The Health Impact of COVID-19 on Nottingham City

Nottingham City Council JSNA May 2023

Nottingham City Council

Contents

Executive Summary

The COVID-19 pandemic and the restrictions introduced to curb it, have had an enormous impact on many aspects of life in this country. Whilst everyone in the UK has been affected by the pandemic, the effects were unevenly spread throughout society, with vulnerable and at risk groups being disproportionately impacted. COVID exacerbated the health inequalities already present within our communities and made them worse, so that people from deprived and vulnerable backgrounds were more likely to be infected, hospitalised with a severe illness and die from the virus.[4]

Nottingham has been particularly hard hit by the pandemic with over a thousand deaths due to COVID-19. The relatively high levels of deprivation experienced by many communities within the city have led to health inequalities, which have catalysed the negative impacts of the virus in terms of mortality, morbidity, access to services, financial resilience and mental health.

Against this background, this chapter of the Nottingham City JSNA, focuses on the health impacts of the COVID pandemic from a variety of perspectives, taking health inequalities, wider determinants and population health into consideration. The initial drafts of this chapter were written in 2021, a further version based on refreshed data and content produced during the summer of 2022, and a final update undertaken in Spring 2023.

It is hoped that this document will contribute towards a greater understanding of the way that both the society and health and care systems within Nottingham City were impacted by COVID-19. Through this insight and the shared understanding that develops from it, the city may then work towards a meaningful, effective and sustainable recovery from the detrimental effects of the pandemic.

Key Findings

The structure of this report is based on the King's Fund framework of four pillars of population health[7]:

- Wider determinants of health
- Our health behaviours and lifestyles
- The places and communities we live in, and with
- (An Integrated Health and Care System) Public Health Services

A separate section devoted to "The Impact on Mental Health and Wellbeing" has also been included in this JSNA chapter, as we believe that this ongoing effect of the pandemic will continue to have short, medium- and longer-term consequences for our society.

This assessment of the impact of COVID-19 on the lives and health of people of Nottingham City has highlighted the areas that have been most affected by the pandemic. To help aid our understanding we asked several questions, which form the framework for this chapter:

- What has been the impact of COVID-19?
- Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?
- What learning can we take from this period for the future?

Learning for the Future

The connection between the four pillars of population health is important and underpins some key findings from this report:

- An **integrated recovery** will provide the most effective impact. The idea that recovery should be focussed on one sector would be short-sighted. Health and wellbeing have been impacted across all areas of society and a recovery process that is integrated is likely to have the greatest chance of success.
- The recovery should have the **community at its heart**. A personalised approach can be more successful in engaging certain population groups and areas of the city. Engaging in co-production by using local assets such as volunteers, social networks and charity, faith and community groups could play a vital role.
- The pandemic has increased the awareness of pre-existing **inequalities** and the disproportionate effect on some groups, including disabled people, ethnic minority communities, care home residents, people in forms of insecure work and people experiencing homelessness. This learning should be captured and applied to future policy; in particular, the need to focus on reducing health inequalities experienced by ethnic minority groups.
- The impact that COVID-19 has had on the **mental health** of the population should be acknowledged. In the short, medium and long-term, the pandemic may result in an increase in demand for not only mental health, but other services. In some areas the effects on mental health may result in negative engagement of services, directed towards certain health promotion and health protection services. Each public health service area should acknowledge this within future policy and where possible try to optimise engagement.

Introduction

On 11th March 2020, The World Health Organization (WHO) declared the novel coronavirus (COVID-19) outbreak as a global pandemic.[1] The attempts to control the spread of this new highly contagious infectious disease has been challenging for governments around the world. As stated in "The Marmot Review 10 Years on," the UK had a difficult starting point with evidence of increasing health inequalities and a reduction in life expectancy in the most deprived communities before the pandemic had even begun. [2]

The COVID-19 pandemic and subsequent measures have drastically changed the functioning of British society. The introduction of social distancing and isolation measures, an emphasis on working from home, suspension of routine healthcare, school closures, business and community facilities shut down and shielding of vulnerable communities has changed the lives of most of the nation. There were several national lockdowns and in between, local restrictions consisting of a tiered system with varying limits placed on civil liberties all over the United Kingdom.

The COVID-19 pandemic has led to not only a loss of liberties but a loss of livelihoods and for some, tragically, a loss of life. By August 2022, the pandemic had led to over 201,000 deaths in the UK.[3] The effect of the pandemic has not been an equal one. Not everyone faced the same risk of exposure to the virus or if infected faced the same severity of disease.[4]

The pandemic has exposed the increasing wealth and health gap in our society. In 2019, there was a 19 year gap in healthy life expectancy between the most and least affluent in the country.[5] During the pandemic, COVID-19 mortality rates in England were more than twice as high for people from the most deprived 10% compared with people from the least deprived, and almost four times as high for people younger than 65.[4]

From 8th March 2021, England (and other devolved nations) proceeded with a Roadmap out of lockdown.[6] The success of the COVID-19 vaccination programme allowed England on 19th July 2021 to move to step 4 of the 'road map', lifting most legal restrictions that had previously been used to control the spread of the virus. This has resulted in the removal of legal requirements related to social distancing, no limits placed on social events, no limit on the number of people you can meet indoors, no legal requirement to wear a mask and people are no longer required to work from home. It also has allowed the opening of all businesses including night clubs, hospitality venues and even large events held at sports stadiums and music festivals. Despite this 'opening up' of society there should be an awareness of the consequences of limits placed on our community and how this has affected the mental, emotional, physical, and financial wellbeing of Nottingham City's population. At the point of publication (May 2023), the virus persists, cases continue, and the potential for future restrictions cannot be ruled out.

The Health and Wellbeing Board endorsed a refresh of the JSNA at its March 2021 Board meeting and stated that '*ultimately, the health priorities and impacts of Coronavirus must be made as clear as possible.'*

To work towards an effective and meaningful recovery for Nottingham City, there needs to be an informed and shared understanding of how the pandemic has impacted both society and the health and social care systems. There needs to be an awareness of how these areas were operating prior to the pandemic, what the pre-pandemic limitations were and how the pandemic has further impacted on this.

We have considered the approach of the Population Health Model. Population Health is an approach that aims to improve physical and mental health outcomes, promote wellbeing and reduce health inequalities across an entire population.[7]

The report covers some of the key pillars of population health[7]:

- Wider determinants of health
- Our health behaviours and lifestyles

- The places and communities we live in, and with
- Public Health Commissioned Services

We have also included a separate section devoted to The Impact on Mental Health and Wellbeing as we feel this has had and will continue to have short, medium- and longer-term consequences on our society.

This assessment of the impact of COVID-19 on the lives and health of people of Nottingham City has highlighted the areas that have been most affected by the pandemic. To help aid our understanding we asked several questions:

- What has been the impact of COVID-19?
- Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?
- What learning can we take from this period for the future?

It should be noted that this chapter focuses on breadth of discussion, rather than depth of information reported. Please see the Appendices and Hyperlinks for useful information relating to further work that has been completed.

Thank you to the wide range of stakeholders and service providers for providing a wealth of information based on first-hand experience of working with residents of Nottingham City.

We hope this will be a JSNA chapter that has the potential to influence key strategic thinking, start new areas of work and shape services in the future for the benefit of our population.

Health Inequalities and Disproportionate Impacts of COVID-19

The COVID-19 pandemic has infected over 765 million people and caused over 6.9 million deaths globally, according to the World Health Organisation (WHO).[8] According to the Gov.uk website, as at May 2023 22.2 million people had tested positive within the UK, over 178,400 people had died within 28 days of a positive test for COVID-19 and over 222,600 deaths were recorded with COVID-19 on the death certificate in the UK.[9]

In December 2020, the Institute for Health Equity published "Build Back Fairer: The COVID-19 Marmot Review"[10] which highlights that the pre-existing socio-economic inequalities in our society have led to a disproportionately high number of deaths from COVID-19 in disadvantaged communities. Key findings include that inequalities in society are increasing and life expectancy is stalling or worse is falling in the most deprived areas. [10]

The COVID-19 pandemic has exposed existing health inequalities and in some cases has increased them.[11] Public Health England (PHE) published a report called "*Disparities in the risk and Outcomes of COVID-19,"* in August 2020.[12] This report related to the first wave of the pandemic and identified that those who were male, older and from a black or ethnic minority group, with an underlying health condition, working in high risk occupations and living in deprived areas were at greater risk of COVID-19 infection and had a higher rate of mortality. [13]

Highlighted areas of risk include:

Age and sex:

Older people are at a significantly higher risk of developing severe illness if they become infected with COVID 19. Among people with a positive test, when compared with those under 40, those who were 80 or older were seventy times more likely to die.[12] COVID-19 diagnosis rates increased with age for both males and females. Working age males diagnosed with COVID-19 were twice as likely to die as females.[12]

Geography

In the early stages of the pandemic the highest number of cases and deaths from COVID-19 were in more urban areas of England. London had the highest rates followed by the North West, the North East and the West Midlands. The South West had the lowest.

Deprivation

There is evidence that there are underlying health inequalities driving poorer outcomes as COVID-19 mortality rates are higher in more deprived areas.[13] People who live in deprived areas have higher diagnosis rates and death rates than those living in less deprived areas. The mortality rates from COVID-19 in the most deprived areas were more than double the least deprived areas, for both males and females.[12] This is greater than the inequality seen in mortality rates in previous years, indicating greater inequality in death rates from COVID-19.

Ethnicity

People from Black ethnic groups were most likely to be diagnosed. Death rates from COVID-19 were highest among people of Black and Asian ethnic groups. An analysis of survival among confirmed COVID-19 cases and using more detailed ethnic groups, shows that after accounting for the effect of sex, age, deprivation and region, people of Bangladeshi ethnicity had around twice the risk of death than people of White British ethnicity. People of Chinese, Indian, Pakistani, Other Asian, Black Caribbean and Other Black ethnicity had between 10 and 50% higher risk of death when compared to White British. These analyses did not account for the effect of occupation, comorbidities or obesity. The complexity of these interconnecting factors means that there is not a simple solution that will solve health inequalities amongst Black, Asian and Minority Ethnic populations. [13]

Occupation

There is a clear link between occupations which increase the risk of exposure to the disease and mortality from COVID-19.[13] Office for National Statistics (ONS) reported that men working as security guards, taxi drivers and chauffeurs, bus and coach drivers, chefs, sales and retail assistants, lower skilled workers in construction and processing plants, and men and women working in health and social care had significantly high rates of death from COVID-19. [12]

Inclusion Health Groups

When compared to previous years, there has been a larger increase in deaths among people born outside the UK and Ireland. The biggest relative increase was for people born in Central and Western Africa, the Caribbean, South East Asia, the Middle East and South and Eastern Africa. This may be one of the drivers behind the differences in mortality rates seen between ethnic groups. Data on rough sleepers suggested a higher diagnosis rate when compared to the general population.

People in care homes

In the early stages of the pandemic, data from the ONS showed that deaths in care homes accounted for 27% of deaths from COVID-19 up to 8 May 2020. Analysis showed that there were 2.3 times the number of deaths in care homes than expected between 20 March and 7 May 2020 when compared to previous years, which equated to over 20,000 excess deaths nationally. The number of COVID-19 deaths over this period was equivalent to 46.4% of the excess suggesting that there are many excess deaths from other causes or an under-reporting of deaths from COVID-19. With the introduction of restrictions to access to care homes, introduced later in the pandemic, the number and proportion of deaths was overshadowed by those dying in hospitals.

Co-morbidities

Among deaths with COVID-19 mentioned on the death certificate, a higher percentage mentioned diabetes, hypertensive diseases, chronic kidney disease, chronic obstructive pulmonary disease and dementia than all cause death certificates.

This assessment from PHE provides a good overview, but as there is limited availability of more detailed data, it demonstrates a breadth rather than a depth of understanding as to how each factor is implicated. The inequalities of the impact of the COVID-19 pandemic need to be considered and overall, the national data is reflected in our local demographics.

Disproportionate effects of COVID-19

Since the *Disparities in the risk and Outcomes of COVID-19* was published regarding the first wave there has been further work analysing subsequent waves and areas of enduring transmission. One such piece of work is Risk factors associated with places of enduring prevalence and potential approaches to monitor changes in this local prevalence published in April 2021. Nottingham City ranks as the 11th most deprived local authority out of 317 local authorities in England. It meets many of the risk factors outlined in this paper and so is likely to be disproportionately affected by COVID-19.

The risk factors identified in areas of enduring prevalence are complex, however they are generally areas with higher deprivation than the England average.[51] The drivers for high prevalence can be static (e.g. housing density) or dynamic (changes in intervention). Some occupation settings e.g. factories may serve to coalesce risk factors which can extend transmission networks to additional settings or communities. The proportion of people working in the manufacturing sector is highest in six regions of Great Britain, the highest being the East Midlands (13.1% of employment).[52] Analysis of workplace outbreak rates has shown consistently high rates of outbreaks in manufacturing sectors and warehouses. These sectors are part of the key national infrastructure and have been in operation throughout the pandemic. Focussing on workplace interventions to support COVID-safe practices is important, including small and medium sized businesses.

The type of occupation has been highlighted as a barrier to containment measures. Those on lower incomes were less likely to get a test if they developed symptoms or self-isolated when contacted by NHS Test and Trace.

Self–isolation was also associated with financial disincentive. Those on lower incomes are often in more precarious/ insecure employments (e.g. agency staff, zero hours contracts, cash in hand) which then results in insufficient financial support. Removing financial costs and disincentives would tend to reduce risk factors in areas of enduring COVID prevalence.

The risk factors outlined above rarely operate in isolation and, in areas of enduring transmission there may be multiple factors at play combining together to increase risk. It is vital to identify the emergence of new areas at risk of enduring prevalence; identify the rate of change in prevalence for existing and new variants of the virus and to assess how effective interventions may be developed. Directors of Public Health have valuable knowledge about the combination of risk factors which emerge in their local areas. An understanding of the specific nature of the socio-economic structure of a region can provide insights into the links between communities, ethnicity, work transport and housing which may not be identifiable otherwise. Many public health teams are already engaged in the investigation of local health inequalities and supporting community engagement through community champion schemes. Local public health team interventions should be supported by access to appropriate data to inform and support local decision making.

Disproportionate vaccination uptake

Disproportionate effects of COVID-19 extend into disproportionate vaccination uptake. For example, in one of the most deprived areas of Nottingham City, Radford, 44.3% of the population had received their first dose of the COVID-19 vaccination by November 2021. Compare this to one of the most affluent areas of Nottingham City, Wollaton Vale, where the uptake was 82.7%, by November 2021.[53] This contrast is significant and concerning.

Disproportionate vaccine uptake has the potential for short, medium- and long-term consequences. Those who are unvaccinated are more likely to become severely unwell or die from the disease. Vaccination status affects the implications of being identified as a close contact. From 16th August 2021 those who were double vaccinated were not legally required to self-isolate if they were identified as a close contact of a positive COVID-19 case. Another implication is the effect on one's occupation, as from 11th November 2021 the Government made it mandatory for care home workers and (from April 2022) all NHS staff in England to have the COVID-19 vaccination or risk losing their job. There were also social, lifestyle and travel implications with the use of mandatory vaccine passports to fly, and to attend events in the devolved nations (Wales and Scotland).

Recognition of Positive work within Nottingham City

Nottingham City increased vaccination uptake amongst its most deprived citizens with the use of a Vaccination Bus. This programme has been incredibly successful and was held as a positive example to be replicated nationally.

Impressively, more than a million vaccinations have been delivered through Nottingham and Nottinghamshire. The national picture of inequalities in vaccine uptake was reflected locally, with lower levels of uptake in those from Black, Asian, Mixed and White Other groups and higher uptake in White British people. The large gaps however closed over time, as a result of engagement and interventions undertaken within the local community.

Nottingham City has a racially diverse population with 43% of the population from ethnic minority groups. It became apparent that key to improving uptake in vaccination rates was to build and maintain trust within communities. Dedicated community champions were selected to promote the importance of vaccination. This in conjunction with translation of material, questions and answers with community groups on media channels, social media, myth busting publications and webinars proved to be effective. A particularly successful intervention was the ability to offer the vaccination in local trusted venues. Over 2000 vaccines were delivered in two City mosques and three black community venues. In addition, the vaccination bus visited places such as the Indian community centre, mosques and the Nottingham Refugee Forum.

As discussed previously, the national picture of lower vaccination uptake in more deprived areas is reflected in Nottingham City. To tackle this, pop-up clinics were provided and the vaccination bus was sent to the most deprived areas where uptake was low. In addition, local volunteers/ elected members and door knocking/ targeted communications prior to vaccination 'events' such as the Big weekends were particularly effective.

One particular group presenting a challenge around vaccination were the most vulnerable in our society: the rough sleepers, homeless, refugees and asylum seekers. This population who may have no fixed address, means of contact, or GP registration had multiple potential barriers to vaccination. To overcome this the public health department, voluntary sector providers and experts such as 'Framework', the YMCA and primary care teams, worked together to overcome this. Specific vaccination clinics were delivered in primary care settings and via the vaccination bus.

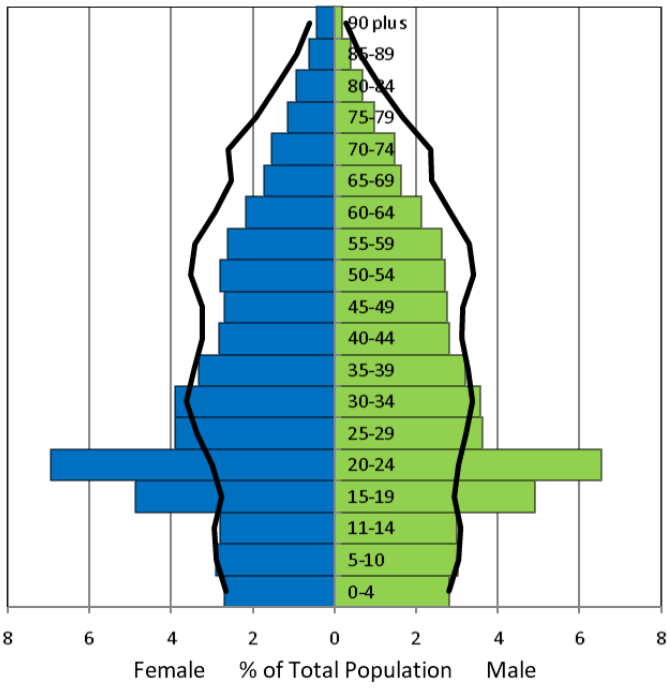
Local Demographics

At a local level the Joint Strategic Needs Assessment (JSNA) analyses the current and future health and social care needs of the population. Demographic information is collected in this process. The data below highlights key demographics where the inequalities may impact local communities. Consideration should be given to this information when planning the recovery from the Pandemic.

Further demographic information can be found on the Nottingham Insight JSNA webpage.

Age and Gender

Figure 1 highlights that the City has a very high proportion (29.9%) of people aged 18 to 29. This is largely due to the presence of the two universities: full-time university students account for approximately 1 in 8 of the population. The percentages in other age-groups are lower than the average for England. In particular, compared to England there are a lower number of adults aged between 65 and 79.



Source: ONS Census 2021

Figure 1: Nottingham City Age – Gender Distribution (bars) compared to England (lines)

The gender balance generally follows national patterns. More boys are born than girls (about 108 boys for every 100 girls), but as men tend to die younger, for age-groups aged over 70 there are more women than men; there are almost twice as many women aged 85 and over as men. However, the percentage of men aged 25 to 39 is unusually high in Nottingham (e.g. 116 men to every 100 women in the 25 to 29 age-group). This is particularly the case in some city centre and inner city areas, including those with high proportions of students or significant numbers of houses in multiple occupation which may be favoured by single, and often male, migrant workers.

Ethnicity

Ethnicity figures are taken from the 2021 Census.

Table 1 demonstrates that Nottingham has a larger percentage of people who identify as from an ethnic minority compared to the East Midlands and England national average. This indicates that a higher proportion of the Nottingham population may be at risk of contracting and subsequently dying from COVID-19 due to the additional risk factors associated with ethnicity.

	Nottingham City	East Midlands	England
Population	323,625	4,880,045	56,490,050
White: English, Welsh, Scottish, Northern Irish or British	57.3%	79.6%	73.5%
White: Gypsy or Irish Traveller	0.1%	0.1%	0.1%
White: Irish	0.7%	0.6%	0.9%
White: Roma	0.3%	0.1%	0.2%
White: Other White	7.4%	5.3%	6.3%
Mixed	5.9%	2.4%	3.0%
Asian	14.9%	8.0%	10.0%
Black	10.0%	2.7%	4.2%
Other	3.3%	1.3%	2.3%

Table 1: Population ethnicity estimates for Nottingham City
Source: ONS Census 2021

Figure 2 The above data has been summarised and a graph created to show a visualisation of Nottingham's more diverse population when compared to the East Midlands and England average.

