C19 National Foresight Group: Intelligence Briefing 4

Risk Perception, Dementia and Missing Persons, Transport and YouGov Data

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This briefing synthesizes data with systematic findings from across academic subjects. These data contribute to our existing knowledge on who is most likely to be experiencing adversity in our communities. To start to build a (provisional) picture about who is likely to be most affected by Covid-19 and the impacts from measures we had to implement.

Contents

Context

A data review is undertaken by academics at Nottingham Trent University every week to inform the C19 National Foresight Group. Data related to Covid-19 UK social and economic trends is reviewed to inform, guide and provide foresight. This foresight informs priority discussions at national and local decision-making level (LRFs). The C19 National Foresight Group synthesise data trends and academic findings across disciplines, with evidence of existing vulnerabilities and inequalities, to provide foresight

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and start to build existing and emerging risk profiles of impacts from Covid-19.

Accumulation of Adversity vs Intersectionality

The National Foresight Group have developed an approach to synthesise data trends, data sources, existing evidence bases of vulnerabilities and academic literature and insights to establish which groups Covid-19 has caused a greater number (accumulation) or complexity of impacts. We hope to build risk profiles which could be used by recovery cells to inform priorities of need and the consequent priorities of support. There are two ways in which this compound or 'layering' of impacts could affect individuals:

- Intersectionality = the multiple memberships of discriminated against groups (***existing*** membership of groups; female, BAME, disability, lower socio-economic status)
- Accumulation of Adversity = the 'layering' of adversity (***emerging*** membership of groups from Covid-19, primary impacts and secondary impacts)

Academic research across large bodies of work considering intersectionality have concluded so far that complex crises affect men, women, boys and girls differently and that existing vulnerabilities within these groups is compounded by further intersecting identities, such as age, caste, ethnicity, disability, sexual orientation and gender identity.

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Risk Perception, Support for Health Behaviours/Intervention and Communication

This section explores the factors affecting the general public's adoption of recommended health behaviour interventions during a pandemic (including increased handwashing, respiratory hygiene, social distancing and quarantine). With the introduction of local outbreak management, we have considered what topics areas would help to inform local response and decision-making. This includes the demand for sophisticated communications to explain the changing and nuanced level of disease risk to the public. As well as the processes and organisations/partnerships supporting local outbreak management structures.

How trust in public structures influences health behaviours

The perceived reliability and trust in the source of information during a pandemic influences the likelihood that individuals will adopt recommended health behaviours. Specifically, the likelihood that individuals will follow recommended behaviours increases if the public have the following three associations with the government, health agencies and media sources:

- higher levels of trust
- belief in their expertise and responsibility to protect
- perceive their information as useful and reliable

Recommendation for sub-national structures designed to manage local outbreaks: To increase public trust during a pandemic it is suggested that a diverse set of experts should be used as communicators, medical personnel need to model the recommended behaviour, a transparent information strategy should be used, focusing on establishing trust and confidence in those organisations such as health authorities.

How the media influences health behaviours

Media coverage impacts health behaviours of the public during a pandemic. During the H1N1 outbreak, although a vaccine was offered before or at the onset of the second epidemic wave that caused most of the fatal cases in Europe, vaccination rates for that season were lower than expected. The academic research suggests that differences between media curves and epidemiological curves may potentially explain this; media attention for influenza H1N1 in Europe declined long before the epidemic reached its peak, and public risk perceptions and behaviours may have followed media logic, rather than epidemiological logic. This is supported by the number of laboratory tests carried out for H1N1 which positively correlated with the volume of media reports about H1N1; the increased volume of media reporting, in particular the intense school-related coverage, may have raised population concern leading to an increased demand for diagnostic testing.

Recommendation for local decision-making structures: we do not yet know if this operates at local level. Consideration of this by the communication cell could lead to them building triggers into their logic tracking of local media interest, with the aim of pre-warning health structures of any potential future demand.

Communicating clearly about risk is a complicated thing to do, what should be considered?

