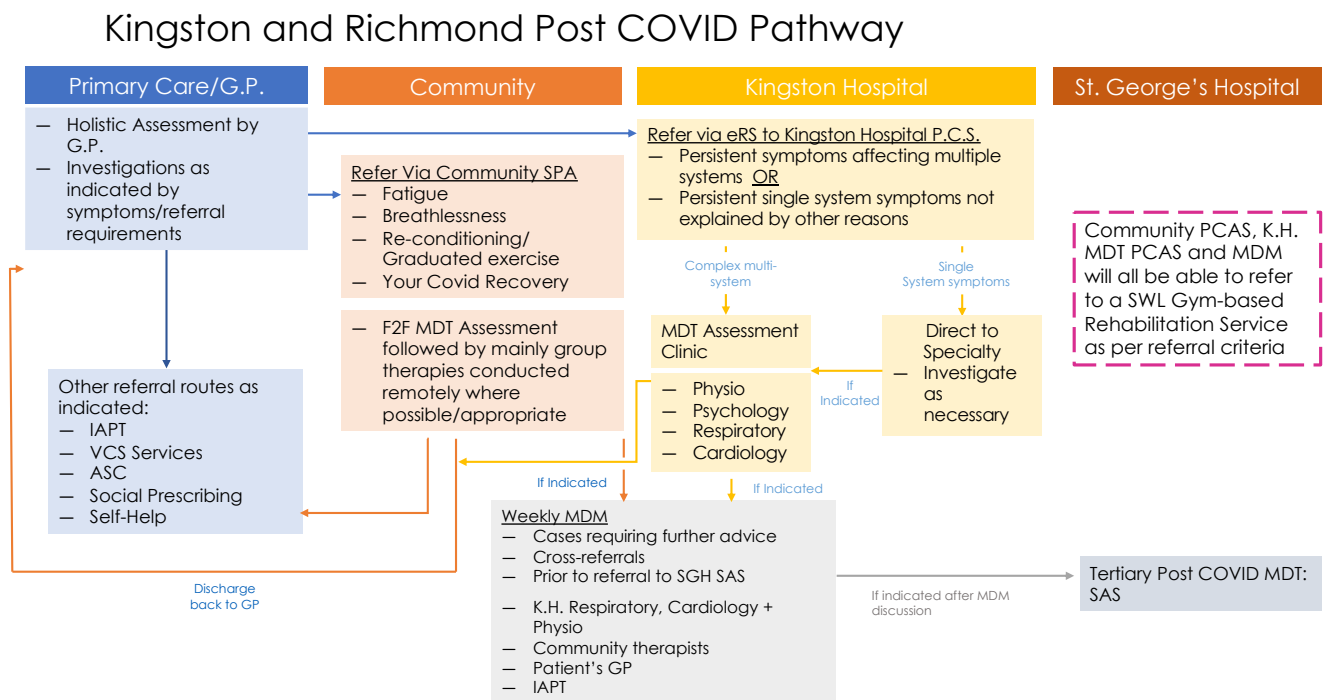
Richmond has a thriving voluntary sector, and many of these organisations have been playing a crucial role supporting people suffering with Post Covid. These include RUILS Independent Living, Richmond Carers Centre, Richmond Aid, Age UK Richmond, Crossroads Care , Alzheimer's Society Richmond, and Voices of Hope.

CASE STUDY: Voices of Hope

This voluntary sector organisation runs an 'Active Breathing' course since April 2021, and has treated 260 people. It helps to recover from Post Covid and addresses symptoms such as breathlessness, fatigue, anxiety and disordered breathing, by using breathing exercises and singing. It has very good results with 94% of attendees finding the course helpful with improvements in breathlessness, anxiety, energy levels and mood. Richmond Council has awarded them £5k funding, and they have also received funding from the National Lottery Fund, and Kingston Council.

A Directory of Services has been developed to help professionals signpost and refer patients to these services.

Enhancing Support for Post Covid Syndrome

In conclusion as we learn more about Post Covid as a condition, the challenges of living with it, access to and experience of services, we can identify areas to improve and enhance the current offer. Identification of people with Post-Covid and address health inequalities in access to care, supplementing and supporting current services and activities, and reviewing longer term needs is important.

Work to support the PCS services will focus on improving our understanding of who has PCS, through identification of unmet needs in under-served communities, empowering community leaders to raise awareness, targeted support and education for health professionals, and raising awareness with professionals in other sectors, working to support those people who are living with symptoms of Post Covid Syndrome, and ongoing review of longer term needs. This includes encouraging vaccination.

6. Acronyms

BAME   Black, Asian and Minority ethnic groups
CCG   Clinical Commissioning Group
DAE   Data Access Environment
GLA   Greater London Authority
GP   General Practitioner
HES   Hospital Episode Statistics
ICS   Integrated Care Systems
IMD   Index of Multiple Deprivation
LSOA   Lower Super Output Area
NIMS   National Immunisation Management Service
ONS   Office for National Statistics
PCMD   Primary Care Mortality Database
PCS   Post COVID-19 Syndrome
PHE   Public Health England
STP   Sustainability and Transformation Plans

7. Acknowledgments

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