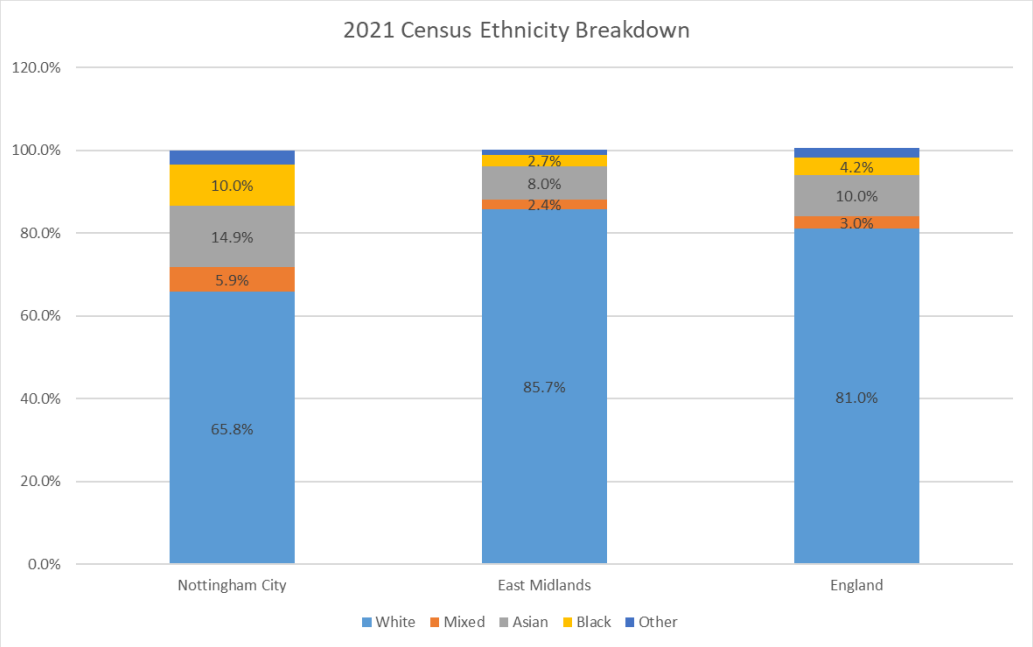


Figure 2: Comparison of population ethnicity for Nottingham City, East Midlands region and England
Source: ONS Census 2021

Deprivation

Based on the 2019 Indices of Multiple Deprivation, Nottingham City ranks as the 11th most deprived local authority out of 317 local authorities in England. Nationally higher levels of deprivation have been associated with an increased risk of mortality due to COVID-19.

As highlighted in **Figure 3** below, 30.8% (56/182) of Nottingham City's Lower Super Output Areas (LSOAs) fall within the 10% most deprived in England and more than half (57.2%, 104/82) of the City's LSOAs fall within the 20% most deprived in England. The Lowest ranking LSOA in the City is in Bulwell, which ranks 130th nationally out of 32,844 LSOAs. See **Appendix A** for a map illustrating areas of deprivation within Nottingham City.

The following figures highlight areas of deprivation in Nottingham. Nationally higher levels of deprivation have been associated with an increased risk of mortality due to COVID-19.

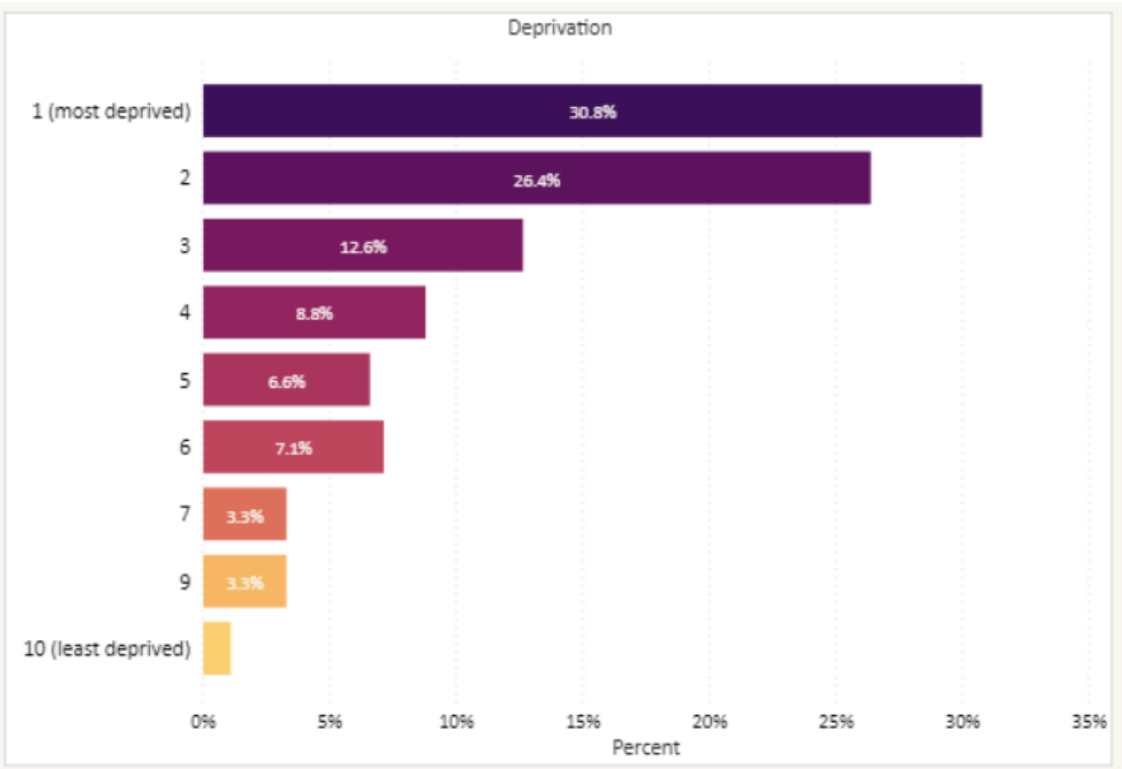


Figure 3: Proportion of Nottingham City LSOA by National Deprivation Deciles
Source: ONS, 2019 Indices of Multiple Deprivation

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The first Covid-19 case in Nottingham City was recorded on the 28th February 2020, since then, a total of 106,701 cases have been recorded in the City up to 31st of March 2022. **Figure 4** below shows a daily case count and a 7-day moving average for Nottingham City from 28th February 2020 to 31st March 2022.

It highlights five waves of different sizes and two periods of very low case numbers referred to as 'recovery'.

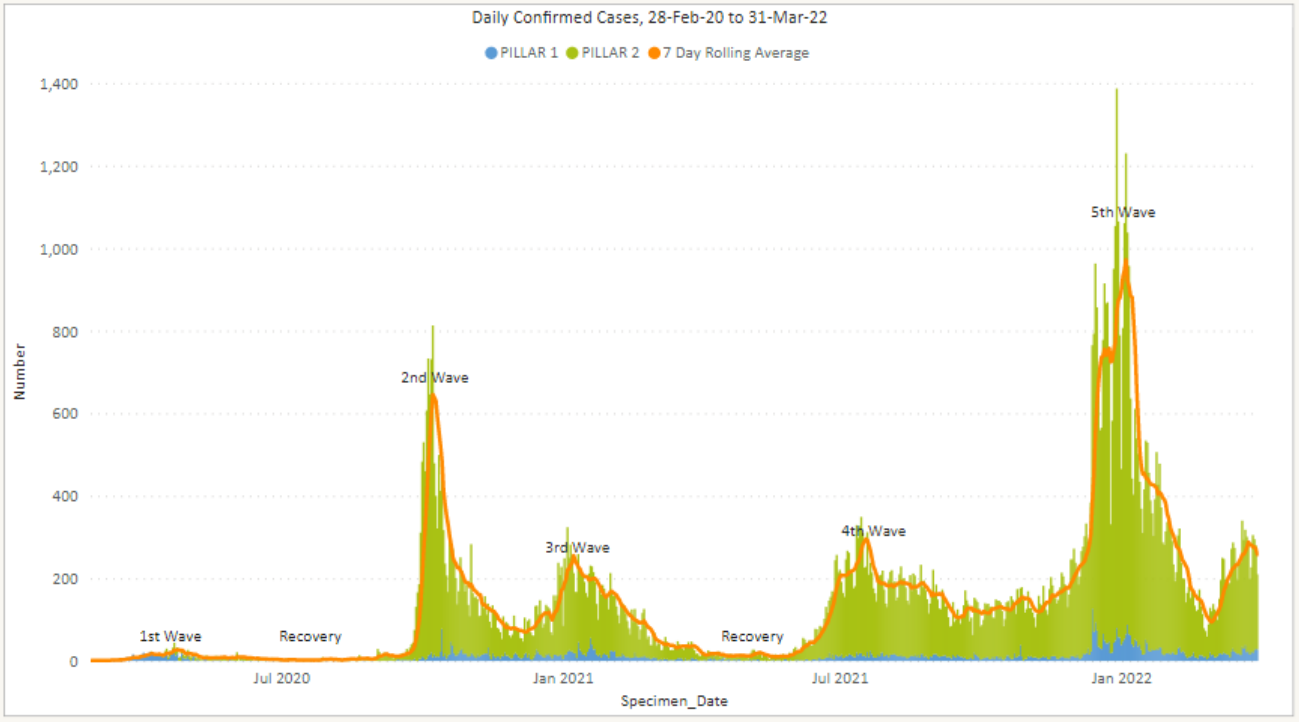


Figure 4: Daily case count and a 7-day moving average for Nottingham City from 28th February 2020 to 31st March 2022

The first (1st) wave was between 28th February 2020 to 30th June 2020 and recovery period followed from 1st July to 31st August 2020. The second (2nd) and third (3rd) waves were between 1st September 2020 to 31st March 2021 and the recovery following 3rd wave is illustrated from 1st April 2021 to 28th May 2021. The number of cases started to increase again from the 29th of May 2021, indicating the start of a 4th Wave. The 4th wave peaked in mid-July 2021 and was followed by a gradual, prolonged decrease in cases till early November 2021. A 5th wave started around the 9th of November 2021 when case numbers started to increase rapidly and peaked in early January 2022. Thereafter a rapid fall in cases occurred up to the end of February 2022. In early March 2022, case numbers start to increase again giving rise to a potential 6th wave. The most up to date information can be accessed via the Public COVID-19 Dashboard here.

For the purpose of this report, waves and recovery periods will be considered together.

Office for National Statistics (ONS) COVID-19 Deaths

COVID-19 deaths in this report include all deaths due to COVID -19 that occurred within 28 days of a positive COVID-19 test. The first recorded death due to COVID-19 in Nottingham City occurred in the week ending the 27th March 2020. Between the week ending the 27th March 2020 and the week ending the 1st of April 2022, a total of 985 Covid-19 deaths of Nottingham City residents were recorded.

As demonstrated in **Figure 5** below, the majority of deaths 74.5% (734) occurred in hospital, 17.9% (176) in care homes, 6.4% (63) at home and less than 1.2% (12) occurred in other settings.

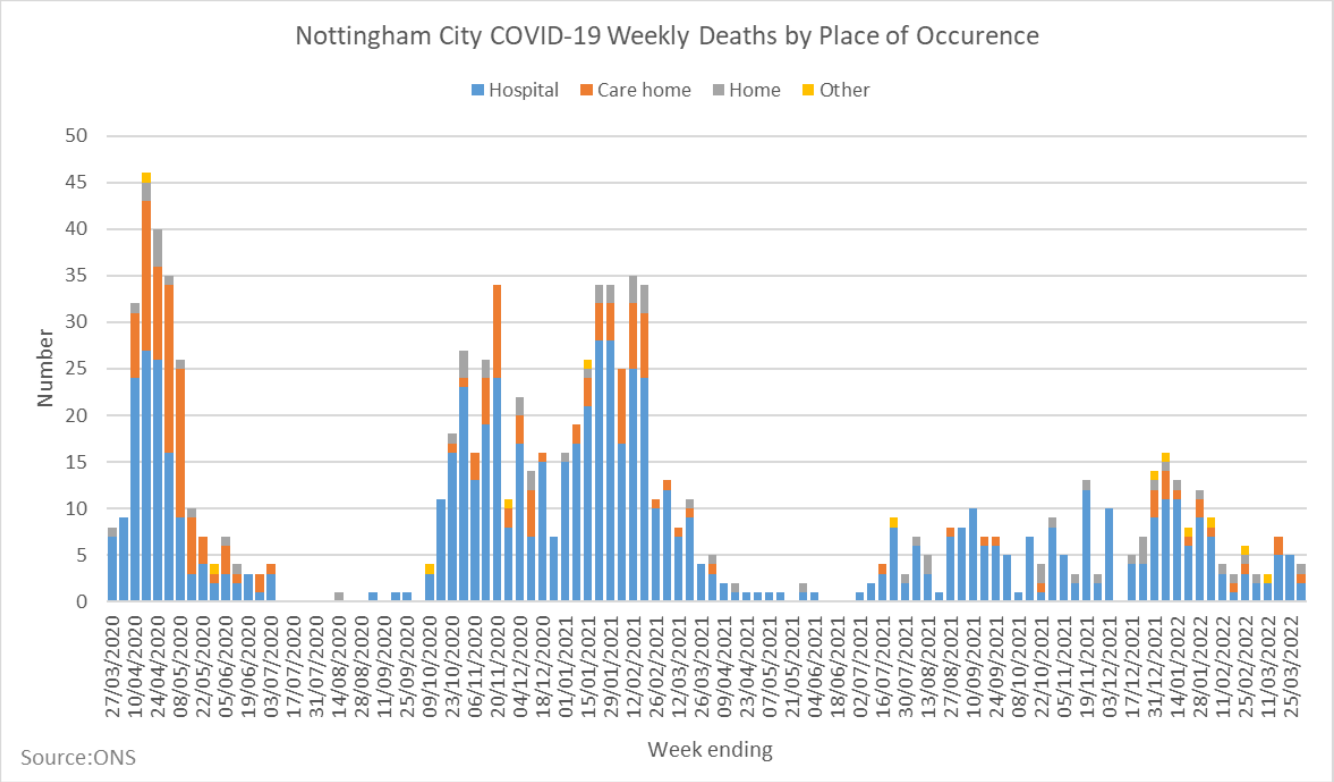


Figure 5: Weekly COVID-19 Deaths by Place of Occurrence, 28th February 2020 to 1st April 2022
Source: ONS

First Wave and Recovery

Between the 28th February 2020 and 31st August 2020, a total of 1,377 COVID-19 cases in Nottingham City were recorded. As illustrated in **Figure 6** below, a steady increase in case numbers was seen particularly due to a focus on Pillar 1, hospital testing and limited community testing. Case numbers peaked about mid to late April 2020 with the start-up of community testing. Thereafter there was a steady decrease in case numbers up to the 31st of August 2020. Case numbers were notably at their lowest between July and August 2020 and mainly community cases identified by Pillar 2 testing.

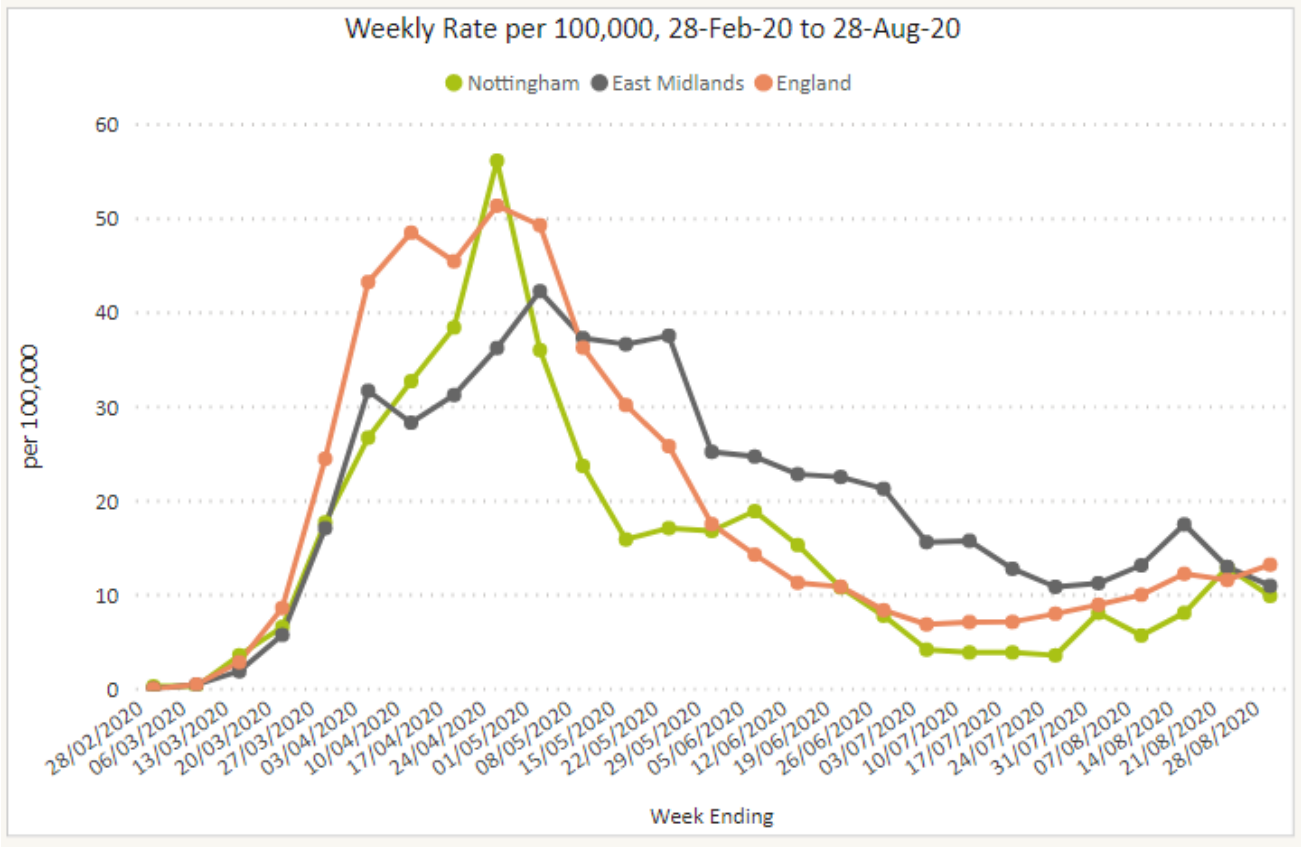


Figure 6: First Wave and Recovery: Weekly COVID-19 cases per 100,000 for Nottingham, East Midlands and England, 28th February 2020 to 28th August 2020

Demographic characteristics of cases in the 1st wave: Age and Gender

Most cases (12.3%) were in the most vulnerable age group, 85 years and over. This could be as a result of testing approach adopted at the time with limited access to community testing and outbreaks in several care homes. Overall, 55.5% were females, 34.9% aged 60 years and over and 50% aged between 25 and 59 years.

See **Appendix B1** for the age and gender distribution of COVID-19 cases in the 1st wave.

Demographic characteristics of cases in the 1st wave: Deprivation

Deprivation is defined using Indices of Multiple Deprivation (IMD). For the purpose of this report, quintiles of deprivation within Nottingham City have been assigned at lower super output area (LSOA) based on the LSOA of residence of cases.

42.8% (582/1,377) of cases in the 1st wave resided in LSOAs within the 3rd and 4th least deprived quintiles of the City and the lowest proportion (17.9%) of cases resided in the most deprived quintile of the city. See **Appendix B2** for a graphical representation.

This does not correlate with the national findings that in areas with higher levels of deprivation [51] there were higher levels of COVID-19, in fact it seems to suggest the opposite. There could be many reasons for this, including possibly lower levels of uptake of symptomatic testing within more deprived areas in the first wave, which would require further investigation and analysis to be fully understood.

Demographic characteristics of cases in the 1st wave: Ethnicity

Of 1,377 cases recorded in the 1st wave, 49.2% (678) were of White British ethnic background, 32.0% (440) from Black, Asian and minority ethnic groups (BAME) and 18.8 % (259) without a stated ethnicity (excluded from the analysis reported in this section). Compared to the ethnic makeup of Nottingham City, 'Asian', 'Black' and 'Other' ethnic groups were slightly over-represented whilst 'Mixed' ethnic group were underrepresented. See **Appendix B3** for more information and graphical representation of this data.

Second and Third Waves

Cases started to increase again in early September 2020, indicating the start of a second (2nd) wave in the City. As shown in **Figure 7** below, there was a rapid increase in numbers, with a peak in October 2020 and then a decrease in numbers thereafter. A third (3rd) wave albeit a much smaller wave started in early December and peaked in January, and gradually decreased up to the end of May 2021. A total of 30,329 cases were recorded during this period.

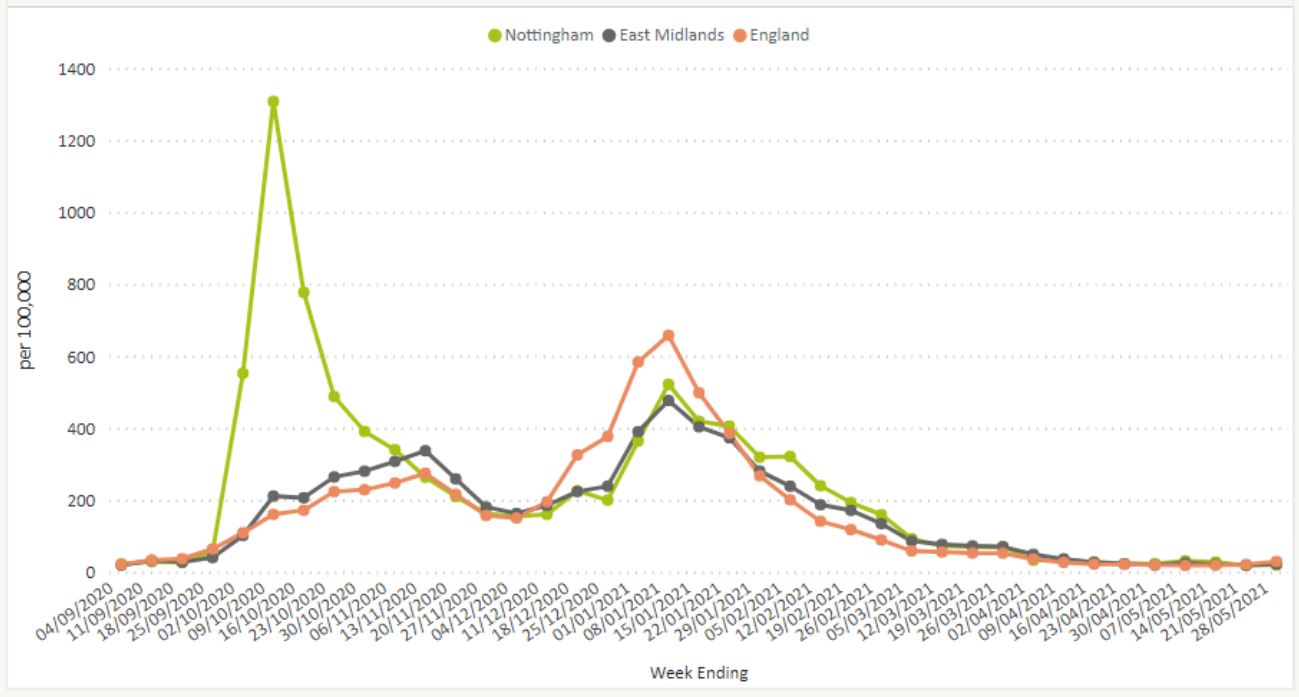


Figure 7: 2nd and 3rd Waves: COVID-19 cases per 100,000 for Nottingham, East Midlands and England, 4th September 2020 to 28th May 2021

Demographic characteristics of cases in the 2nd and 3rd wave: Age and Gender

The 2nd wave in the autumn of 2020 was driven by very high rates in the student population coinciding with the return to schools, colleges and universities. In October 2020 Nottingham City had the highest rate in the country. Compared to the 1st wave, there is a stark difference in the age–gender distribution of cases with most cases (37%) aged 15 to 24 years. More than half (53.7%) of all cases were females and 10.5 % (3,200/30,329) aged 60 years and above. See **Appendix C1** for more information.