Risk perceptions of a disease, including the perceived severity of the disease, and the perceived personal susceptibility to catching the disease, both increase the likelihood that an individual engages in protective behavioural measures. The degree to which individuals believe the behaviours will be effective also inform how people engage in protective behaviours. Separate to encouraging health behaviours, when considering advising people to return to work, individuals are less likely to attend work during a pandemic if they perceive a high risk of becoming infected at work and perceive a risk of infecting family members, this also links with personal susceptibility of catching the disease (above). We also know that an individual's perception of risk may not be accurate. Most people perceive their risk of infection to self is ***significantly lower*** than that of the community (called optimistic bias).

Individuals with higher confidence in their ability to carry out a behaviour (self-efficacy) are more likely to engage in protective health behaviours, as are individuals who have a higher belief that they control

and are responsible for the things that happen in their lives (perceived control). People's beliefs about how everyone else is behaving (subjective norms) also affects the uptake of recommended health behaviours. We covered how some of this might manifest in the acceptability data review last week.

Recommendations for communication strategies: Making sure that simple, accessible explanations of ***how*** proposed interventions or suggested protective behaviours would be effective and an individual's role in that, are key to increasing those behaviours within the public.

Communication

Those who are older, more educated, and female engage more fully with recommended health behaviours. Support for recommended health behaviours and interventions following previous pandemics has varied substantially between different regions in a range of countries (Hong Kong, Singapore, Taiwan, and the United States). In addition to regional differences, minority groups tend to be less supportive of health behaviours and interventions when arrest is a consequence of non-compliance. Therefore, dissemination of information by health authorities should account for age, region and cultural differences.

Research shows that the way in which health and risk information is presented and framed influences how it is received. Clear information and coordination between health authorities and the media promotes adherence to preventive behaviour. However, over exaggerating the risks and minimizing the population's agency/assistance in achieving a lower number of resurgence may undermine health authority credibility. If the public narrative of responsibility is placed on the community to help protect public health, as opposed to blaming, public health behaviours increase. Being transparent about the uncertainties of the pandemic also increases public compliance.

Data visualisations can shape how risks are perceived, language-based content may communicate a very different message from data visualisations. Warm colours increase risk perception whilst data visualizations that are high-context or use representations of putting the group/society before the individual intensify risk perception in the public.

Recommendations to communicators: show quantitative information using a variety of visualization strategies. Include explanatory text and/ or visuals to more fully contextualize data visualizations, and add comparative data visualizations.

Rumours

Problematic responses to pandemics include the spread of rumours and misinformation. Academic literatures broadly suggest that rumours respond to a need for information and can reflect a lot of people trying to get more information or explanations about a topic (such as, Covid-19). There is an associated increase in rumours when the public do not trust official channels of communication. Rumours are usually understood by public health professionals as untrue or misunderstandings. It is important to understand that they are not failures in communication that need to be corrected by sharing more accurate information. This is because they reflect a mistrust of the source or the situation itself in a more broader context, not the amount or accuracy of information.

Recommendation to address rumours: Communicators should be transparent about the uncertainties of the pandemic, providing up to date and accurate information on what we do know, that is presented in a clear and accessible format. If rumours are increasing, it is likely to indicate a public mood of uncertainty about broader, more fundamental issues, and acknowledging that would enable the public to be assured that they have all the information available at the time, and that some of the fuller explanations will only be known and discoverable through the passage of time.

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Explanation of a noted trend: Why have mental health call outs lessened?

We know that mental health call-outs has reduced from the data trend analysis across all the Control and Contact Management data. We have scanned the academic literature to explain this and we have the following explanations to offer. We have divided this by group who are typically represented in that call category. Following these explanations we predict that as we come out of lockdown measures and when a larger number of people return to work, we will see a rise in these categories of calls once again.

Homelessness

Homeless people already have a lower life expectancy, they often have underlying health conditions putting them at greater risk if they develop Covid-19. They lack sleep, are often malnourished and have high stress levels from navigating daily life, weakening their immune systems. Those without a home have been given accommodation to prevent the spread of Covid-19 and increase their protection. This accommodation differs, but it remains a current stable support for homeless people. Safety and security needs are met by being around others, and cared for in this way by their society, although there may be fear of what happens to their accommodation once C19 passes. These aspects work to improve the mental well-being of homeless people, meaning they are less reliant on health and police services.