The third wave demonstrates a more prolonged peak in rates and is more consistent with the national picture.

Demographic characteristics of cases in the 2nd and 3rd wave: Deprivation

Like the 1st wave, the lowest proportion (16%) of cases resided in most deprived quintile of the city and the highest proportion (23%) in the 4th quintile. This is not reflective of the national data, but perhaps the rates are similar in the five IMD quintiles as Nottingham overall has higher levels of deprivation. See **Appendix C2** for more information. Data is potentially skewed due to the prominence of young adults within this wave.

Demographic characteristics of cases in the 2nd and 3rd wave: Ethnicity

47.5% (14,401/30,329) were from White British ethnic background, 24.9% (7,551/30,329) BAME and 27.6% (8,377/30,329) without a stated ethnicity. See **Appendix C3** for more information.

Fourth and Fifth waves

A 4th wave started around the 29th of May 2021 when case numbers gradually rose, peaking in July 2021 at a level similar to the 3rd wave **(Figure 8)**. After an initial drop in cases, Nottingham's case rates fell more gradually eventually plateauing at a significant level. In early December, case numbers began to rise rapidly giving rise to a 5th wave with a peak in the 1st week in January 2022. The number of new cases quickly dropped in February 2022 before increasing again in March 2022.

The 5th wave was notably the highest wave since the start of the pandemic, being 3 times the 4th wave; 3.5 times the 3rd wave; and 1.5 times the 2nd wave.

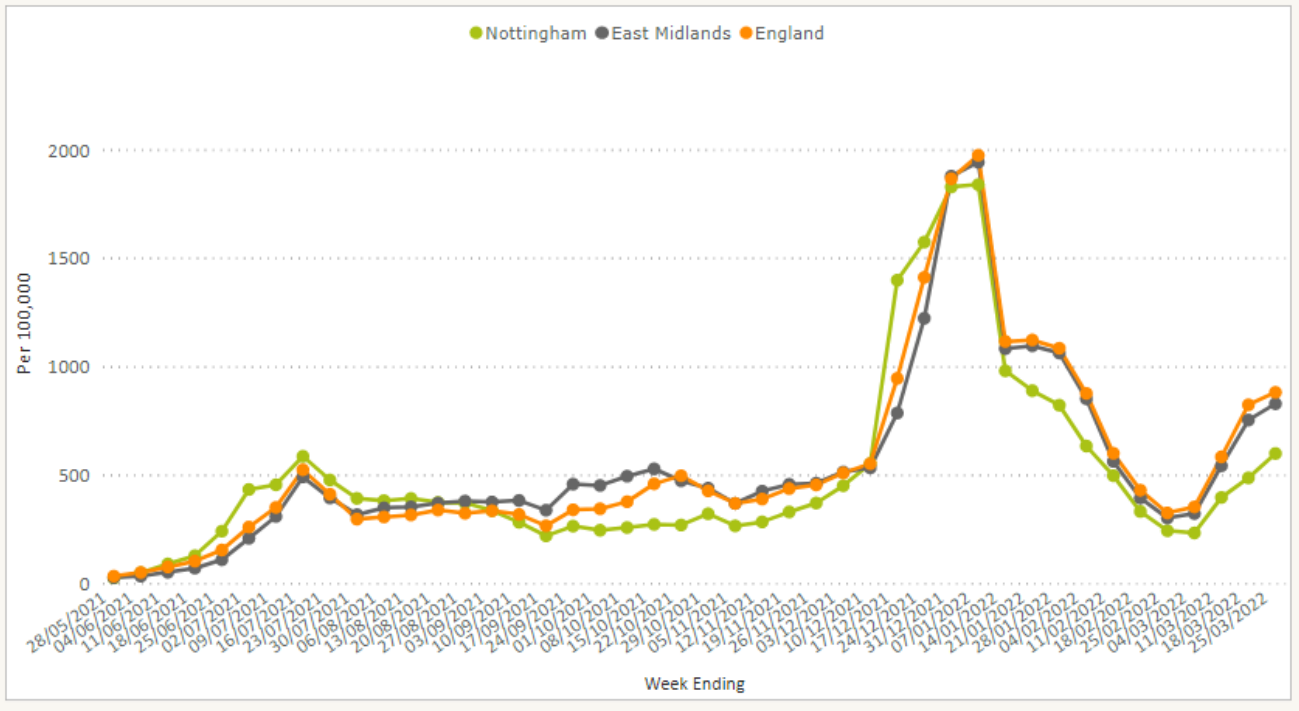


Figure 8: 4th and 5th Waves: COVID-19 cases per 100,000 for Nottingham, East Midlands and England, 28th May 2021 to 31st March 2022

Demographic characteristics of cases in the 4th and 5th wave: Age and Gender

The age-gender distribution for both 4th and 5th waves were to some extent similar with the highest proportion of cases seen in the 20-24 age group. More than half of the cases were in the working age groups 23-59 years in both 4th and 5th waves, accounting for 53.1% and 58.3% of cases, respectively. Similar to other waves, majority of cases in both 4th and 5th waves were females (52% in 4th wave and 54.5% in 5th wave). 60+ age groups accounted for less than 10% of cases in both waves. See **Appendix D1** for more details.

Demographic characteristics of cases in the 4th and 5th wave: Deprivation

In the 4th wave, highest proportion of cases resided in the least deprived quintile and in the 2nd quintile accounting for 21.0% and 20.3% respectively. Likewise, the 5th (least deprived), 4th and 3rd quintiles accounted for over 60% of the cases in the 5th wave with 20% or more of recorded cases residing in each of the quintiles. See **Appendix D2** for more information. Data is potentially skewed due to the prominence of young adults in both waves.

Demographic characteristics of cases in the 4th and 5th wave: Ethnicity

In the 4th and 5th waves, 49.3% (11.933 of 24,190) and 48.8% (24,809 of 50,746) were from White British ethnic background respectively, 24.7% (5,976 of 24,190) and 22.9% (11,638 of 50,746) BAME and 26.0% (6,281 of 24,190) and 28.2% (14,299 of 50,746) without a stated ethnicity. See **Appendix D3** for more information.

When analysing rates of COVID-19 against ethnicity for the start of the pandemic up to the 31st Mar 2022, COVID-19 rates in 'Other' ethnic recording category were significantly higher compared to rates in White, Black, Mixed and Asian ethnic groups. The rate ratio for COVID-19 was 4 times as high in 'Other' ethnic group as in the 'Mixed' ethnic group and approximately 1.5 times as high in Asian and Black ethnic groups as in the 'Mixed' ethnic group. For graphical representation of this see **Appendix E1.**

Education

Early Years

What has been the impact of COVID-19?

In March 2020, little was known about the long-term impact of the pandemic and its associated public health measures. Over time, we are beginning to understand which groups have been the most significantly impacted. Children aged 0 to 5 years old from financially vulnerable families are among those who will live with the greatest long-term impacts. From birth to age 5, the brain makes around 80% of the connections that it will make during a person's lifetime. The increased poverty, isolation, missed early childhood education and poor maternal mental health, are all factors that will have had a lasting negative impact on this cohort of young children.

The social and emotional development of these children, as well as their spoken language and communication skills, are likely to have been severely impaired when compared to expected levels of development in these areas pre-pandemic. Service disruptions in some cases have meant child development may not have been monitored or supported.[14]

The process of digitalisation has accelerated throughout much of society. While this has undoubtedly presented some benefits, these have not been universal. For pregnant women and mothers of new-born babies, virtual midwife, health visitor and GP appointments have contributed to a sense of isolation already being experienced. Families may have found it more difficult to access resources, services and support to enable early childhood development, and may have been at greater risk of loneliness.[15] New parent groups and toddler groups which normally operate on a face to face basis were paused, removing valuable sources of support for new families.

The disruption to early childhood education and care (ECEC) and increased social isolation have had significant impacts on the school readiness of children across the country. Research from the Education Endowment Foundation with parents and teachers found that there were significant concerns from both parties about the spoken language and communication (SLC) skills of pre-school children prior to the start of the academic year in September 2020. The same research found that teachers needed to implement additional support for children once the children actually started their schooling that September. Children who started school in September 2021, who have been impacted by 18 months of restrictions will likely be even further behind.[63]

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Prior to the first and for subsequent lockdowns, provisions were made for childcare places to remain open to support the needs of critical workers, vulnerable pupils and those children with an Education, Health and Care Plan (EHCP).

There was a focus on safety and all childcare providers completed health and safety and risk assessments. The 'Bubble' model was introduced to reduce risk of transmission and mitigate against effects of close contact and isolation. Systems were established to ensure direct reporting into the LA (Local Authority) of new infections to manage outbreaks.

School years

What has been the impact of COVID-19?

The full impact of school closures and disruption to education is unlikely to be apparent for years to come. School is much more than education and there are some concerns about what effect the disruption will have in the wider sense on children's health and wellbeing.

For some, the loss of routine in lockdown may have caused or exacerbated loneliness and developmental regression. It has been reported that there have been social, emotional and behavioural challenges in moving between home and formal learning settings. The lack of access to regular physical activity may have negatively impacted important aspects of health, such as obesity and mental health. It is not only children that have been impacted by school closures. The suspension of enhanced support to parents may have increased stress and anxiety for both parents and children.

There is evidence to suggest that school closures may have a differential impact on families in deprived communities or on a low income.[15] In some cases there has been unequal developmental or education provision and access to teaching or training.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

During the first lockdown, guidance was issued to schools concerning minimum staffing and attendance monitoring protocols. A specific COVID-19 telephone hotline and email inbox was also established for schools. Overall, 95% of city schools remained open.

Nottingham City Council (NCC) worked in collaboration with the Nottingham Schools Trust (NST) to respond to the government position on re-introducing specified year groups back into school from June 1st 2020. Following significant discussion with Teachers Unions (TU), Nottingham LA delayed the return to school by 3 weeks, due to high rates of infection at that time compared to national figures.

During the 2020 school summer holiday, a city wide COVID-19 safe holiday activity programme was created which ran for five weeks Monday-Friday. A project team was set up to facilitate a programme incorporating sport, arts and crafts, as well as mental health and wellbeing support for children.

Other innovative projects to date include the publication of the Pupil views on their education in the context of the COVID-19 pandemic. NCC Education Psychology Service worked with Southend Council Education Psychology Service, to survey the experience of 1000 pupils between March and May 2020. The key findings were that many were concerned about the "potential impact on learning" from being at home; a need to "catch up", have "extra lessons" and feared that they might "fail exams". This has provided an important insight into how the pandemic has affected pupils and hopefully will be used to inform policy and to guide the next steps in supporting education, learning and emotional wellbeing.

Prior to re-opening in September 2020 all Nottingham schools were supported with health and safety advice and risk assessment support. Systems were established to ensure direct reporting of infections and pupils in self-isolation to the LA. Public Health led outbreak management arrangements were deployed following the first reported outbreak in Nottingham primary schools during first week of autumn term. Subsequent outbreaks led to re-introduction of hybrid learning (in class/ online) due to the high number of pupils self-isolating with symptoms or as close contacts within a class 'bubble.'

During the January 2021 lockdown, attendance amongst all groups of eligible pupils was generally higher than during the first lockdown. This in itself did create additional demands upon school staff as hybrid learning was more challenging to deliver with larger cohorts of "in school pupils" requiring supervision and teaching.

From March 2021, with the lifting of restrictions all Nottingham schools were re-opened. The measures to support bubble-based arrangements were reactivated and supported by pre-return lateral flow testing in secondary and special schools.

On initial return to school attendance was reported at around 90% (compared to pre-pandemic levels of 95%). However, there were some reports of hesitation due to anxiety, from those living in multi-generational households. There have also been concerns around the rise in pupils becoming electively home educated. During the course of the year, this rose to over 400 pupils, compared with a pre-pandemic average of around 250.

Access to learning resources

What has been the impact of COVID-19?

Recurrent lockdowns and learning from home have meant differential access to digital platforms and suitable home environments to receive remote learning. The ability of younger people from poorer backgrounds to access computers and the internet at home, may have hampered their ability to complete schoolwork and maintain peer relationships during remote learning, when compared to their more affluent counterparts. In larger families, where resources are often shared, this disadvantage may have been compounded.[15]

For some disabled children access to learning is supported through adaptations in school, e.g. differentiated IT and learning resources or adapted material for children with dyslexia, and these may not have been available at home.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

An audit was completed to identify pupils who required access to IT equipment and internet access. For those in need, there was a distribution of digital devices through government schemes and other sources e.g. universities and business donations. Around 2,000 laptops were delivered through the government scheme and use of Pupil Premium Plus funding. Mobile internet access was also provided through a local agreement with Vodafone (1,500 unlimited access dongles supplied) before the national scheme was established.

SEND (special educational needs and disabilities) learning support teams within local authorities worked directly with special schools and parents of SEND pupils in mainstream schools, to ensure pupils had access to either suitable digital access or non-digital learning resources and physical activities, if not attending in person.

Higher Education

What has been the impact of COVID-19?

Many students had concerns around the impact of moving to online teaching during the pandemic, and how this may affect their educational outcomes, as well as social and developmental experiences. The convenience and accessibility of online teaching and engagement was recognised, however some students reported feeling less engaged or motivated to complete their academic work during periods of isolation.[58-60]

The issues related to social and self-isolation impacted on students in a number of ways. Social isolation meant that students were unable to mix and make new friends, and generally be involved in university life - this particularly impacted on first year and international students, many of whom may have been in the UK for the first time. The mental and physical wellbeing of students was also a concern, many of whom spent long periods of time isolating and disconnected from human contact. Those living in shared accommodation reported worries about potentially testing positive and being the cause of others then having to isolate or miss out on seeing family and friends e.g. during Christmas holidays.[58-61] As teaching had moved largely online, opportunities for identification of issues (academic or pastoral) were reduced, increasing the risk around poor wellbeing for this cohort. Due to the impacts on both social and academic development, some university staff observed different levels of independence, confidence and autonomy on students' arrival at university.

Practical issues impacted on deliveries of shopping or medication, and some students suffered financial instability arising from issues such as the loss of part-time jobs, as well as concerns about reduction in family income that may have been used to support them through study.

Impacts for higher education were not limited to students - staff also reported being impacted in terms of higher workloads and resulting stress, combined with anxiety about catching the virus.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19

On a practical basis, universities implemented measures such as delivery of food parcels and setting up testing and vaccination centres on or near campuses alongside NHS partners to make it easier for students to get tested and isolate where required, and then to receive vaccinations in due course.

Teaching was moved largely online, some lectures were recorded, enabling students to watch them at convenient times. Many student support services were also offered online, offering options such as virtual appointments and live chat, as well as dedicated COVID-19 information pathways to provide information and reassurance to students, parents and members of staff.

Social and extra-curricular activities were set up across a variety of areas to fill time for those isolating including additional events over the winter break and perks such as goodie bags. In some instances of subscribed activities i.e. gym membership, refunds were organised.

Vulnerable Children and Young People

What has been the impact of COVID-19?

Prior to the pandemic children were visible at school and for many it was a safe space which allowed better surveillance of potential safeguarding issues.

Children in need may have had limited and reduced visibility of, and access to health professionals (e.g. health visitors, school nurses, social workers) during the pandemic.[15] It has been postulated that an

increased number of families were at risk of increased safeguarding issues, due to financial pressure/stress of being at home.[15]

The disruption of education has the potential to widen the inequality of outcomes based upon deprivation, ethnicity, SEND and other vulnerabilities.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Prior to lockdown, support was provided for schools to support key worker children, vulnerable pupils and EHCP (Education Health and Care Plans) learners. There was critical planning to ensure that there was sufficient safeguarding oversight by schools and childcare providers of those children and young people. The aim was to ensure that vulnerable children were visible, in a safe place and that where possible, families were supported to access school and nursery for vulnerable children in line with Department of Education (DFE) guidance.

These groups of children are often vulnerable learners and the approach aimed to provide a connection to purposeful learning and engagement with schools, to narrow the potential gap in good educational outcomes. There was development of social work home visiting guidance and risk assessments, devised to allow services to continue to run.

During the first lockdown (March - June 2020) additional work was undertaken to identify any of the 0-5 year old vulnerable children cohort who were not accessing childcare. Measures were in place to ensure that places were available, should normal provision have been closed by the provider.

Within Nottingham City, 15-18% of vulnerable children attended school in the first two weeks of lockdown. Collaborative work between social workers and schools meant this increased to 24-26% in May 2020, which was above national average rates.

What was the situation prior to COVID-19?

Air quality is an indicator of ambient air pollution. Air pollution is created by a mixture of gases (e.g. SO_2, NO_2, NO, CO_2) and particles (e.g. PM_{10}, $PM_{2.5}$) that have been emitted into the atmosphere by natural processes, as well as those produced by human activity.

The administrative area of Nottingham City is subject to Smoke Control Orders, which prohibit or limit the emission of sulphur dioxide and smoke/particles from chimneys, and an Air Quality Management Area for nitrogen dioxide. Nottingham has implemented a range of general and specific measures to reduce emission of NO and NO_2.

Air quality monitoring data from 2015-2020 is presented in **Figure 9.**

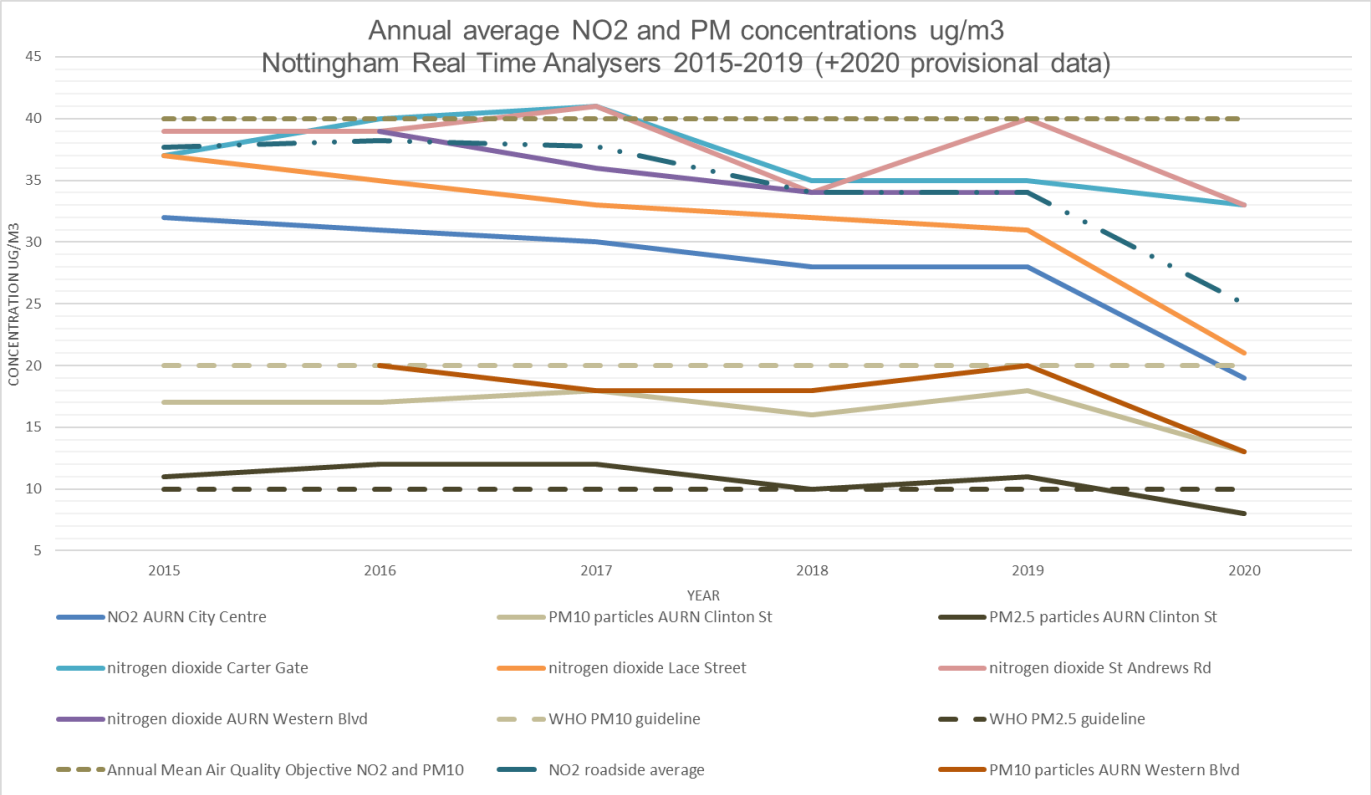


Figure 9 : Trend analysis of data for 2015-20 indicating a gradual reduction in NO2 and particles
Source: (https://www.nottinghaminsight.org.uk/d/aaxcfkbI)

What has been the impact of COVID-19?

NCC was able to maintain its air quality monitoring programme, collecting and publishing the provisional air quality data throughout 2020. The provisional monitoring data indicates a large reduction in measured concentrations (**Figure 9**).

Studies into the impacts of COVID-19 on air pollution (using provisional air pollution data) have been published concluding that the measured reduction in ambient pollutant concentrations in the UK were most probably due to measures taken by government(s) to reduce the transmission of COVID-19 e.g. extended periods of 'lockdown' and limited travel, which reduced road transport emissions of NO_2 and particles, and NO_2 emissions from the leisure/hospitality sectors (cooking/heating/hot water).