Children in care, changes to regulations

Another vulnerable group that can generate missing persons reports are children in care who abscond. Numerous changes have been made to regulations relating to children's social care in response to Covid-19. One of these includes that residential settings are able to invoke rules around the deprivation of a child's liberty, forcing them to self-isolate if they show symptoms or are suspected of having the illness. It is not clear how staff would need to prove a suspicion of the illness, but the Children's Commissioner – Anne Longfield – has called for the change to be revoked (Children's commissioner, 2020). It is currently unclear if these circumstances have any impact on the current reports, but they could be explored further. Changes to ensure children have stayed within their place of care may also have reduced these calls.

Changes to the Mental Health Act

Changes to the Mental Health Act 1983 would see the move from two doctors needing to admit someone on a compulsory basis (Section), to just one doctor. Additionally, the various holding power periods for a patient have also increased from 72 hours to 120 hours (England, Scotland and Wales) and from 6 hours to 12 Hours (England and Wales) and from 12 hours to 120 hours (Northern Ireland). This means a major check on compulsory admission (the agreement of two doctors) has been removed. It therefore may be that patients that may have had numerous call-outs previously are being held for longer, or they are being detained/compulsorily admitted quicker.

Other insight

Other explanations could be the more general changes to wider society. Are people looking out for each other more as a society and talking to people and checking in?

Dementia, wandering and missing persons

Wandering is also a contributing factor to missing persons calls. Wandering is associated with a diagnosis of dementia in some individuals. This can be as geographically contained as lapping, random, and/or pacing patterns. However, these are frequently associated with walking out of their current place of care, or getting lost unless accompanied. Wandering is also frequently used to describe the situation where someone with dementia has become lost in the community.

There is a relative lack of high quality research on the causes and management of wandering in people with dementia. However, likely causes include unmet needs both physical (such as, the need for toileting assistance) and psychological (such as, the need to find a place of safety or someone familiar) and environmental factors (such as, a busy or noisy environment).

Carer Availability

High rates of furloughing and home working due to social distancing restrictions may mean that designated carers that would normally be working during the day are more available and flexible in their

ability to care for individuals with dementia. Therefore, carers may actually increase their contact with people with dementia, both in person and through virtual means (see alzheimer's society for recommended ways to virtually stay in touch), if they were not doing this before lockdown and physical distancing measures.

Physical Shielding

As people with dementia are likely to be elderly and suffer from comorbid health conditions, it is likely that many will be classed as vulnerable and therefore be shielding or physically distancing to a higher extent. This means that they may no longer be doing their own shopping or in fact, be going out at all. As research shows that busy/noisy and unfamiliar environments increase the risk of dementia patients getting lost, reduced or no exposure to these environments due to not shopping or going out for social engagements may mean that people with dementia have fewer opportunities to become lost or disoriented. Additionally, even if people with dementia are still going out, it is likely that the places they visit (such as supermarkets) will be significantly less busy and more structured than usual, reducing the risk of the individual becoming confused or disoriented.

Care Homes

Physical distancing/shielding may mean that care homes have stricter policies on where residents can go, and an increased awareness of where they are at all times. For example, the Scottish government recommend that residents should: be isolated within their rooms as much as is practical; reduce time in communal areas by 75%; be served meals in their rooms where possible and; avoid communal sitting areas. As staff awareness of the location of residents reduces the risk of wandering, and restricted movement reduces the chances of disorientation and leaving the care home, the physical distancing policies in care homes may reduce the likelihood of residents wandering.

Activities

It is possible that the current lockdown and advice given to carers and individuals with dementia by institutions such as, charities have prompted increased exercise, preferred activities and daily routine, and these may contribute to lower rates of wandering. The literature on wandering suggests that the activities an individual with dementia engages in influences the likelihood of them wandering.

Explanation: Overall the changes to society to manage Covid-19 are likely to have changed the structures and support around our most vulnerable in society. When examining the groups typically within missing person category calls, we see possible explanations to explain why each group has lower ability to leave their current place of care. This might explain the overall lower trend.