Further work is being undertaken at a national level to ascertain the overall impact COVID-19 has had, and will have, on air quality due to the significant changes to work behavior (home/hybrid working), commuting behaviour (particularly future use of public transport) and a sustainable economic recovery.[61, 62]

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Whilst there was a noticeable and measurable improvement in air quality during the first lockdown, it has been reported that COVID-19 symptoms can be worsened by air pollution. Community Protection and Environmental Health Officers prioritised the investigation of complaints about air pollution (bonfires, smoke and dusts emissions) in order to minimise possible increased risks to health for those in the vicinity of the usually unnecessary emissions.

Current provisional air quality monitoring shows a slow increase in air pollution, comparable to pre-COVID-19 levels, and the need therefore to deal with unnecessary emissions as quickly as practicable, whilst also dealing with the range of competing COVID-19 compliance and other priorities faced by Community Protection and the Council as a whole.

Employment and Financial Wellbeing in Nottingham

What was the situation prior to COVID-19?

Financial vulnerability refers to an individual, family or household's exposure to financial difficulty and an inability to withstand financial 'shocks' (i.e. unplanned expenditure or loss of income) without significant adverse impact on fundamental areas of their lives (e.g. physical / mental health, housing, family life etc).

There are a number of established indicators that point to a high proportion of Nottingham's citizens being vulnerable to financial difficulty in comparison with populations in other areas of England. For example, based on Index of Multiple Deprivation (IMD, 2019) score, Nottingham is the 11th most deprived area out of all 317 districts in England (English Indices of Deprivation 2019). Nottingham is also the 6th highest out of all 317 districts in England for the proportion of children growing up in income deprived households, based on Income Deprivation Affecting Children Index (IDACI) score (English Indices of Deprivation 2019).

Nottingham's underlying economy is strong, but a relatively high proportion of the workforce (particularly in more stable and better paying jobs) are comprised of people who live outside of the city.

What has been the impact of COVID-19?

The COVID-19 pandemic has created changes to employment with many employees becoming home-based. Some occupations have been unable to operate and workers have faced either redundancy or furlough with a consequent decrease in financial wellbeing. Others who are part of the "gig economy "and on zero hours contracts will also have been negatively affected. The flexibility of these working practices means they provide less financial and job security compared with permanent roles.

The impact of the pandemic on financially vulnerable citizens is still uncertain. However, it is reasonable to expect a significant adverse effect on financial circumstances of people living in the city (e.g. reduced incomes, increased debts) with the greatest impact on those already in low paid and insecure employment.

The number of people claiming unemployment benefits in Nottingham City rose rapidly from 10,900 people (4.7% of the working age population) in February 2020 to 18,840 (8.1%) in June 2020. Unemployment increased at a faster rate nationally (105.6% in England compared to 72.8% locally) but Nottingham's unemployment rate remained higher than the national average.

The Coronavirus Job Retention Scheme (CJRS) has complicated the interpretation of the unemployment figures. At March 2021, 16,400 Nottingham City residents were furloughed from work and supported by the CJRS. However, the furlough numbers cannot be added to the unemployment figures as it is possible for someone to be included in both groups as furloughed staff may also have been able to apply for universal credit if their furlough wages were insufficient to live on (i.e. to support housing costs). Equally, some people on furlough will still be earning enough to be ineligible for unemployment related benefits and will not be included in the unemployment benefits figures.

More detailed reports on unemployment and furlough figures are available.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Certain protections were put in place (including the furlough scheme, the evictions ban and stays on debt action) which have helped prevent surges in financial difficulty in the short-term.

In particular, advice services, including the Council's Welfare Rights Service, which help people to avoid/resolve acute financial difficulty, had its own funding reduced pre-pandemic due to wider funding challenges faced by the NCC. To mitigate against this, there was a £30,000 one off increase in funding for commissioned advice services in 2020/21.

Additional funds were awarded through Department for Environment, Food and Rural Affairs (DEFRA) to help people facing hardship during the pandemic which will have had most impact in 2021/22.

Housing Services

What was the situation prior to COVID-19?

The teams were office-based undertaking inspections and responding to complaints from tenants living in the private rented sector (PRS), processing and determining licences and providing support to tenants and landlords.

What has been the impact of COVID-19?

Due to the enforcement of Government restrictions the majority of work was conducted virtually including inspections. Only the most serious and significant property complaints affecting tenant health and safety were inspected in person.

Initially there was a drop in complaints about poor property conditions, but these have since increased, probably driven by people spending more time in their home.

With the changes to eviction processes there has been an increase in calls about tenancy rights and more support given to landlords and tenants trying to navigate new processes. It is likely that some landlords have undertaken illegal evictions during the pandemic and unfortunately some vulnerable tenants may have not had access to the right level of support and have been made homeless.

It is predicted that with evictions allowed again (See Housing Advice for COVID-19 from the charity Shelter), there is likely to be a significant increase in tenants seeking new homes.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Due to the increased risk of COVID-19 infection, there has been action to support houses in multiple occupation in collaboration with advice from local authorities and Public Health teams.

Throughout the pandemic, advice and support has been disseminated to landlords and agents through the team's landlord newsletter re-enforcing the Government guidance and changes to legislation.

Diet and Nutrition

Children

What was the situation prior to COVID-19?

The World Health Organisation states that "nutrition is a critical part of health and development."[16]

Pre-pandemic there were local concerns about the number of children eligible for Free School Meals who were not fed nutrient rich meals during the school holiday periods and the high rates of childhood obesity within Nottingham City. More in depth information of the situation prior to the COVID-19 pandemic can be found in the Joint Strategic Needs Assessment (JSNA) chapter: Diet and Nutrition.

During 2019-20, NCC ran workshops supported by Small Steps Big Changes (SSBC) to support children to '*eat and move for good health'* and explored parent's views on breastfeeding and healthy weight in children. The full report can be seen here: Parent Voice Report 2020 | SSBC (smallstepsbigchanges.org.uk).

What has been the impact of COVID-19?

Research on children's nutrition during the pandemic is mainly based on international studies, with most studies showing significant changes to diet quality and eating habits.[17]

From limited UK evidence, a study which surveyed 14-19 year olds found that 60% of young people felt that eating as a family and cooking together had had a positive impact; 4 out of 10 said they had snacked more in lockdown, with those from less advantaged families more likely to eat junk food and take-away and less likely to eat fruit.[18]

According to The Nottingham Forest Community Trust, the lack of provision of regular healthy school meals and access to quality physical activity has further reduced the opportunity for children to enjoy a balanced and nutritious diet.

SSBC and Nottingham CityCare noted that the Children's Public Health 0-19 Nursing Service had a reduced ability to deliver the Healthy Child Programme and so had limited opportunities to give dietary advice and monitor children's weight. Similarly, reduced contact and a pause of children's centre groups limited the support, information and advice available to families.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Where possible, support was provided virtually. Nottingham CityCare set up virtual First Foods groups for parents keen to attend for weaning advice. Innovative work with the Bulwell Family Mentor service has allowed for virtual practical follow-on sessions with parents.

The Nottingham Forest Community Trust utilised virtual learning sessions and a wide range of activities to keep children and young people engaged and active.

SSBC committed to continuing to support families with the cost of healthy food through the Healthy Start scheme. The SSBC Healthy Start project, which started in April 2020, has aimed to raise awareness of the scheme amongst eligible families, via social media channels and printed flyers. In addition, it has provided workforce training to enable staff to confidently discuss the scheme and signpost appropriately. In March 2020, 4,498 families were eligible for healthy start food vouchers and 2,933 were accessing them. Between April and May 2020, this had risen to 4,970 families being eligible and 3,419 accessing the vouchers.

Diet and Nutrition

Adults

What was the situation prior to COVID-19?

Prior to the pandemic, there were specific unmet needs and service gaps such as an increasing prevalence in obesity and diabetes in the local population. More in depth information of the situation before the COVID-19 pandemic, can be found in the Joint Strategic Needs Assessment (JSNA) chapter: Diet and Nutrition.

What has been the impact of Covid-19?

There appears to have been a mixed picture regarding the dietary behaviour of UK adults during the COVID-19 pandemic.[19-24]

Many people reported cooking homemade meals more often, eating more fruit and vegetables and consuming less fast food.[19,21,25] Others reported increased snacking, greater consumption of foods high in salt, sugar and saturated fats, overeating and consuming less fruit and vegetables.[19,22-23,25]

Self-reported reasons for changes in adult eating behaviour included loneliness,[26] eating to control mood[27] and difficulties controlling food intake.[21,28] These changes were more likely to be reported by those with mental health issues,[29,23] lower levels of educational attainment[26] and lower socioeconomic status.[29] Younger people, females and those with a higher BMI, reported a poorer quality diet.[19.29]

There was a national shift towards increased reliance on takeaway foods during periods of the pandemic. For example, from January to April 2021, there was a near-doubling in orders from "Just Eat Takeaway.com".[30] This trend was found internationally across Europe with 200 million orders being placed; a rise of 79% compared with the same period in 2020.[30] Some of this increase in the ordering of take away meals is likely to have resulted from a decrease in people eating out and in some areas may have led to a rise in the number of fast food outlets.

Evidence published by Public Health England (PHE) during the early stages of the pandemic, despite its limitations, suggests excess weight is associated with an increased risk of the following for COVID-19: a positive test, hospitalisation, advanced levels of treatment (including mechanical ventilation or admission to intensive or critical care) and death.[31] For more in depth information, please refer to: Excess Weight and COVID-19 Insights from new evidence.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

According to Public Health England (PHE), face-to-face Weight Management Services (WMS) were suspended as a result of the COVID-19 pandemic and the impact of remote provision on client engagement and uptake appeared variable in England.[32] Some services rapidly adapted to continue providing support through remote delivery, offered via a variety of different approaches including activity packs, telephone, social media and online support.[32]

Slimming World, for example, enabled 4,500 self-employed Consultants to run temporary virtual groups for their members. Over 400,000 members joined 'virtually' within the first few weeks of lockdown and this level was sustained across the lockdown periods. Slimming World also maintained contact with those members not wishing to engage in the digital online service in a variety of ways including calls, texts and post from their consultants, as well as closed member Facebook groups.

The Healthier You NHS Diabetes Prevention Programme (NHS DPP) is a free 9month behaviour change programme which supports individuals at increased risk of developing type 2 diabetes. NHS DPP adapted its referral criteria in order to reduce the impact of the various lockdowns. For example, the requirement for a confirmatory blood test indicating Non-Diabetic Hyperglycaemia to be within 12 months was increased to

24 months, until March 2022. In addition, instead of referring solely through the GP, eligible participants were encouraged to self-refer online, via the Diabetes UK Know Your Risk Tool.

Food Poverty

What was the situation prior to COVID-19?

Before the pandemic there was a strong network of established food banks and social eating projects within Nottingham City. This was complemented by many local organisations, including charities, faith and church groups, local community centres and some businesses who provided food to those in need.

What has been the impact of COVID-19?

In early 2020, a response team called the Mobilising Civic Society working group (MSC) was established within Nottingham City. This included key officers from across the council, to focus on supporting residents through the pandemic.

In order to understand the acute need of Nottingham City Residents, a questionnaire was distributed to the largest food banks in April 2020. The main findings were: an increase in demand; problems sourcing specific food items and a reduction in donations from the general public. Interestingly, several food banks noted a change in demographic of those presenting, from predominantly single males to families.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

The MSC group considered how it could work to support vulnerable residents within the city, including those identified as shielding. Multiple work streams were identified for the group to focus on, including:

- Key council support information for residents, including a 'Golden Number' and relevant contact centre support, including signposting for support such as where to access food banks and social eating projects.
- Emergency Food Parcels for those who were eligible were arranged through the council's in-house catering service in liaison with leisure services for storage and packing arrangements and fleet & transport for delivery. Between the dates of 31st March and 29th July 2020, 2,179 food boxes were delivered locally incorporating all dietary requirements, including Vegetarian, Vegan and Halal meals.

Early discussion with "FareShare" enabled a citywide programme of support for all food banks and social eating projects to help cope with increased demand during the pandemic. The "Robin Hood Fund" provided financial support for food banks and social eating projects across Nottingham, and additional funding was provided by Nottingham City Council to support delivery and distribution.

Nottingham City Council used various grants to support a number of programmes including;

- to provide Free School Meal pupil vouchers to help during school holidays,
- for FareShare support, for additional Welfare Support and Advice,
- to provide energy vouchers, supermarket vouchers for food and essential supplies as well as
- support to specific projects to help vulnerable groups in the city.

Working closely with "Hope Nottingham" and "Nottingham Forest in the Community," food and supplies were centrally purchased and then distributed to a number of different food banks, including: NG11 Clifton Foodbank, Meadows Foodbank, Grace Church, HOPE Nottingham, Bestwood & Bulwell Foodbank, Himmah / Muslim Hands, Arnold Foodbank and St. Ann's Advice Centre.

The situation prior to Covid-19?

Levels of physical activity in Nottingham are measured through Sport England's Active Lives Adult Survey

. Before the coronavirus pandemic, physical activity levels were increasing in the city. Further examination of the data, however, shows that there are stubborn inequalities in physical activity in specific groups such as: disabled people and those with long term conditions; people from lower socio-economic groups; older people; women and people from Black, Asian and Minority Ethnic groups.

What has been the impact of Covid-19?

Positively, during the pandemic there has been increased recognition of the value of physical activity and how it benefits an individual's physical health, mental health and wellbeing. For example, during the first lockdown, many people took the opportunity to be active outside, predominantly through walking and cycling.

The Active Lives Adult Report from November 2020 to November 2021, showed a rise in levels of physical activity in Nottingham (from 58.3% to 60.7%), compared with the previous 12 month period. In contrast, over the same period, levels of inactivity showed a slight decline from 28.1% to 27.7%. When the latest data is compared with the pre-pandemic figures from 2018-19, levels of physical activity fell by 2.2 percentage points (from 62.9% to 60.7%), whilst levels of inactivity in Nottingham adults rose by 3.4 percentage points (from 24.3% to 27.7%) (see **Figure 10** below). These patterns of activity within Nottingham adults (aged 16+) may reflect ongoing effects arising from the closure of sports facilities, schools, and the community and voluntary sector led clubs during lockdown restrictions.

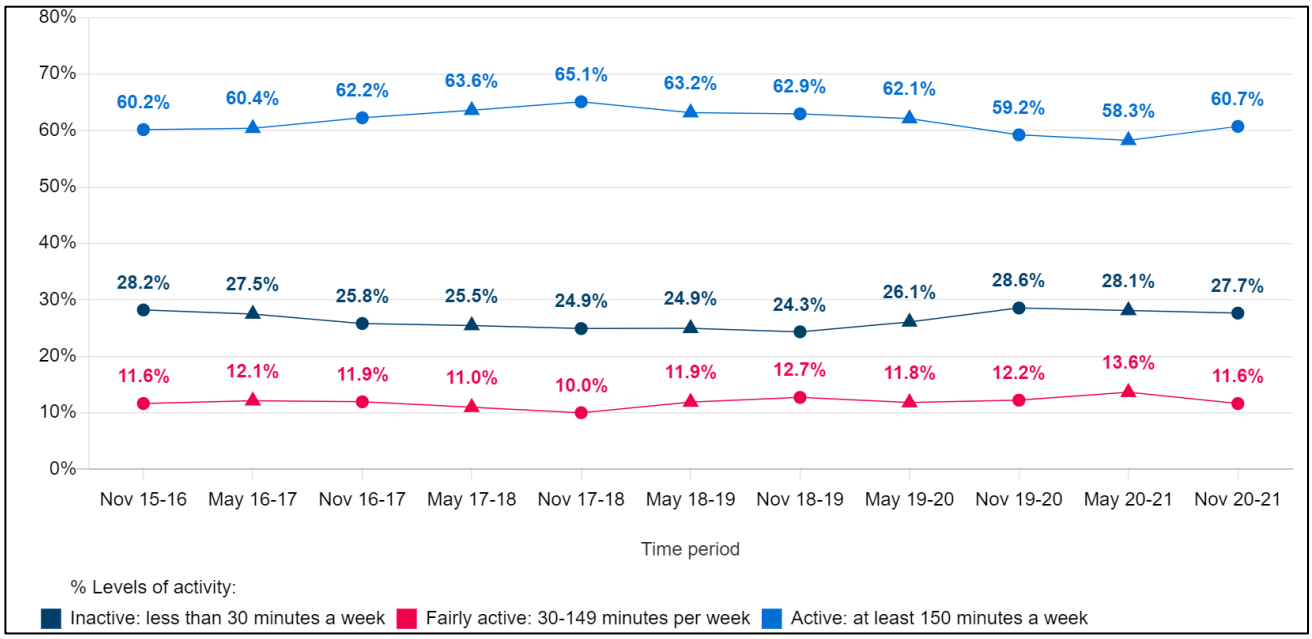


Figure 10: Trends in activity and inactivity for Nottingham City, 2015-16 to 2020-21

Source: Sport England (2022). Active Live Adult Survey. Available at: https://activelives.sportengland.org/Result?queryId=74267

There is also emerging evidence that the pandemic has exacerbated pre-existing inequalities in physical activity. The available activity data for Nottingham City (November 2020-21) shows physical activity levels increasing across IMD 2019 deciles from most to least deprived, and the opposite pattern for physical

inactivity levels in the city (with levels decreasing from most to least deprived deciles). New groups have also been identified as being disproportionately affected such as: people living alone; people without children in the household; those shielding and people without access to private outdoor space.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Sport England has supported the sport and physical activity sector through a series of funding streams. Locally, Active Notts helped organisations to access this funding.

Around 70,000 "Active@Home" resources were distributed through the local vaccination sites, targeting older adults and those who were shielding. Nottingham City Homes supported their tenants to move more using the Active@Home resource.

Linking into Sport England's campaigning work around keeping the nation moving, Active Notts distributed an "Autumn and Winter Activity Campaign" toolkit to partners, to use with their workforce, clients and customers. The "Bike Aid Scheme" delivered by "Ridewise" provided bikes for health care providers and low-income workers during the pandemic. The Renewal Trust worked with partners to deliver "Feel Good Packs" to families across St Ann's providing resources and encouragement to help them get active.

Drug and Alcohol Services

What was the situation prior to COVID-19?

The adult substance misuse service ran two key pathways through the Wellbeing Hub, the Community Service – Nottingham Recovery Network (NRN) and the Criminal Justice Service (Cleanslate). Ancillary services were also in operation including Hospital Alcohol and drug Liaison Team (HALT)) operating out of Nottingham University Hospitals (NUH) , the specialist needle exchange service and shared care surgeries.

Pre-pandemic, service users would be referred or self-refer, attend a triage assessment and commence treatment within 24 hours. The specific treatment would be dependent on the substance(s) of choice and would include medical, pharmacological and psychosocial support, alongside sign posting and referrals to other support agencies (housing, mental health etc.).

What has been the impact of COVID-19?

The Government restrictions led to an emphasis on remote working with the team contacting the majority of service users by phone or through social media apps. Despite this, service users were retained in treatment, with access to pharmacological interventions alongside psychosocial treatment.

There have been some positive impacts from the pandemic, such as a more diverse service user group and a greater proportion of opiate users and alcohol users engaging and staying in treatment.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

The Wellbeing Hub operated a service operation protocol which was refreshed weekly to ensure the safety of staff and service users. The staff operated virtually as well as in person via a 'bubble' system ensuring continuity of care was delivered to mitigate the effects of staff testing positive or needing to self-isolate.

Certain high risk groups were prioritised and continued to have face to face contact, such as victims of domestic violence, pregnant women, those with safeguarding concerns identified or those manifesting self-harm or suicidal ideation.

Gambling

The situation prior to Covid-19?

In the UK, there has been a clear shift from gambling in land-based establishments (betting shops, bingo halls) to online gambling.

There are approximately 1,350 problematic gamblers in Nottingham and around 9,450 people (adults and children/young people) affected by their gambling. Nottingham's problematic gambling figures puts it alongside the highest rates for the country, rated in the 5th Quintile (Problematic Gambling Severity Index – PGSI). The reported demand in relation to the take up of treatment support does not reflect the stated levels of need. Therefore, prior to the pandemic people were not accessing, or could not access, appropriate treatment interventions.

What has been the impact of Covid-19?

The cancellation of real-life sporting events and the closure of physical premises in line with lockdown restrictions has increased traffic towards remote gambling apps.

The COVID-19 pandemic has resulted in behavioural changes in terms of people's reasons for gambling. These include consumers using gambling or betting as an escape mechanism, or an activity to mitigate boredom due to the social isolation and lack of mobility in lockdown restrictions.

Consequently, there has been an increase in consumers gambling online.[54] In turn, this could heighten the 'silent', 'hidden', or 'invisible' nature of gambling disorder.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

In December 2020, a review of the Gambling Act was launched to ensure that the regulation is fit for the digital age and that more emphasis is placed on the online gambling sphere. Key themes included: National Lottery minimum age raised to 18 to protect young and online stake limits, gambling advertising and age limits to be considered.

GamCare is the leading provider of information, advice and support for anyone affected by gambling harms.[33] Supportive organisations, such as GamCare, continued to offer online services, video consultations, telephone and text chat support. Gamblers Anonymous, has traditionally delivered a face-to-face model, but during the pandemic also moved this online, before moving back to a physical model with the easing of restrictions.

Smoking

What was the situation prior to COVID-19?

Based on data from the Office for Health Improvement and Disparities (OHID), the prevalence of smoking in Nottingham among adults (aged 18+) is significantly higher than the national average (20.9% compared to 13.9 % in England for 2019). This pattern is reflected in significantly higher rates of smoking attributable hospital admissions and smoking attributable mortality (see Local Tobacco Control Profiles).