Transport Trends

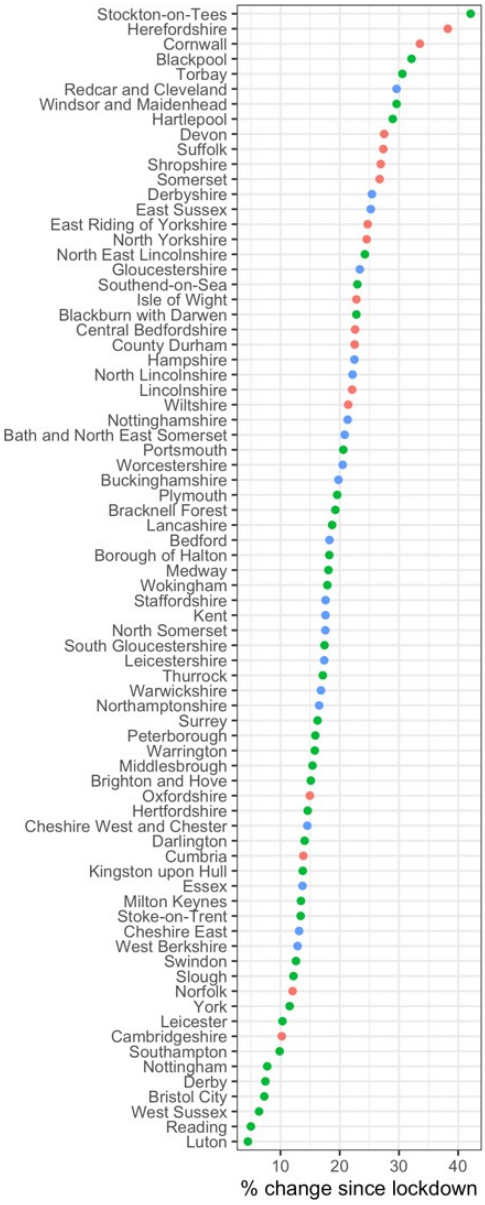
We had a bank holiday last week so the data releases were a little late to include in our weekly report. This week the releases were on time so we have continued to analyse the data of social trends.

We have also started to look ahead to the next stages of the level of alert and what could be introduced. As we see more people returning to their place of work as more service and retail opens up, so we will see an increase in people's journey's to and from work. Consequently, we have tried to scan the risks this might present at national and regional level.

Public Transport Use

Google Mobility data show a stark increase in mobility around transit stations – representing increased public transport use, which was expected. Figure 1 (below) shows the percentage change in mobility around transit stations from the week when lockdown began (i.e. when public transport use was at its lowest) relative to now (most recent data from 24th May), showing how much public transport use has increased since the beginning of lockdown. The areas towards the top of the figure have seen the biggest increases in public transport use, with Stockton, Herefordshire, and Cornwall seeing greatest increases in public transport use. These have been triangulated from Google Mobility data (www.google.com/covid19/mobility) and rurality data (2011 Census data).

Figure 1: Public transport use



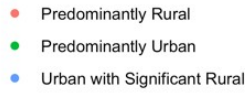
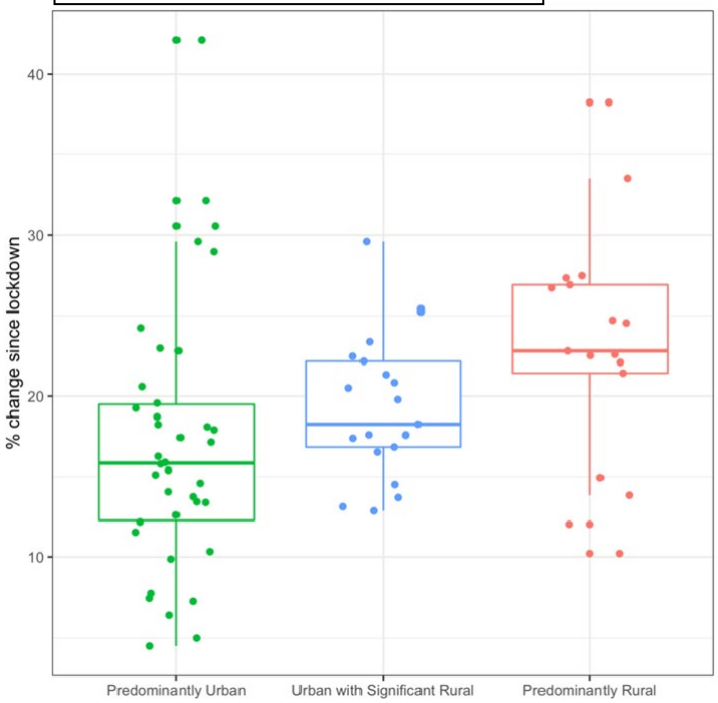