The number of women in Nottingham who smoke while pregnant is significantly higher than the England average (13.9% compared to 9.6% in 2020/21). Risk factors for smoking in pregnancy are: younger mothers, living in a deprived area, lower educational level, working in routine and manual occupations, living in rented accommodation, women of white and mixed ethnicity, being single and having a partner who smokes. Evidence shows that few pregnant women take up the offer of smoking cessation support, and a significant number do not attend appointments, resulting in poorer outcomes for mother and baby. An action plan to reduce the number of women smoking in pregnancy is underway via the Local Maternity Neonatal System (LMNS), focusing on the uptake of stop smoking services.

What has been the impact of COVID-19?

The COVID-19 pandemic has raised awareness of the links between not smoking and quicker recovery from COVID-19 infection, which affects the lungs.

Stop smoking services adapted to restrictions by providing telephone appointments and prescriptions for stop smoking medication being sent to service users' nearest pharmacy or through postal deliveries. This shift away from face-to-face appointments has seen increased access to services generally, with fewer people not turning up for appointments.

Whilst stop smoking services have been affected during the pandemic, all pregnant smokers continued to be given evidence-based support. Midwives and health visitors engaged women with virtual appointments, leading to an increase in the number of women taking up the offer and a reduction in the number not attending appointments. Carbon Monoxide (CO) monitoring, a helpful tool to identify those who might benefit from stop smoking advice and support, had to be paused along with face-to-face appointments. This suspension of monitoring may have lowered the number of smokers identified and hindered verification of attempts to quit.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

The Nottingham City Smoking Stakeholder group has continued to meet monthly throughout the pandemic, to support stop smoking service providers and share learning. A mapping exercise of how providers responded to restrictions was undertaken and reviewed periodically. Campaigns such as "*Quit for Covid"* and "*Stoptober"* were shared via social media and other communication channels, to amplify the message across Nottingham.

In addition, local services provided pregnant women with their own single use CO monitor to support their quit attempt.

Impact on Mental Health and Wellbeing

Children and Young People's mental health

Overview

Nationally, mental health problems affect around one in six children.[34] They include depression, anxiety and conduct disorder and are often a direct response to what is happening in their lives. The pre-pandemic need can be illustrated as follows:

- 13% of 5 to 19 year olds experienced at least one mental disorder
- children living in poverty were over three times more likely to suffer from mental health problems
- 20% of children were living at risk because of a vulnerable family background, due to domestic violence, substance use or severe mental health problems.[35]

The Mental Health Foundation produced a report on the "*Impacts of lockdown on the mental health and wellbeing of children and young people".*[36] The direct effects identified were increased levels of distress, worry and anxiety, with some increased feelings of loneliness and worries about schools in the future.[36] The impacts within the family context involved families where the experiences of lockdown may have been particularly difficult for children and young people. These included families where parents/ carers were key workers, were younger, and/ or had a history of mental or physical illness. Families within disadvantaged communities, ethnic minority groups and those subject to domestic violence were more likely to be affected by lockdown.[36]

A number of recommendations have emerged from the work conducted by The Health Foundation including:

- those children for whom lockdown has been particularly challenging should be identified and provided with more support
- Children and Young People would benefit from the opportunity to validate their experiences of lockdown with peers
- there should be a focus on clear communication about the pandemic, especially when returning to school
- there is a need for ongoing research to track the impact of the pandemic on children and younger people and research into the effectiveness of support developed for children and young people.

Children and Adolescent Mental Health Services (CAMHS)

What was the situation prior to COVID-19?

Based on the national Mental Health of Children and Young People survey in 2017 and ONS population data, 8,067 (12.5%) of the 64,419 five to nineteen year olds in Nottingham City are thought to be dealing with a mental disorder.

In Nottingham, waiting times for CAMHS sat within commissioned waiting times and the majority of work was provided face-to-face, including specific groups such as "TRANS4ME" and parent groups. There was more flexibility within the system such as the ability to engage parents through open door sessions.

There was a joint protocol in place for the Single Point of Access (SPA) - and an emphasis on prevention, containing risk and early intervention. Within schools, self-harm clinics and Time4 me sessions ran face-to-face appointments which provided another opportunity for early intervention and prevention. The Mental Health Support Schemes (MHST) - within schools provided another route of referral alongside the SPA.

What has been the impact of COVID-19?

The enforcement of Government restrictions and closure of buildings severely reduced the ability to have face to face appointments. By early April 2020, services were adapted to offer virtual support through MS Teams appointments and telephone appointments.

Those with critically urgent needs, such as individuals presenting with immediate self-harm, suicidal ideation and/ or a safeguarding risk, were prioritised and continued to be assessed face-to-face.

The closure of schools and initial reduction in numbers presenting to the GP at the start of the pandemic led to a reduction in referrals. However, there was an increase in referrals after both lockdown periods, particularly those relating to self-harm, eating disorders and suicidality. Overall, referral rates have risen to the highest recorded levels, creating substantial service pressures.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

By early April 2020, services were adapted to offer virtual support through MS Teams appointments and telephone appointments.

There has been an innovative use of different platforms to engage CYP (children and young people) and their families during the pandemic, such as Podcasts for schools; YouTube clips and online workshops for parents and CYP.

The W4ER (Wellbeing return for education) project provided government funding for Local Authorities to better equip schools and colleges to promote children and Young people's wellbeing, resilience, and recovery in response to COVID-19. This project was delivered to schools from September 2020 through a partnership model involving the Educational Psychology Service, Mental Health Support Teams, CAMHS and a mental health consultant. It included training, webinars, staff peer support clusters and wellbeing sessions.

The findings from the survey Pupil views on their education in the context of the COVID-19 pandemic led to the implementation of "#nottinghamyouvebeenmissed" - a social media campaign to promote mental health and wellbeing support in the local area. The aim was to ensure people knew that CAMHS services were still open and operating and to advise how to self-refer to CAMHS.

Nottingham City and Nottinghamshire W4ER used funding to develop the Nott Alone website to provide advice and help for young people's mental health all in one place. Co-produced with young people and parents, the Nott Alone website was developed for children and young people, parents and carers, and professionals to access information and resources for improving mental health.

The Voluntary Sector and Mental Wellbeing

What was the situation prior to COVID-19?

A number of voluntary organisations contribute to the support for CYP wellbeing within Nottingham City and we are not able to mention all within the scope of this document. We will focus on feedback from a few local organisations including Base 51, Kooth and Small Steps Big Changes.

Base 51 delivered face-to-face counselling to young people aged over 11, along with confidential advice and learning support delivered by a range of qualified counsellors and counsellors in training.

Kooth Face-to-Face ("Kooth F2F") Nottingham City and Kooth online Nottingham City ("Kooth") offered online and face-to-face counselling for children and young people.

Small Steps Big Changes (SSBC) funded through the National Lottery Community Fund's "A Better Start" Programme provides a range of activities designed to give every child the best start in life.[37]

Perinatal mental health services had worrying gaps even before the crisis, exacerbated by cuts to statutory services, such as health visiting and also voluntary and community sector organisations.

What has been the impact of COVID-19?

BASE 51 and Kooth were adapted to operate virtually, enabling counselling and youth teams to provide ongoing support to current and new service users. Both Kooth.com and BASE 51 have seen an increase in complexity and rise in CYP attending their services. There has been a change in initial presenting issues; with a reduction in issues relating to peer relationships, bullying and issues relating to school, coupled with an increase in those experiencing anxiety, issues within the family, self-harm and suicidal ideation, domestic violence, abuse and increased deprivation.

Notably, SSBC has observed that the pandemic has posed mental health challenges for families during pregnancy and early parenthood, which have been experienced unequally, with the following groups being more vulnerable:

- women
- those identifying as BAME and
- those who are already disadvantaged.[38]

All families who responded to SSBC commissioned research conducted by Nottingham Trent University reported worrying about the virus, either catching it themselves or passing it on to their baby or child.[39] Reductions in family income, unstable employment, threats of redundancy and increased living costs are likely to have acted as stressors during the pandemic and contributed to an erosion of mental health in some people.

At a time of increased need, some traditional mental health support mechanisms were disrupted. During the first national lockdown, there was a decrease in the amount of face-to-face contact between health visiting and other early intervention services, decreasing the amount of contact time with professionals for making mental health disclosures. Some assessment was done remotely, but services felt the early identification of mental health concerns benefited from face-to-face contact, allowing a greater opportunity for observation, assessment and sensitive discussion.

Postnatal mental health issues are often attributed to loneliness, which is perpetuated during national and local lockdowns. New parent groups and toddler groups which normally operate on a face-to-face basis were paused, removing valuable sources of support for new families.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Both Kooth and Base 51 have adapted to offer digital delivery through a range of platforms including telephone, video conferencing sessions and text based services (once identity had been confirmed). Face-to-face sessions were still available to vulnerable young people, where this was deemed necessary.

BASE 51 were able to mitigate some of the risks for young people who experienced issues around isolation, technology poverty, and lack of privacy, by promoting the presence of their Youth Workers in local parks. These Youth Workers were available for 1-2-1 support, well-being activities and arranging the delivery of devices, credit and connectivity packages.

Kooth has specifically included content on its website related to COVID-19 and the impacts of lockdown, which has resulted in a marked increase in CYP accessing peer to peer support on the site. In addition, there has been recruitment of service delivery staff to maintain the average wait times for a chat session.

Within SSBC, family mentors during the initial lockdown were able to provide some ongoing support to parents, through wellbeing calls. Services were operating some groups via a virtual model, but it is uncertain at this time whether virtual delivery confers similar benefits to parents' wellbeing.

SSBC commissioned a new parent-infant relationship service within Nottingham which started in September 2021. This service prioritises the needs of the baby and the attachment with main caregivers. It is accessed through referral from 20 weeks of pregnancy, up until the infant's 2nd birthday, through the CAMHS Single Point of Access. Families can expect support in the form of 1:1 and group interventions, which includes both antenatal and postnatal attachment-based interventions.

Overview

What was the situation prior to COVID-19?

According to the charity MIND, each year around 1 in 4 people in England will experience a mental health problem (see Mental Health Statistics). Before the pandemic, mental health problems were responsible for over a fifth of the burden of disease in England costing over £105 billion.[35]

Nottingham City has a significantly higher prevalence of common mental health disorders when compared to the national average.[40] This is partly due to the many factors that increase the risk of mental health problems throughout life, such as higher rates of deprivation, greater ethnic diversity; high levels of unemployment, increased youth offending and more looked-after-children in Nottingham.

More in depth information of the situation prior to the COVID-19 pandemic can be found in the Joint Strategic Needs Assessment (JSNA) chapter: Adult Mental Health (2016).

What has been the impact of COVID-19?

Self-reported mental health and wellbeing has worsened during the pandemic and remains worse than pre-pandemic levels.[41] In a survey by the charity Mind, more than half of adults (65%) and over two thirds of young people (68%) have said their mental health got worse during lockdown, with this rising to three quarters (74%) of people aged 18–24.[41]

There are multiple factors that may have worsened mental health during the pandemic. The restrictions that have been brought about due to the lockdowns may have exacerbated feelings of loneliness and social isolation.[42] Some groups that have been disproportionately affected by loneliness include working-age adults living alone, those in poor health and people in rented accommodation.[42]

The direct impact of the virus itself on those infected has likely impacted mental health, for those acutely unwell, those suffering from the impact of long COVID and the grief experienced by those who have lost loved ones to the virus.

The pandemic has higlighted pre-existing inequalities and the subsequent pandemic's effects on mental health have been disproportionate. Young people and women, people with no work or low income, those living in social housing, frontline workers and people with pre-existing mental health problems were more likely to see their mental health worsen.[41] Access to support and treatment has also been impacted as one in four people of all ages who tried to access mental health support during lockdown were not able to do so.[41]

A more in-depth review of the local impact can be found in the Nottingham and Nottinghamshire Mental Health COVID Rapid Assessment.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Nationally, the Every Mind Matters website was established to support people with mental health during the COVID-19 outbreak. In addition to tips on dealing with stress and anxiety, the hub included support on how to cope with money worries and job uncertainty and how to look after your mental wellbeing while staying at home.

At a local level, there has been work to ensure the provision of mental health advice and support, and promote awareness of these services in the city. Nottingham's Ask LION Directory developed dedicated mental health pages that include a range of contact details for local services and national helplines. One example is the Nottingham Mental Health Helpline, which provides personalized advice, emotional support and information on coping mechanisms. Other services available for advice and support include Wellness in Mind, The Grief Line (for those who needed immediate support following bereavement), the CRISIS Helpline (for people in mental health crisis) and the Harmless Tomorrow Project (offering support for those in suicide crisis).

The NHS Long Term Plan describes plans to enhance the number of roles within Primary Care Networks (PCN's) specifically relating to mental health. Two of these additional roles are "*Social prescribers"* and "*PCN Mental Health Practitioners*".[43]

Social prescribing enables GPs, nurses and other primary care professionals to refer people to a range of local, non-clinical services to support their health and wellbeing.[43] During the pandemic within Nottingham City there were 12 Link Workers recruited within PCNs.

From April 2021, PCN's were able to recruit to *PCN Mental Health Practitioners* via the Additional Roles Reimbursement Scheme. The aim of the role is to improve the provision of mental health care and support in primary care, alongside improving partnerships between primary care and the Local Mental Health Teams and wider mental health services including IAPT. Within Nottingham City, a total of 8 PCN Mental Health Practitioners have been recruited.

Older People's Mental Health

What was the situation prior to COVID-19?

Mental health problems in older people are common and are often more apparent in settings such as hospitals and care homes. In a 500-bed general hospital on an average day, estimates suggest that 330 beds will be occupied by older people, of whom 220 will have a mental disorder, 100 will have dementia and depression, and 66 will have delirium. Depression affects 4 in 10 people living in care homes and in nursing homes around 1 in 10 residents have psychotic symptoms such as delusions and hallucinations.

Depression is the most common mental health condition in older people. Depression and other mental health conditions in older people often go underdiagnosed and undertreated. However older people with mental health problems are likely to respond to treatments as well as or better than the younger population. A greater proportion of older people (42%) complete treatment than their working age counterparts (37%) after being referred to Improving Access to Psychological Therapies (IAPT) services. Additionally, older people achieve good outcomes from IAPT treatment, e.g. in 2014 to 2015, 56% of over-65's showed 'reliable recovery' after receiving psychological therapies compared with 42% of working age adults.

What has been the impact of COVID-19?

Being restricted at home for long periods has left significant numbers of older people with reduced mobility through deconditioning, muscle weakness, and joint pain, and previously independent older people have become reliant on walking aids to move short distances. This has impacted on the mental wellbeing of older people, e.g. 34% older people reported that their anxiety was worse than before the start of the pandemic and an increase in those feeling depressed. The associated lack of mental stimulation and social contacts, has resulted in one in five older people reporting that since the start of lockdown, they found it harder to remember things.

Bereavement has affected all age groups, but particularly older people who were not only unable to say goodbye to family and friends but were often left to grieve by themselves without support. During lockdown, being separated from support networks was especially distressing for those who are reaching the end of their life and those who feared they would spend their last months away from their loved ones. In addition, it may have been challenging for some older people to connect virtually or take the advantage of opportunities through new technology without the prior skill and without being able to get in person support to learn new skills due to restrictions.

Older people living with dementia have been significantly impacted by the changes to their routine, access to services, and reduced ability to maintain regular contact with family and friends. A survey conducted by the Alzheimer's Society found 82% of people affected by dementia reporting an increase in dementia symptoms during the pandemic, including memory loss, difficulty concentrating, and agitation or restlessness.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

The mental health services commissioned to support all adults were promoted to older people through various networks, such as "Age Friendly Nottingham".

Community and voluntary organisations such as "Age UK Nottingham and Nottinghamshire" or "Good Companions" in Clifton, have continued to support older people throughout the pandemic and signpost them to services as appropriate.

Loneliness

What was the situation prior to COVID-19?

The annual Nottingham Citizens Survey measures loneliness in the city. In 2019, 15% of respondents reported feeling lonely some or all of the time. This is a 9% increase from 2014. Highest rates of loneliness were for people living with a disability or long-term illness or not in paid employment. Increasing age or living with long-term conditions or a disability are some of the main risk factors for loneliness, but there is also clear evidence around poverty and deprivation.

What has been the impact of COVID-19?

Higher levels of loneliness and poorer wellbeing have been reported for all ages during the pandemic. This included young people particularly associated with urban areas outside London. Although the restrictions were universal, their impact on loneliness was unequal. People who were already lonely were likely to get lonelier, but those with strong social connections were likely to feel less lonely.

Based on ONS data from the Opinions and Lifestyle Survey, the percentage of adults (aged 16+) in Nottingham reporting that they were often or always felt lonely (between October 2020 and February 2021) was 12.80%, which was considerably higher than the regional (7.83%) and national (7.26%) figures.

Suicide prevention

What was the situation prior to COVID-19?

In England, approximately one person dies every two hours as a result of suicide.[45] Suicide has a significant, lasting and often devastating impact on individuals, families, communities and wider society.

Suicide rates tend to vary over time. In Nottingham City, they reached an historical low in 2010, before increasing in the years to 2013 and reducing thereafter. In 2019, the rate was higher than in previous years and similar to the higher rates observed in 2004 and 2013 (see **Figure** 9).

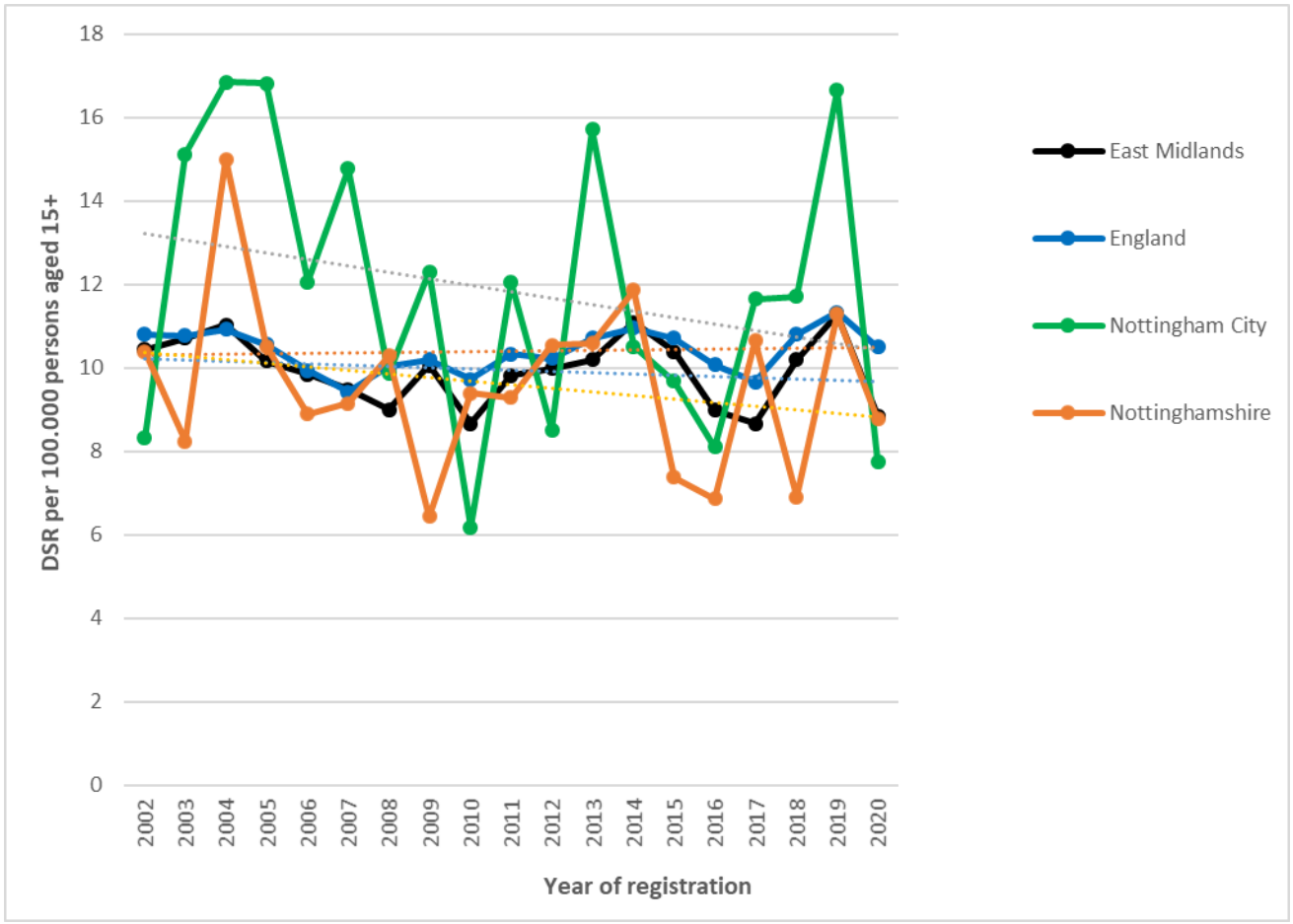


Figure 11: Trends in directly standardized rates (DSRs) for mortality due to suicide and unintended injury per 100,000 persons (aged 15+) for Nottingham, Nottinghamshire, East Midlands and England, 2002-2020

Source: NHS Digital (2022). Mortality from suicide and injury undetermined: directly standardised rate, 15+ years, annual trend, MFP (based on ONS data). Available at: https://digital.nhs.uk/data-and-information/publications/statistical/compendium-mortality/current/mortality-from-suicide-or-suicide-and-injury-undetermined/mortality-from-suicide-and-injury-undetermined-directly-standardised-rate-15-years-annual-trend-mfp

There are many well-recognised risk factors and at-risk groups for suicide. There is a notable socio-economic gradient, with those in the poorest group subject to ten times the risk of suicide than those in the most affluent group.[46] Men account for around three quarters of all registered suicides and this has been a consistent trend since the mid-1990s.[47] Self-harm is another recognised risk factor for suicide – the biggest single risk factor for many groups – with UK studies estimating that in the year after an act of self-harm, the risk of suicide is 30–50 times higher than in the general population. Non-fatal self-harm leading to hospital attendance is the strongest

single predictor for completed suicide. National evidence also highlights increased risk to those from ethnic minority communities.[48]

More in depth information of the situation prior to the COVID-19 pandemic can be found in the Joint Strategic Needs Assessment (JSNA) chapter: Suicide.

What has been the impact of COVID-19?

During such unusual times of societal stress with those at risk of suicide potentially having less access to supportive networks, the local situation needs monitoring closely. However, it is possible that the true picture might appear over a longer timescale than in the immediate response to the pandemic.

Some studies have predicted a rise in suicide rates associated with the COVID-19 pandemic.[49] Particular emphasis has been placed on the impact of the pandemic on young people, due to evidence that their mental health has been disproportionately affected.[50]

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

The Nottingham City and Nottinghamshire County Real-Time Surveillance Working Group meets regularly to review real-time local data and intelligence to enable the identification of high-risk locations and high-risk groups (including young people who self-harm) and plan action to mitigate concerns as they arise. It is through this partnership working that an increase in concern for suicide risk in younger people associated with the impact of COVID-19 has been identified.

While there has not been a statistically significant increase in suspected suicides in younger people, services, further education and higher education settings have reported an increase in acuteness of need for suicide prevention support.

Two partnership meetings have taken place to explore the issue and determine action, which has included:

- Skills sharing: Nottingham City Council Child and Adolescent Mental Health Services and Self-Harm Awareness Resource Project have offered to support the two local universities in tailoring support to students.
- Communications: Nottingham City Council Public Health funded and developed a poster for students setting out the support available locally.
- Support for substance use: Substance use services will engage with universities to support students who are reporting drug and alcohol use.

Sexual Health Services

What was the situation prior to COVID-19?

Prior to the pandemic, there were a range of open access sexual health services. This included the main Genito-Urinary Medicine (GUM Hub) at Nottingham City hospital (NCH), a number of bespoke clinics around the city and numerous outreach clinics situated in GP practices and health centres. The service covered six days a week and provided some evening access. Service users were able to book appointments via the telephone or online.

What has been the impact of COVID-19?

The emergence of the pandemic led to closure of clinics with only the main Hub site being kept open. There were also staffing capacity concerns due to redeployment. The online booking system facility was paused. Primary care sexual health services also saw significant reduction in activity due to national guidance on scaling back.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

At the beginning of the pandemic, Public Health (PH) in Nottingham City Council (NCC) enhanced the existing online offer to include oral contraception and chlamydia treatment.

In NUH Sexual Health clinics, the existing Nurse Triage function was utilised more to provide telephone based support and only face-to-face appointments when absolutely necessary. A young people's email sexual health support service was also set up. Health promotion activity was carried out virtually. Support was provided to the C-Card free condom distribution service by implementing a postal condom service.

The Health Shop which supports people with complex needs and high-risk factors such as sex workers, rough sleepers, and people who inject drugs, moved the service to a COVID-19 secure location so people could still drop in. Further outreach work in the form of testing kits and information packs were carried out in hotels and hostels where people were temporarily housed. Partnership work with the Prostitute Outreach Workers (POW) enabled more support to sex workers who struggled to adhere to lockdown restrictions.

Furthermore, sexual health services in community pharmacy and online services saw age restrictions lifted to enable wider access. National guidance on Long Acting Reversible Contraception (LARCs) was provided to extend the recommended lifetime of devices so women were able to avoid having to access clinics for removal/replacement of devices.

Locally, some intelligence was received regarding the surge in sales of pregnancy testing kits, NCC responded by developing information posters on emergency hormonal contraception (EHC) and contraception services for pharmacies and local retailers in that area.

Screening and Immunisation

What was the situation prior to COVID-19?

Since 2013, effective and high-quality Screening and Immunisation services have been delivered in Nottingham and commissioned by NHS England and NHS Improvement (NHSEI). Programme Boards for each service are held quarterly, led by the Screening and Immunisations Lead, with representation from key stakeholders. Performance, access, safety, or health inequality issues are identified and discussed by the programme boards and addressed by providers with support from the relevant stakeholders.

Due to Nottingham's high levels of deprivation, there is a lower uptake of screening and immunisation appointments, within local services, compared with national averages. Local project work is usually developed to mitigate against this, with stakeholders coming together, such as the Children's Flu group. Projects have been implemented to increase uptake (e.g. in diabetic eye screening for young diabetics, GP endorsement in breast and bowel screening, and targeted work with LD patients in bowel screening).

What has been the impact of COVID-19?

In general, a negative impact has been observed across all screening programmes. At the beginning of the outbreak, some screening programmes had a period where services were paused and only high-risk patients were invited. NHSEI have been working with providers to support the full recovery of the programmes. Significant progress has been made, and all screening programmes have continued to invite and screen their eligible population during COVID-19.

To protect clients attending and staff working in screening, Infection Prevention and Control (IPC) measures such as PPE, extended appointment times and cleaning between clients, were put in place. This was of paramount importance to ensure the safety of NHS clients and staff and to enable the programmes to continue to screen. Due to these additional safety measures, and due to some staff being required to socially isolate or being ill themselves with Covid-19, capacity within the screening services decreased and this created a backlog. Appointments needed to be rescheduled, which caused a potential for a delay in diagnosis. Services found that they could not initially use some of their community venues (due to social distancing measures). Services also found that it took a while for the eligible population to feel confident enough to attend NHS sites for screening, due to the fear of contracting Covid-19.

Immunisation programmes have also been impacted due to the pandemic. Schools were closed for long periods of time, which had a negative effect on the school age immunisation programme. The service was able to offer immunisation appointments via community clinics, which were well attended, but with the added issue of groups of students having to isolate when they were back in school, a reduction in uptake was expected.

A review of childhood immunisation data, during the pandemic, found reduced uptake in March/April 2020 and September/October 2020, which can be related to lockdown periods. Data suggests that falls in uptake strongly relate to deprivation and this is reflected in the Nottingham data.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Programme Boards were paused, and monthly restoration meetings were held with screening and immunisation providers, to support them in restoring their services. Assistance was provided by NHSEI in the form of national guidelines, financial support to recruit extra staff, open extra venues, and fund equipment to enable more staff to work from home, where possible. End dates for achieving full restoration were agreed with services.

Data tools were developed to support the services in understanding their uptake and what they needed to achieve to ensure that they were returning to business as usual and that all patients were being captured and offered appointments.

Venue locations were reviewed to ensure that they were accessible for all, that they had appropriate lead times and that communications were shared with the eligible populations around services being Covid-19 safe, with social distancing measures implemented. Stakeholders were also kept abreast of the status of the screening services, so they could support referrals and encourage people to attend.

NHS Health Checks

What was the situation prior to COVID-19?

Pre-pandemic there was a successful drive to increase the number of NHS health checks. Local GP practices were encouraged to use primer and reminder texts to eligible patients which national research suggests encourages uptake.

What has been the impact of COVID-19?

Due to the impact of lockdown, enforcement of government restrictions, the ability to perform day-to-day NHS work was badly affected with an emphasis on emergency care only. This resulted in NHS Health checks being paused at several points during the pandemic. It is expected that GP practices will catch-up over the 5-year programme, however this will be challenging given the backlog of routine care.

There is emerging evidence that cardiovascular disease and COVID-19 severity are interconnected and share underlying risk factors[55] which was highlighted in Health Matters. Those with pre-existing cardiovascular disease, diabetes, obesity and hypertension experience more severe outcomes from COVID-19.[55]

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Certain sections of society have faced increased impact and more adverse outcomes from the pandemic, such as minority ethnic groups. Nottingham City Council has attempted to mitigate these effects by changing the pay structure to ensure ethnic minority groups for example have been prioritised. Alongside this, there has been national funding to local authorities and general practice to deliver adult weight management services to more people.

Long COVID

Long COVID is a broad term that encompasses ongoing symptomatic COVID-19 (5-12 weeks after onset) and Post COVID-19 Syndrome (12+ weeks after onset), which can have long term effects. Based on ONS data, there are an estimated 1.8 million people in the UK (2.8% of the population) with long COVID. A full discussion about this novel condition is outside the scope of this paper and more information can be found in the Long COVID: the NHS plan for 2021/22.

Nottingham CityCare Partnership launched a Post COVID Syndrome Assessment Clinic in March 2021 as a six-month pilot. Based on the national prevalence estimate for Long COVID, the expectant demand was around 625 people, who would require long term support from the NHS. The actual number of referrals from within Nottingham City was 219. The low number of referrals could be due to the fact that this is a new condition and the lack of GP awareness of the condition and that the service exists and reduced patient awareness of the condition and that there is support services for them to access. Those referred to the clinic within the first six months were predominantly women (68%); white (75%); and aged between 35-65 years. Furthermore, the majority of referrals come from a limited number of Nottingham City communities with the highest levels of deprivation.

Supporting the Clinically Extremely Vulnerable

What was the situation prior to COVID-19?

Pre-pandemic, a joint City and County model was in place to support residents.

What has been the impact of COVID-19?

The pandemic has been a difficult time for everyone, but it has been particularly hard for those who have been advised to take extra precautions. The City's Clinically Extremely Vulnerable (CEV) cohort doubled in size over the course of the pandemic due to the addition of people based on risk factors of deprivation, ethnicity and obesity. By March 2021, Nottingham City had nearly 25,000 CEV citizens.

Self-isolation has been an integral part of the COVID-19 response. Nottingham City Council (NCC) has recognised that self-isolation is not easy for anyone, and for a variety of reasons can be particularly challenging for some, therefore support is required to optimise the chances of sustained self-isolation.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

On 23rd March 2020, NCC launched its own Community Hub telephone number, supported by Neighbourhood Development Officers (NDOs). The NDOs utilised their close and strong working relationships with the local community organisations, resident groups and community champions to create Local Resilience Teams in each ward to mobilise volunteers to help and support vulnerable citizens.

Those who required support and/ or were self-isolating could access this via a dedicated telephone number, known as the "Golden Number," Monday to Friday (9am - 5pm) or via the website running alongside the hub and operational 7 days a week. This provided a wide range of practical, social and emotional support. The support services range from access to food banks, collection of prescriptions, PPE storage and distribution for essential services, welfare calls, assistance with online activities, access to mental health services and bereavement support to supermarket provision. There was even localised doorstep support through mobilisation of volunteers and directed visits to vulnerable and shielding residents, via Community Protection teams and Nottingham City Homes colleagues. More information can be found here.

Domestic Abuse

What was the situation prior to COVID-19?

Domestic and Sexual Violence and Abuse (DSVA) need is high in Nottingham, as outlined in the JSNA chapter on DVSA. Demand is met via the 24-hour Juno Women's Aid helpline; women's' refuges and outreach services; sexual violence support services, prevention services and perpetrator programmes. DSVA provision in Nottingham is funded through partnership funding streams, including income generated through bids to the government and charitable foundations. Commissioning, grant aid and funding are coordinated for the wider partnership through the Joint Commissioning Group, chaired and lead by the Crime and Drugs Partnership (CDP).The DSVA Strategy Group, currently chaired by Public Health reports to the CDP Board under the new Statutory Duty.

What has been the impact of COVID-19?

The Domestic Violence Bill published in 2019 became an Act of Parliament in April 2021. The Domestic Abuse Act 2021 provides further protections to survivors of domestic abuse, as well as strengthening measures to tackle perpetrators. During lockdown, calls to the police in Nottingham decreased, but calls to the specialist DSVA helpline for services increased by 57%. Overall domestic abuse reported crimes have decreased by 6%, however domestic abuse reported incidents have increased by 7% (which is 459 more incidents).

National feedback indicates that survivors are finding it difficult to contact services for help, whilst at home with the perpetrator. An increase in single females (without children) was seen in accommodation-based services. The overall volume of reported sexual offences has reduced by 28%, although lack of reporting is not an indicator of need. This reduction in reporting to the police is a cause for concern and more must be done to encourage survivors to contact both the police and support services for help. During the initial stages of the pandemic, there was a drop in calls to Sexual Violence Support Services, but this began to increase at the end of 2020.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

There was a focus on communications and training during lockdown periods to raise awareness that stay-at-home restrictions do not apply to DSVA survivors who need to access services. This has been led by Equation (A Nottingham based charity) with weekly updates to professionals and communities and a regular monthly meeting, ensuring all statutory and voluntary sector agencies were coordinating and amplifying their messages. To increase confidence in reporting, local partners are delivering joined up messages to citizens across social media through the "Consent Coalition," lead by the CDP to both encourage reporting and discourage sexual violence and abuse.

Asylum Seekers, Refugees & Migrants

What was the situation prior to COVID-19?

The Nottingham City JSNA chapter on Asylum seekers, refugees and migrant health was published in 2018 and identifies health and care needs for these groups.

Local provision has included face-to-face support, with a triage service daily at the Nottinghamshire, Nottingham Refugee Forum (NNRF), group sessions, English for Speakers of Other Languages (ESOL) courses, and support to destitute asylum seekers. Hotels were not routinely used as an accommodation setting.

Nottingham Arimathea Trust (NAT) accommodates and supports destitute asylum seekers who have had their asylum claim refused and vulnerable newly recognised refugees who experience homelessness. NAT offers a room and support to many of these individuals, enabling them to either resubmit their asylum claim by providing new evidence in the case of the asylum-seeking residents, or to develop the skills and independence to take on their own tenancies, if they are refugees.

What has been the impact of COVID-19?

Services were reduced and moved to virtual support. This was challenging, as service users may not have had access to mobile phones or devices with internet access, through lack of resources or finances.

There were also challenges around GP registration, dental and doctors' appointments due to lack of support, language barriers and knowledge of the NHS. Regarding physical health, there was a higher risk of COVID-19 spreading due to confined areas within large groups who lacked an understanding of the virus. There was also a notable increase in mental health issues, due a lack of social networks, confinement in one area and access to adequate provisions including translation services.

Children could not access education, as parents struggled to access online programmes, which resulted in low engagement and school applications. There was also no Wi-Fi or digital equipment provided in most asylum accommodation. New arrivals who completed school applications could take up to 3 months and during this period missed out on the school voucher system. There was also confusion about where they could use the vouchers. If it was online vouchers, parents had difficulty with this due to lack of internet access.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

A hotel partnership group was initiated, consisting of private, public and the voluntary sector, to support individuals. Workers funded via the voluntary sector also supported the service users. This helped address the needs of both individuals in the hotels and projects, i.e. COVID- 19 testing and vaccinations.

Support services had to adapt and move to remote working, setting up telephone advice services to allow for continuation of support. The Multi Agency Forum meetings were increased to monthly to ensure the needs of both services and service users were addressed.

The recruitment of an Asylum Seeker and Refugee co-ordination officer by Nottingham City Council, meant that information could be shared during appointments with parent/carer, including the vaccination bus.

Since March 2020, NAT has completed work to mitigate against the negative impact of COVID-19. Concerning digital exclusion, NAT ensured all their properties had internet access and those residents that did not have SMART phones or tablets, were provided with a device. This enabled residents to maintain contact with loved ones overseas. NAT has also arranged mental health checks for residents, catching up with other health and dentistry issues and needs, deep cleaning of properties, creating volunteering opportunities, and offering ESOL classes.

Homelessness and Those At Risk of Homelessness

What was the situation prior to COVID-19?

Prior to COVID-19 all homeless accommodation across the city was full and homeless prevention services were working at capacity. There is a lack of affordable accommodation in Nottingham, which in turn increases the length of stay in supported housing, increases rough sleeping, and the number of families living in temporary accommodation.

People deemed not to be in priority need or found intentionally homeless by the local authority experienced considerable difficulty in finding accommodation. Prison leavers would regularly return to the streets, due to a lack of suitable and appropriate accommodation for them, as most would not be considered a priority need.

The monthly count of rough sleepers averaged 40-50 in Nottingham City with a further 100 people accessing shared space hostels or supported accommodation across several different provisions. The direct access accommodation offers several levels of support depending on needs identified through assessment. Emergency winter measures were provided through a shared space communal shelter or accommodation appropriate to individual needs.

What has been the impact of COVID-19?

With no evictions taking place, those at risk of homelessness were able to stay in their accommodation. Some illegal evictions still happened during this period and services such as Homeless Prevention Teams and The Law Centre were able to assist.

There was substantial concern about the impact of the eviction ban being lifted and the uncertainty and possibility of eviction for many individuals and households.

There have been several immediate challenges to our rough sleeper cohort. Many of the accommodation options previously used for winter emergency shelters were deemed unsafe due to their communal nature. Following the government's instruction to provide COVID-19 safe accommodation for all rough sleepers, the only available option was to accommodate 140 rough sleepers in hotels located within the city centre. The Nottingham 'Everyone In' scheme was stood up at short notice, with multiagency involvement overcoming substantial challenges on staff capacity and budget contingency. This scheme also had lower thresholds for eviction in line with hotel guidance, whilst ensuring access to ongoing support or treatment programmes. In partnership with the local voluntary sector, practical needs were met such as providing food and prescription collections and additional staffing. The outcomes of this work are described in the Director of Public Health Annual Report 2021: COVID-19 an opportunity for change – tackling severe multiple disadvantage in Nottingham City.

Has there been implementation of potential mitigating actions to reduce the impact of COVID-19?

Support has been given to people to engage with their landlords regarding rent arrears in order to avoid evictions when the courts opened. Support was also provided to access vital services, sometimes via digital communication methods, for those previously digitally excluded. Support in accessing COVID-19 vaccinations was provided for those experiencing homelessness and those vulnerably housed. This has included specific clinics, use of the vaccination bus, support with booking appointments and travel arrangements.

Work with the health sector has been ongoing to register rough sleepers with GP services. Vaccine access has been facilitated through a local GP surgery to vaccinate our rough sleeper cohort using food vouchers to encourage uptake. Second dose vaccines were provided by mobile vaccination buses, able to locate close to our rough sleeper hotel accommodation.

Local volunteer networks were established in each area of the city to provide emergency food deliveries and medication/prescription collections for rough sleepers. Additional emergency food provision was provided in several locations across the city centre to facilitate and encourage social distancing.

Healthwatch Nottingham and Nottinghamshire

Healthwatch Nottingham and Nottinghamshire (HWNN) gather experiences from health and social care service users to inform providers and commissioners how to improve their services. Healthwatch have created several reports related to COVID-19, since the start of the pandemic:

COVID-19 GP answer machine messages survey April 2020

At the start of the pandemic there was evidence that some patients were unsure as to whether their GP practice was still operating.

Aim: The aim of this survey was to find out what information was shared on GP answer machine messages across Nottingham and Nottinghamshire during the COVID-19 pandemic.

Results: Only 7% of surgeries stated they were open and provided their operational hours. Over a quarter (27.3%) of surgeries did not provide clear COVID-19 information on important symptoms, when to isolate or when to call 111. Full details about the survey can be accessed here.

Information Needs of Vulnerable People during the COVID-19 pandemic May 2020

In order to understand the impact of COVID-19 on vulnerable people in Nottingham and Nottinghamshire, and to inform local and national responses, Healthwatch Nottingham and Nottinghamshire (HWNN) carried out a short survey between 17th April and 4th May 2020 to find out:

- Whether people knew if they were in the highest risk or increased risk group when read the NHS definition
- Whether those in the highest risk group received an NHS letter on 'important advice to keep you safe from Coronavirus' letter
- Whether people surveyed understood official COVID-19 information
- What is the unmet information needs of people surveyed?
- Whether GP and hospital appointments had been cancelled or changed.

A total of 435 people from Nottingham and Nottinghamshire responded to the survey - 383 via an online survey and 52 were reached through phone calls. The vulnerable groups included: people with long term conditions; people with one or more disabilities; people over the age of 70; people in the high-risk group; those who are Black, Asian, Minority Ethnic (BAME) refugees, those who are lesbian, gay, bisexual, trans-gender or questioning (LGBTQ+) and young people with mental health issues.

Results: 12.6% in the highest risk group did not know they were at risk and 28% had not received a letter. 42.3% had unmet information needs and 56.8% had had their routine appointments changed or cancelled. Further information can be accessed here.

Communicating with relatives of care home residents during the COVID-19 pandemic April 2021

Healthwatch Nottingham & Nottinghamshire (HWNN) became aware that some friends and relatives of care home residents were having increasing problems communicating with the residents they usually visit, during the COVID-19 pandemic, when visits were either stopped or became very limited in scope.

Using an agreed short (pre-trialled) questionnaire, HWNN interviewed 21 friends and relatives of care home residents. Nottinghamshire County Council helped identify care home managers, who then promoted the survey using a specific WhatsApp group; it was also promoted through HWNN's own contacts. Further information can be accessed here.

Health and Social Care Needs of People with Long COVID August 2021

This report presents the lived experiences of people with Long COVID, identifying their ongoing symptoms and the response from health and social care services to meet their needs. It builds on the findings with recommendations to local health and social care service providers and commissioners.

The findings from the survey responses highlighted:

- When people first experienced COVID symptoms, whether they were tested and the outcome.
- The main ongoing symptoms people experienced since having COVID-19.
- How health and social care services responded to them when they first contracted COVID-19.
- The support they received since having COVID-19.
- The type of support they would like to receive to meet their healthcare needs.

Full details of the report can be accessed here.

Learning for the Future

As we emerge from the pandemic and focus on the recovery, we look to the Nottingham City Joint Health and Wellbeing Strategy April 2022 – March 2025. This strategy has recognised the renewed importance of inequalities, which have been highlighted by the pandemic. A personalised approach focussing on the community, as well as population health, is recommended. For our recovery to have the greatest impact, we also recommend an integrated recovery with a broad focus, incorporating multiple, not single sectors alone.

Here is a summary of the key learning points:

- The Community at its heart
  - A Personalised approach: The COVID-19 pandemic has demonstrated that in terms of policy, a centralised or 'one size fits all' strategy, may not be the most effective. Our communities are unique and require communication and intervention tailored to them. The vaccination programme is a good example of how we can achieve more when we work with communities and tailor our messages and approaches accordingly. While scaling solutions is sometimes incredibly important, we can often lose the 'magic' offered by passionate and influential members of our communities.

  - Co-production: Communities are fantastic assets and a rich source of volunteers, social networks and charity, faith and community groups that each play a vital role in the health of a community. The pandemic shone a light on the importance of community and how, with some support and co-ordination, communities can play an important role in supporting their most vulnerable members. Working with communities we have the opportunity to co-design and ultimately co-produce community led solutions to social and health challenges.

- Focus on inequalities:
  - Health Inequalities: The pandemic has increased the awareness of pre-existing inequalities. This awareness can open the conversation on how to address these issues and make employers, service providers, and local communities become part of the solution. The ethnic minority inequalities framework identified a need to tackle health inequalities through the lens of community, services and policy. This approach supports individuals, while recognising the need for the council to address structural inequalities and work with the neighbourhoods that are subject to them.

  - Re-Focus on financial resilience: Those worst affected by the pandemic are those on low pay, insecure employment and zero-hours contracts. As such, it is important that we re-fresh and re-invigorate our approach to financial resilience and supporting the most vulnerable in our society.

  - An inclusive workforce: A focus on inclusivity within the workforce and exploring the barriers to good employment, ensuring these are accessible to all Nottingham communities. This includes working with all businesses across the city and commencing strategic conversations about skills development, the living wage, and the role of 'anchor' institutions.

- Mental Health
  - Living through the COVID-19 pandemic has been challenging for many: people have lost loved ones, have lived in isolation, and lived with the anxiety and worry the pandemic has brought. Furthermore, some of those who have had COVID-19 have seen long-term physical impacts that have also impacted on their mental wellbeing. It is important that all our public services recognise this and integrate mental

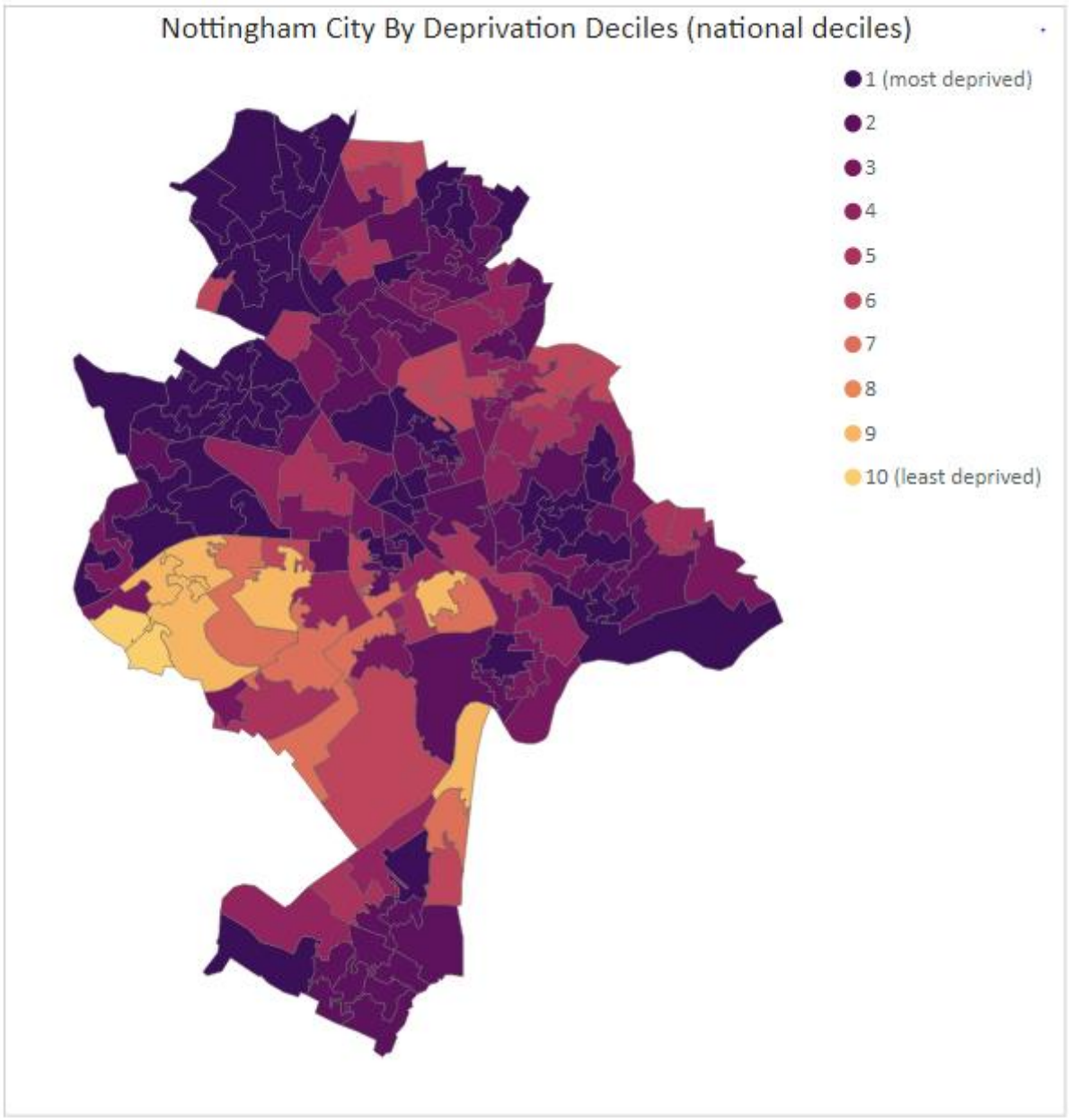
wellbeing into their thinking. Furthermore, it is important we understand the impact this has had on the trust and relationships with public bodies and people's willingness to engage and listen to them.

- Education: It is highly likely that reduced formal pre-school attendance and school attendance and social isolation has negatively impacted school readiness and overall educational outcomes. A holistic approach to education should be adopted, centred on a recovery curriculum, a focus on emotional health and well-being and the enjoyment of, and motivation for, life-long learning. In addition, there needs to be an extra focus on children from deprived backgrounds, who may have been disproportionately affected.

- Digital delivery of services: One of the positives of the pandemic has been the way services and workplaces have adapted to the unique circumstances. In many areas this has pushed services to think creatively – we should review the approaches taken from the pandemic to keep and learn from the best examples. However, this method of delivery has not worked for everyone and we have seen 'digital exclusion' that has impacted people from across the life course due to lack of resources. The digital delivery of services also presents challenges for those with a sensory impairment or learning disability. When looking at modes of delivery we should therefore remember to begin with understanding the needs of our population to ensure polices are inclusive and support those with greatest need.

Appendices

Appendix A: Map of Nottingham City by National Deprivation Deciles



Appendix A: Map of Nottingham City by National Deprivation Deciles
Source: ONS, 2019 Indices of Multiple Deprivation

Appendix B1: Demographic characteristics of cases in the 1st wave: Age and Gender (Nottingham)

Figure B1 below shows the age and gender distribution of COVID-19 cases in the 1st wave. It shows that majority of cases (12.4%) were in the most vulnerable age group, 85 years and over. Overall, 55.8% (762/1,366) were females, 35.1% (479/1,366) aged 60 years and over and 50% (683/1,366) aged between 25 and 59 years.

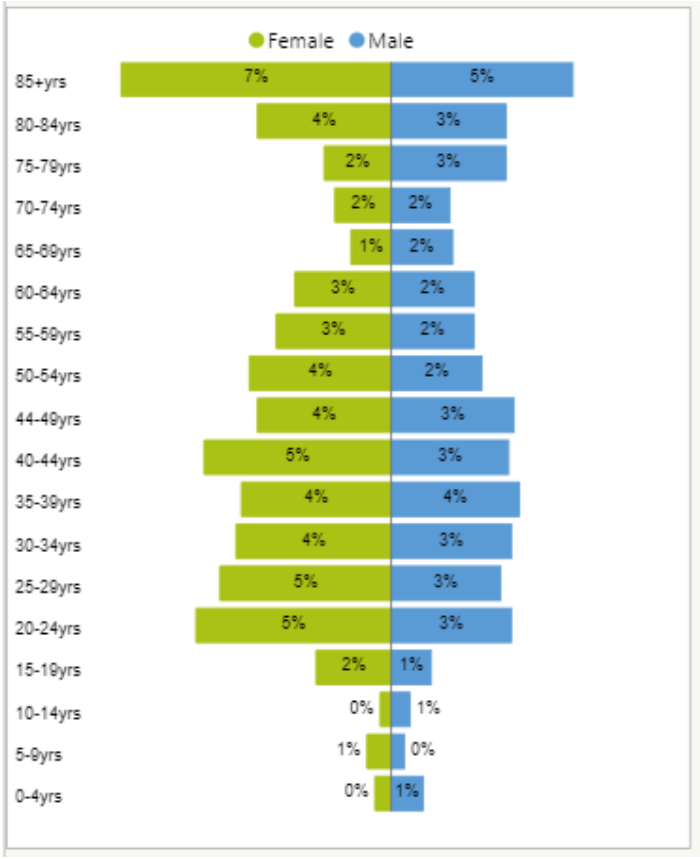


Figure B1: COVID-19 Cases, Age –Gender distribution, 28th February 2020 to 31st August 2020
Source: OHID (formerly PHE)

Appendix B2 Demographic characteristics of cases in the 1st wave: Deprivation (Nottingham)

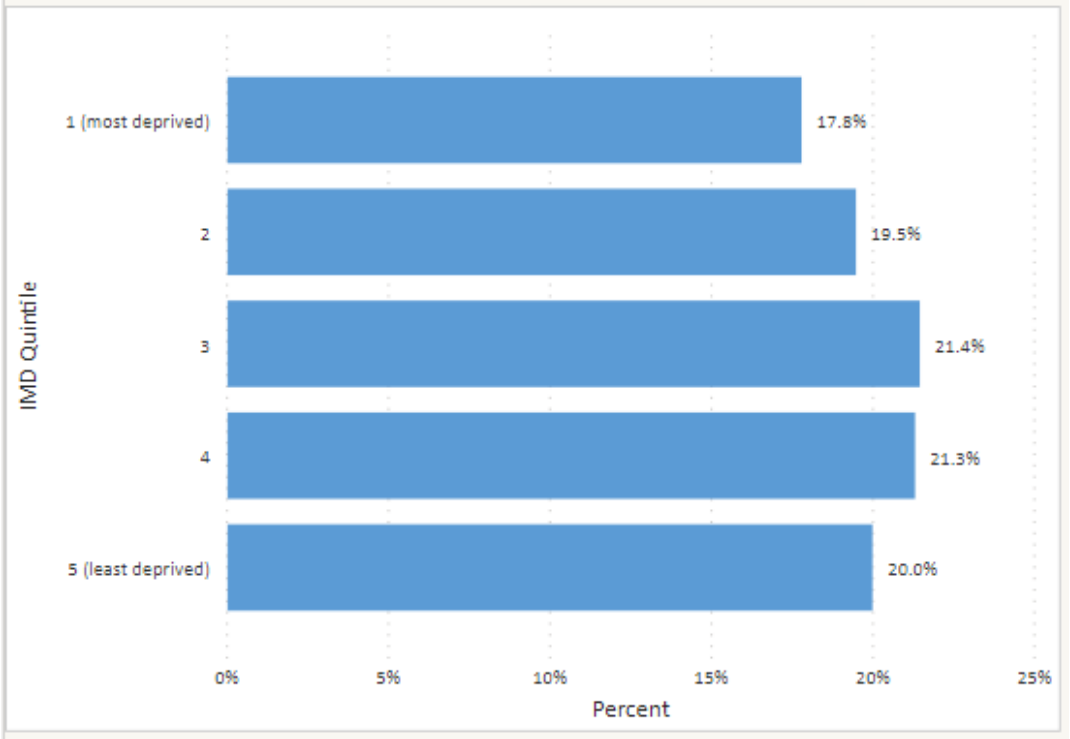


Figure B2: COVID-19 Cases by Deprivation Quintile, 28th February 2020 to 31st August 2020
Source: OHID (formerly PHE)

Appendix B4: Demographic characteristics of cases overall: Ethnicity

The figure below reveals that directly age standardised COVID-19 rate (DSR) in 'Other' ethnic group is significantly higher compared to rates in White, Black, Mixed and Asian ethnic groups. The rate ratio for COVID-19 is 8 times as high in 'Other' ethnic group as is in the 'Mixed' ethnic group and approximately 2 times as high in Asian and Black ethnic groups as is in the 'Mixed' ethnic group.

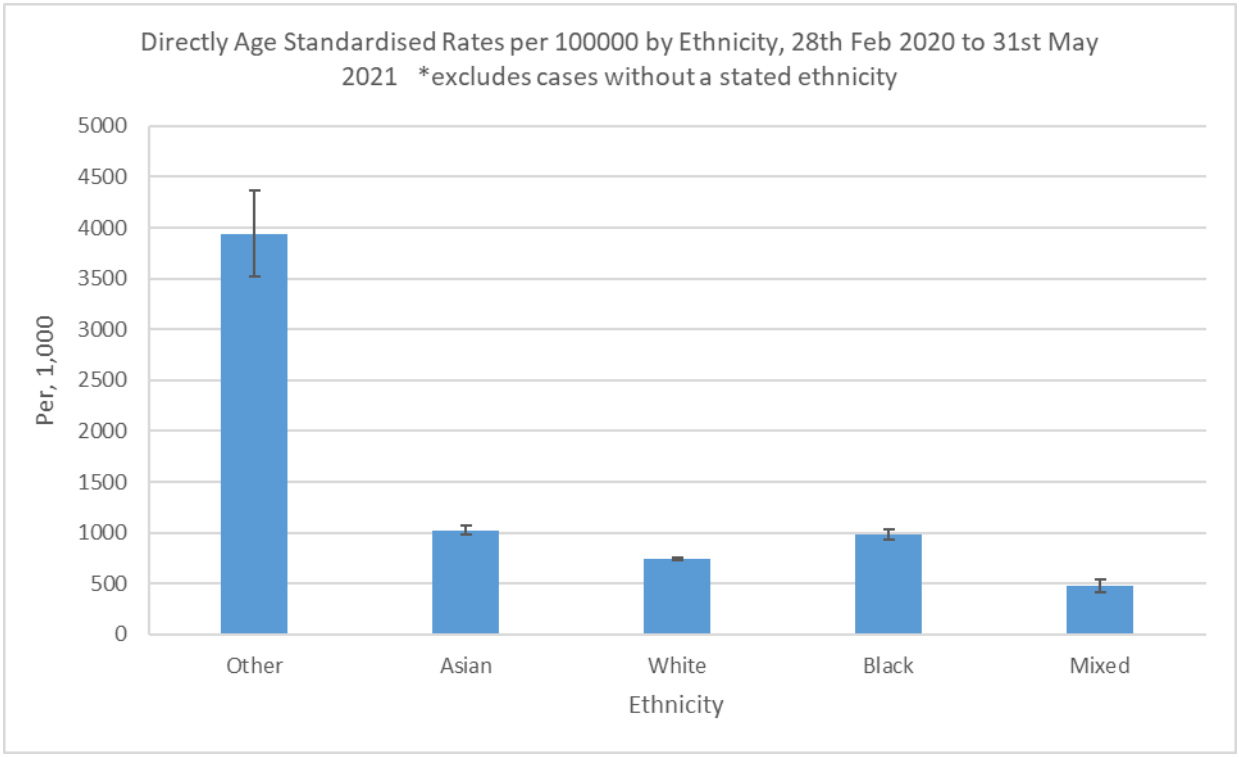


Figure B4a: COVID-19 Directly Age Standardised Rates (per 100,000 pop) by Ethnicity, 28th February 2020 to 31st May 2021

Source: OHID (formerly PHE)

Over the 15-month period (28th February 2020 to 31st May 2021), Covid-19 infection Rates were significantly higher in BAME group compared to White British ethnic group (20% higher).

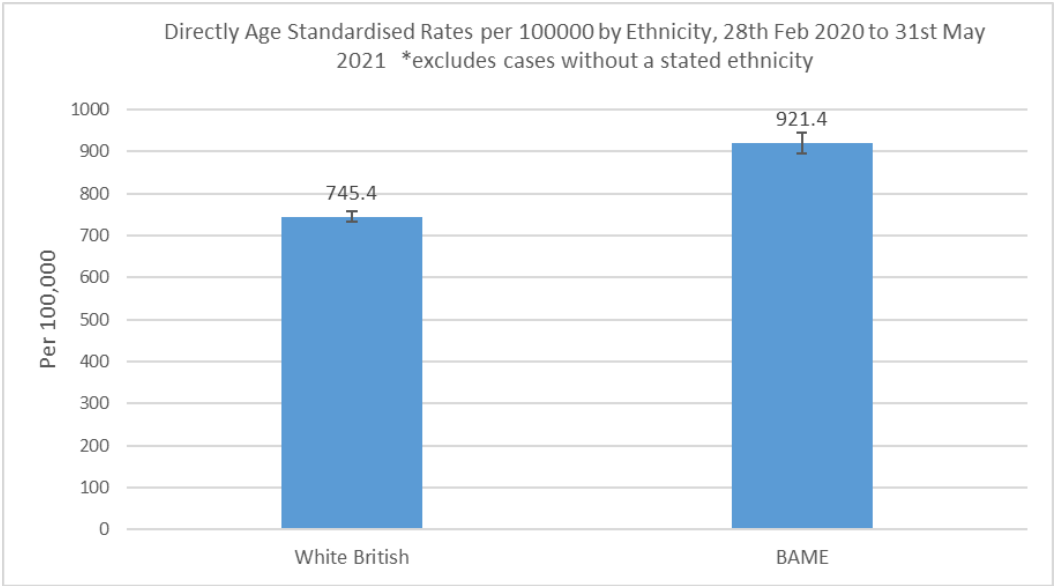


Figure B4b: COVID-19 Directly Age Standardised Rates (per 100,000 pop) by Ethnicity, 28th February 2020 to 31st May 2021

Source: OHID (formerly PHE)

Appendix B5: Demographic characteristics of cases in the 1st wave: Ethnicity

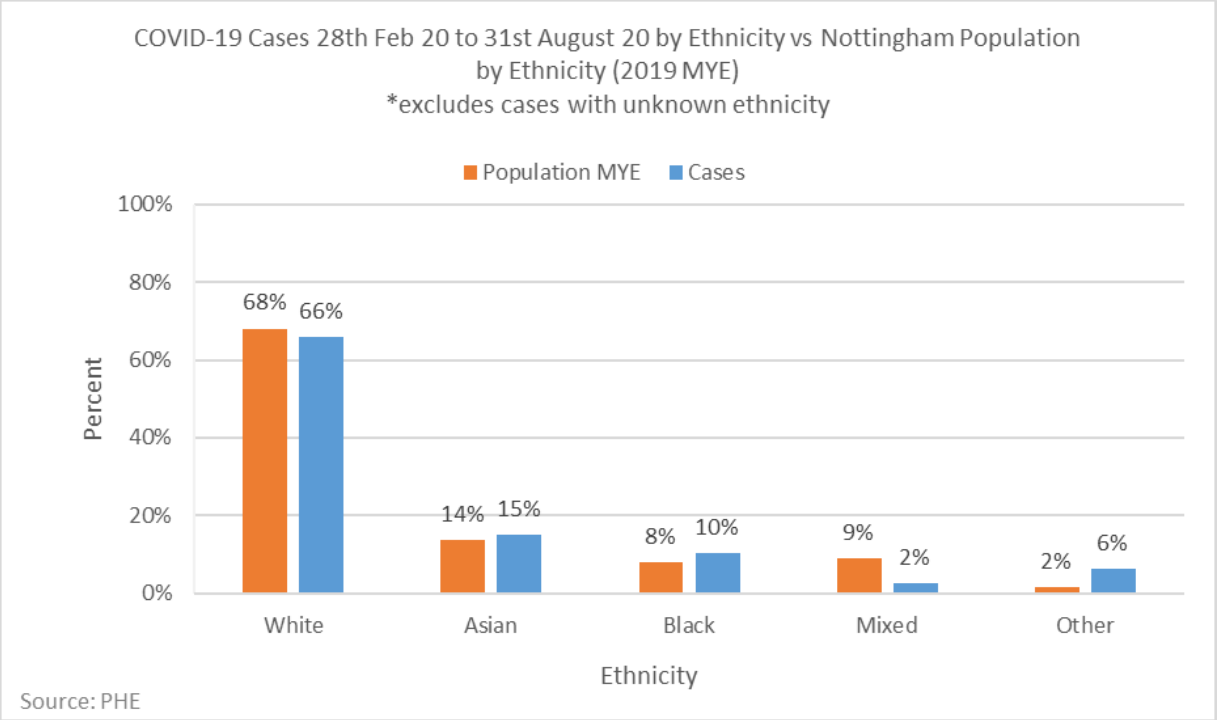


Figure B5: COVID-19 Cases by Ethnicity, 28th February 2020 to 31st August 2020
Source: OHID (formerly PHE)

Appendix C1: Demographic characteristics of cases in the 2nd and 3rd wave: Age and Gender (Nottingham)

Compared to the 1st wave, there is a stark difference in the age–gender distribution of cases with a majority of cases (37%) aged 15 to 24 years. More than half (53.7%) of all cases were females and 10.5 % (3,137/29,732) aged 60 years and above as shown in the **Figure C1** below.

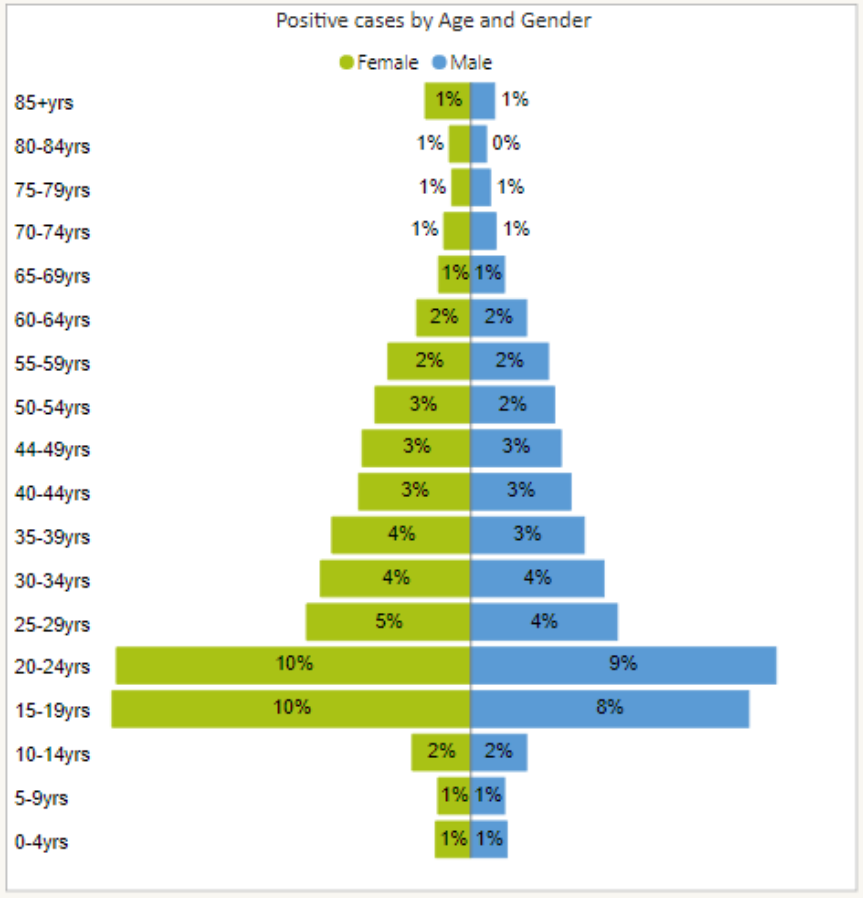


Figure C1: COVID-19 Cases, Age –Gender distribution, 1st Sept 2020 to 31st May 2021
Source: OHID (formerly PHE)

Appendix C2: Demographic characteristics of cases in the 2nd and 3rd wave: Deprivation (Nottingham)

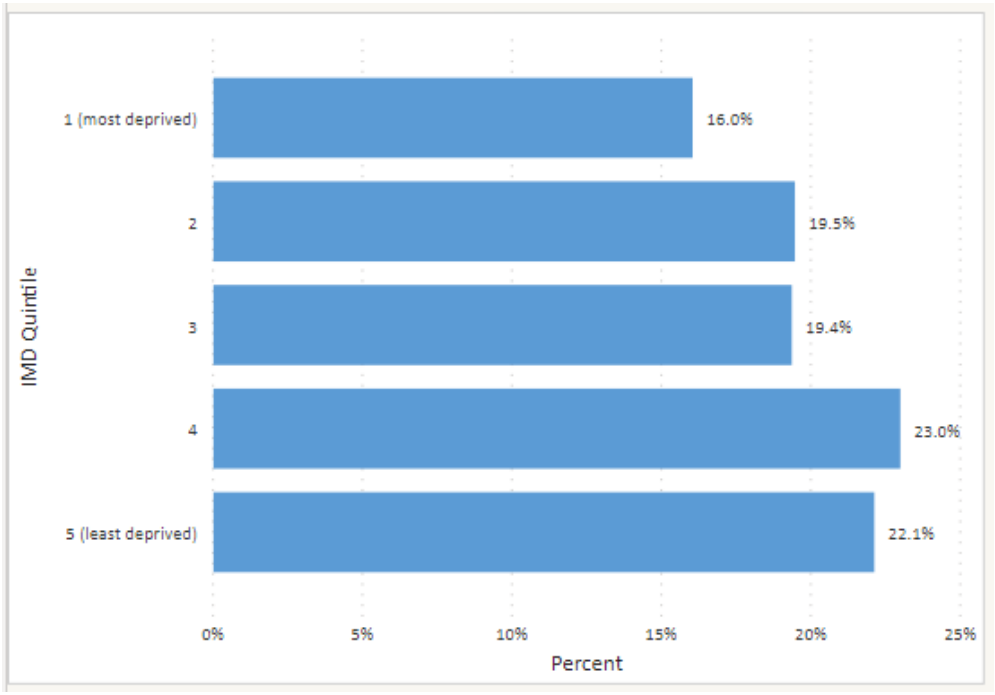


Figure C2 : COVID-19 Cases by Deprivation Quintile, 1st September 2020 to 31st May 2021
Source: OHID (formerly PHE)

Appendix C3: Demographic characteristics of cases in the 2nd and 3rd wave: Ethnicity (Nottingham)

47.9% (14,240 of 29,731) are from White British ethnic background, 28.6% (8,493) BAME and 23.5% (6998 of 29,731) without a stated ethnicity. Excluding records without a stated ethnicity, 'Other' ethnic group are overrepresented and 'Mixed' ethnic group under-represented when ethnic makeup of cases are compared to the ethnic makeup of the City as shown in **Figure C3** below.

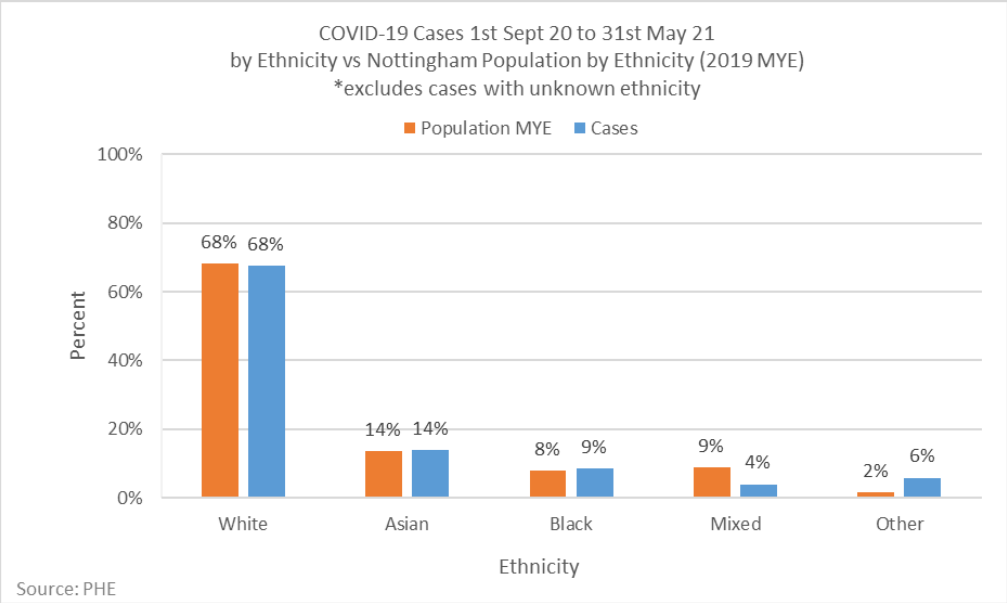


Figure C3: COVID-19 Cases by Ethnicity, 1st Sept 2020 to 31st May 2021
Source: OHID (formerly PHE)

References

1. Cucinotta D, Vanelli M. WHO Declares COVID-19 a Pandemic. Acta Biomed. 2020 Mar 19;91(1):157-160. Available at: https://pubmed.ncbi.nlm.nih.gov/32191675/
2. Marmot M, Allen J,Boyce T, Goldblatt P, Morrison J. (2020) Health equity in England: The Marmot Review 10 years on. London: Institute of Health Equity. Available at: https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on
3. GOV.UK (2022). Deaths in United Kingdom. Available from: Deaths in the UK | Coronavirus in the UK (data.gov.uk) [Accessed 17th August 2022]
4. Suleman M, Sonthalia S, Webb C, Tinson A, Kane M, Bunbury S, Finch D, Bibby J. Unequal pandemic, fairer recovery: The COVID-19 impact inquiry report. The Health Foundation; 2021 Available from: https://doi.org/10.37829/HF-2021-HL12 [Accessed 3rd August 2021]
5. GOV.UK. Health inequalities: place-based approaches to reduce inequalities. Available at: https://www.gov.uk/government/publications/health-inequalities-place-based-approaches-to-reduce-inequalities/place-based-approaches-for-reducing-health-inequalities-foreword-and-executive-summary [Accessed 22nd July 2021)
6. GOV.UK. COVID-19 Response: Summer 2021. Available from: https://www.gov.uk/government/publications/covid-19-response-summer-2021-roadmap [Accessed 17th August 2022]
7. The King's Fund (2018). A vision for population health: Towards a healthier future. Available at: https://www.kingsfund.org.uk/sites/default/files/2018-11/A%20vision%20for%20population%20health%20online%20version.pdf [Accessed 16th August 2022].
8. WHO Coronavirus (COVID-19) Dashboard: https://covid19.who.int/?adgroupsurvey={adgroupsurvey}&gclid=EAIaIQobChMIxJis_fWj8wIVQtPtCh28EADqEAAYASABEgJ92PD_BwE [Accessed 9th May 2023]
9. GOV.UK. Coronavirus (COVID-19) in the UK https://coronavirus.data.gov.uk/ [Accessed 9th May 2023]
10. Marmot M, Allen J, Goldblatt P et al. Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England. London: Institute of Health Equity. 2020. https://www.health.org.uk/publications/build-back-fairer-the-covid-19-marmot-review
11. Covid-19 pandemic and the social determinants of health. BMJ 2021;372:n129. Available at: https://doi.org/10.1136/bmj.n129 [Accessed 21/09/21]
12. Disparities in the risk and outcomes of COVID-19. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf [Accessed 17th August 2022]
13. A perfect storm – health inequalities and the impact of COVID-19. Available at: https://www.local.gov.uk/perfect-storm-health-inequalities-and-impact-covid-19 [Accessed 29th September 2021]
14. PHE wider impacts of COVID-19: Health needs assessment intelligence pack for local health partners. Available at: https://intel-hub.eastriding.gov.uk/wp-content/uploads/2021/02/2020-ERY-COVID-19-wider-impacts-HNA-intelligence-pack.pdf (eastriding.gov.uk) [Accessed 30th September 2021]
15. COVID 19 Suggestions for mitigating the impact on health inequalities at a local level. Available at: COVID-19 Suggestions for mitigating the impact on health inequalities at a local level (2) [Accessed 3rd October 2021]
16. World Health Organisation. Health Topics. Nutrition. Available at: https://www.who.int/health-topics/nutrition © 2021 WHO [Date accessed 17th June 2021]
17. Zemrani B, Gehri M, Masserey E, Knob C, Pellaton R. A hidden side of the COVID-19 pandemic in children: the double burden of under nutrition and over nutrition. International Journal for Equity in Health. 2021 Dec;20(1):1-4. Available at: https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-021-01390-w

18. Bite Back 2030. Hungry for change report, July 2020. Available at Hungry for Change Report | Bite Back 2030 [Accessed 3rd November 2021]
19. Obesity Action Scotland. Lifestyle of Scotland's People Since the Coronavirus Outbreak: Summary Report, May 2020.
20. Obesity Action Scotland. Lifestyle of Scotland's People Since the Coronavirus Outbreak: Stories within the data, August 2020.
21. Coulthard H, Sharps M, Cunliffe L, van den Tol A. Eating in the lockdown during the Covid 19 pandemic; self-reported changes in eating behaviour, and associations with BMI, eating style, coping and health anxiety. Appetite. 2021 Jun 1;161:105082. Available at: https://www.sciencedirect.com/science/article/pii/S0195666320317049 [Accessed 3rd July 2021]
22. Robinson E, Boyland E, Chisholm A, Harrold J, Maloney NG, Marty L, Mead BR, Noonan R, Hardman CA. Obesity, eating behavior and physical activity during COVID-19 lockdown: A study of UK adults. Appetite. 2021 Jan 1;156:104853. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7540284/ [Accessed 3rd July 2021]
23. Robinson E, Gillespie S, Jones A. Weight-related lifestyle behaviours and the COVID-19 crisis: An online survey study of UK adults during social lockdown. Obesity science & practice. 2020 Dec;6(6):735-40. Available at: https://onlinelibrary.wiley.com/doi/full/10.1002/osp4.442 [Accessed 3rd July 2021]
24. Albalawi A, Hambly C, Speakman JR. The impact of the novel Coronavirus movement restrictions in the UK on food outlet usage and Body Mass Index. Obesity Science & Practice. Available at: https://onlinelibrary.wiley.com/doi/pdf/10.1002/osp4.477 [Accessed 3rd July 2021]
25. Obesity Health Alliance. Briefing: How are COVID-19 measures affecting the food environment? 2020. Available at: OHA-polling-data-summary-final.pdf (obesityhealthalliance.org.uk)[Accessed 10th September 2021]
26. Herle M, Smith AD, Bu F, Steptoe A, Fancourt D. Trajectories of eating behaviour during COVID-19 lockdown: Longitudinal analyses of 22,374 adults. Clinical Nutrition ESPEN. 2021 Apr 1;42:158-65. Available at: https://www.sciencedirect.com/science/article/pii/S2405457721000620 [Accessed 10th September 2021]
27. McAtamney K, Mantzios M, Egan H, Wallis DJ. Emotional eating during COVID-19 in the United Kingdom: Exploring the roles of alexithymia and emotion dysregulation. Appetite. 2021 Jun 1;161:105120. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7837231/[Accessed 10th September 2021]
28. Buckland NJ, Swinnerton LF, Ng K, Price M, Wilkinson LL, Myers A, Dalton M. Susceptibility to increased high energy dense sweet and savoury food intake in response to the COVID-19 lockdown: The role of craving control and acceptance coping strategies. Appetite. 2021 Mar 1;158:105017. Available at: https://pubmed.ncbi.nlm.nih.gov/33161044/ [Accessed 10th September 2021]
29. Naughton F, Ward E, Khondoker M, Belderson P, Marie Minihane A, Dainty J, Hanson S, Holland R, Brown T, Notley C. Health behaviour change during the UK COVID-19 lockdown: Findings from the first wave of the C-19 health behaviour and well-being daily tracker study. British Journal of Health Psychology. 2021. 26;2: 624-643. Available at: https://bpspsychub.onlinelibrary.wiley.com/doi/full/10.1111/bjhp.12500 [Accessed 10th September 2021]
30. Kollewe, J. (2021). Britons' Just Eat orders nearly double in Covid lockdown. The Guardian Newspaper, 13th April 2021. Available at: https://www.theguardian.com/business/2021/apr/13/just-eat-orders-covid-lockdown [Accessed 10th September 2021]
31. PHE (July 2020). Excess weight and COVID-19: Insights from new evidence. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907966/PHE_insight_Excess_weight_and_COVID-19__FINAL.pdf [Accessed 10th September 2021]
32. PHE (Sept 2020). Supporting weight management services during the COVID-19 pandemic: Phase I insights: Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/915274/WMS_Report.pdf [Accessed 10th September 2021]
33. GamCare. Available at: https://www.gamcare.org.uk/about-us/ . [Accessed 3rd August 2021]

34. Mental Health Foundation. Explore mental health: A-Z Topics: Children and young people. Available at: https://www.mentalhealth.org.uk/a-to-z/c/children-and-young-people [Accessed 22nd July 2021]
35. GOV.UK. Prevention Concordat for Better Mental Health. Available at: https://www.gov.uk/government/collections/prevention-concordat-for-better-mental-health [Accessed 22nd July 2021]
36. Mental Health Foundation. Impacts of Lockdown on the mental health of children and young people. Available at: https://www.mentalhealth.org.uk/explore-mental-health/publications/impacts-lockdown-mental-health-children-and-young-people [Accessed: 21/02/2023]
37. Wave Trust (2013). Conception to age 2 – the age of opportunity. [online] Available at: https://www.wavetrust.org/Handlers/Download.ashx?IDMF=474485e9-c019-475e-ad32-cf2d5ca085b0 [Accessed: 22/07/21]
38. Papworth, R., Harris, A., Durcan, G., Wilton, J. and Sinclair, C., (2021). Maternal mental health during a pandemic. Online [Available at] https://maternalmentalhealthalliance.org/wp-content/uploads/CentreforMH_MaternalMHPandemic_FullReport.pdf [Accessed 10th September 2021]
39. Nottingham Centre for Children, Young People and Families (2020). Effects of Covid 19 on Families with Young Children Under Five in Nottingham. [Online] Available at: https://www.ntu.ac.uk/__data/assets/pdf_file/0012/1421211/Effects-of-Covid-19-on-Families-with-Children-Under-Five.pdf [Accessed: 22nd July 2021]
40. Office for Health Improvement & Disparities (OHID). Public Health Profiles. Available at: https://fingertips.phe.org.uk/search/CMD#page/3/gid/1/pat/46/par/E39000032/ati/165/are/E38000132/iid/93495/age/164/sex/4/cid/4/tbm/1/page-options/ovw-do-2 [Accessed 10th September 2021]
41. Mind (June 2020). The mental health emergency: How has the coronavirus pandemic impacted our mental health? Available at: the-mental-health-emergency_a4_final.pdf (mind.org.uk) [Accessed 10th September 2021]
42. The Health Foundation. Emerging Evidence on COVID-19'S impact on mental health and health inequalities. Available at: https://www.health.org.uk/news-and-comment/blogs/emerging-evidence-on-covid-19s-impact-on-mental-health-and-health [Accessed 10th September 2021]
43. NHS Mental Health Implementation Plan 2019/20-2023/24. Available at: https://www.longtermplan.nhs.uk/wp-content/uploads/2019/07/nhs-mental-health-implementation-plan-2019-20-2023-24.pdf [Accessed 10th September 2021]
44. NHS. The community mental health framework for Adults and Older adults. Available at: https://www.england.nhs.uk/wp-content/uploads/2019/09/community-mental-health-framework-for-adults-and-older-adults.pdf [Accessed 10th September 2021]
45. HM Government. Preventing suicide in England. London: Department of Health, 2012. Available at: Preventing suicide in England - A cross-government outcomes strategy to save lives (publishing.service.gov.uk) [Accessed 10th September 2021]
46. Samaritans. Socioeconomic disadvantage and suicidal behaviour. 2017. Available at: Socioeconomic disadvantage and suicidal behaviour | Samaritans [Accessed 22nd July 2021]
47. Officer for National Statistics (ONS). Suicides in England and Wales: 2020 registrations: Registered deaths in the UK from suicide analysed by sex, age, area of usual residence of the deceased and suicide method. [Online] Office of National Statistics, 7th September 2021. Available at: Suicides in England and Wales - Office for National Statistics (ons.gov.uk). [Accessed: 19th August 2022]
48. Royal College of Psychiatrists. Self-harm, suicide and risk: helping people who self-harm. London: 2010. Available at : PS03-2010x.pdf (rcpsych.ac.uk) [Accessed: 22nd July 2021]
49. John A, Eyles E, Webb RT, Okolie C, Schmidt L, Arensman E, Hawton K, O'Connor RC, Kapur N, Moran P, O'Neill S, McGuiness LA, Olorisade BK, Dekel D, Macleod-Hall C, Cheng HY, Higgins JPT, Gunnell D. The impact of the COVID-19 pandemic on self-harm and suicidal behaviour: update of living systematic review. F1000Res. 2020 Sep 4; 9:1097. https://pubmed.ncbi.nlm.nih.gov/33604025/ .

50. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. Pierce, M, et al. Lancet Psychiatry, 2020, Vol. 7. Available at: https://doi.org/10.1016/S2215-0366(20)30308-4 [Accessed: 22nd July 2021]
51. GOV.UK. Risk factors Associated with Places of Enduring Prevalence and potential approaches to monitor changes in this local prevalence. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/983665/S1212_Places_of_enduring_prevalence.pdf [Accessed 3rd November 2021]
52. ONS. Inter-Departmental Business Register. Available at: https://www.ons.gov.uk/aboutus/whatwedo/paidservices/interdepartmentalbusinessregisteridbr [Accessed 3rd November 2021]
53. Nottingham City Council Internal Vaccination Dashboard [Accessed 3rd November 2021]
54. ScienceDaily. Study shows online gambling soared during lockdown, especially among regular gamblers. 17 May 2021. Available at: www.sciencedaily.com/releases/2021/05/210517083636.htm [Accessed 18th November 2021]
55. NHS Health Check eBulletin – July 2021. Available at: https://www.nhshealthcheck.nhs.uk/july-2021/front-page/nhs-health-check-ebulletin-july-2021 [Accessed 3rd November 2021]
56. The Health Foundation (2021). Unequal pandemic, fairer recovery: The COVID-19 impact inquiry report. Available at: https://doi.org/10.37829/HF-2021-HL12. [Accessed 16th November 2021].
57. Nottingham City Joint Health & Wellbeing Strategy 2022-2025. Available at: nottingham-city-joint-health-and-wellbeing-strategy-2022-25.pdf (nottinghamcity.gov.uk) [Accessed 21/02/2023]
58. Impacts of the COVID-19 Pandemic and Self-Isolation on Students and Staff in Higher Education: A Qualitative Study; *Knight. H, Carlislie. S, O'Connor. M, Briggs. L, Fothergill. L, Al-Oraibi. A, Yildirim. M, Morling. J, Corner. J, Ball. J, Denning. C, Vedhara. K, Blake. H* (2021) International Journal of Environmental Research and Public Health, Vol 18, Iss 10675, p.10675
59. Exploring the Psychological Impacts of COVID-19 Social Restrictions on International University Students: A Qualitative Study; Al-Oraibi. A, Fothergill. L, Yildirim. M, Knight. H, Carlisle. S, O'Connor. M, Briggs. L, Morling. J, Corner. J, Ball. J, Denning. C, Vedhara. K, Blake. H (2022) International Journal of Environmental Research and Public Health, Vol 19, Iss 7631, p. 7631
60. Mitigating impacts of the COVID-19 pandemic on higher education: A rapid evidence review; UCL Social Research Institute, Unterhalter. E, Howell. C, Vigurs. C, France. R, Candy. B, September 2021 Available at: https://eppi.ioe.ac.uk/cms/Portals/0/Lot%205%20-%20HEI%20-%20090921_LO.pdf?ver=2021-09-09-115003-887 p.27 [Accessed 09/03/2023]
61. The impact of COVID-19 on air pollution: Evidence from global data. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8570089/ [Accessed 04/5/2023]
62. Changes in air quality during COVID-19 'lockdown' in the United Kingdom. Available at: https://www.sciencedirect.com/science/article/pii/S0269749120367002 [Accessed 04/05/2023]
63. The impact of the COVID-10 pandemic on children's socioeconomic well-being and attainment during the Reception Year. Available at: https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/the-impact-of-the-covid-19-pandemic-on-childrens-socioemotional-well-being-and-attainment-during-the-reception-year [Accessed 04/05/2023]