Figure 2: Public transport



Further exploration shows that this is happening more in rural areas than urban areas. Notably, this does not reflect underlying differences in demographics; correlations carried out with income, employment, education, and overall IMD values do not correlate with increases in public transport use.

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Figure 3: Travel times

The association of those in predominantly rural areas using public transport more might reflect a relatively lower ability to walk/cycle as modes of transport. That is, it takes double the amount of time on average to travel to key services in rural areas by walking, cycling, or public transport (DfT Journey Times Statistics, 2017), and so those without access to a car may rely more on public transport for journeys that take longer using self-powered transport. An additional consideration may be the safety of self-powered travel – particularly cycling – in rural areas, with cyclist deaths on rural roads relative to urban roads (DfT Casualties involved in reported road accidents, 2019).

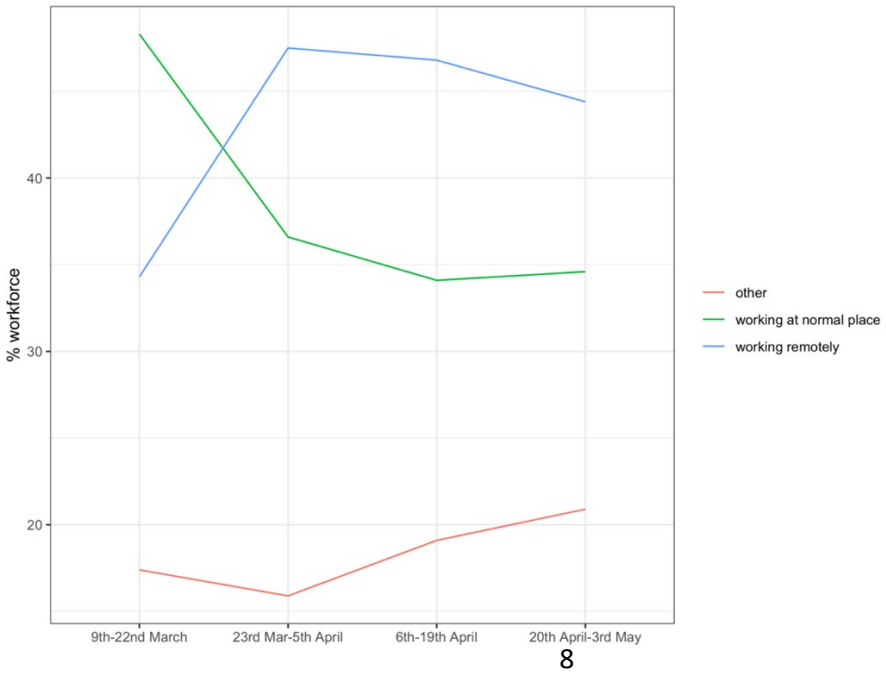
Commuting to work

Approximately 45% of the workforce were working remotely, according to the most recent ONS Business Impact of COVID-19 Survey (BICS), with ~35% working at their normal place of work, and ~20% falling into another category (e.g. furlough, off sick, unpaid leave; Figure 4). These are responses from 4,596 businesses reporting on what proportion of their workforce had each of these working arrangements.

It is likely that more people will return to working at the normal place of work in the coming weeks and months, which has implications for maintaining safe physical proximity.

NB: These data refer to the period up to 3rd of May, prior to the easing of lockdown measures announced on 11th of May. The next data release will be released on the 4th of June, and will cover the time period up until 17th of May. This may give a clearer picture of the UK workforce. We will continue to monitor the percentage of people working remotely compared to those working at their normal place, in order to give an indication of potential contact with others and commuting.

Figure 4: ONS Business Impact of COVID-19 Survey (BICS)

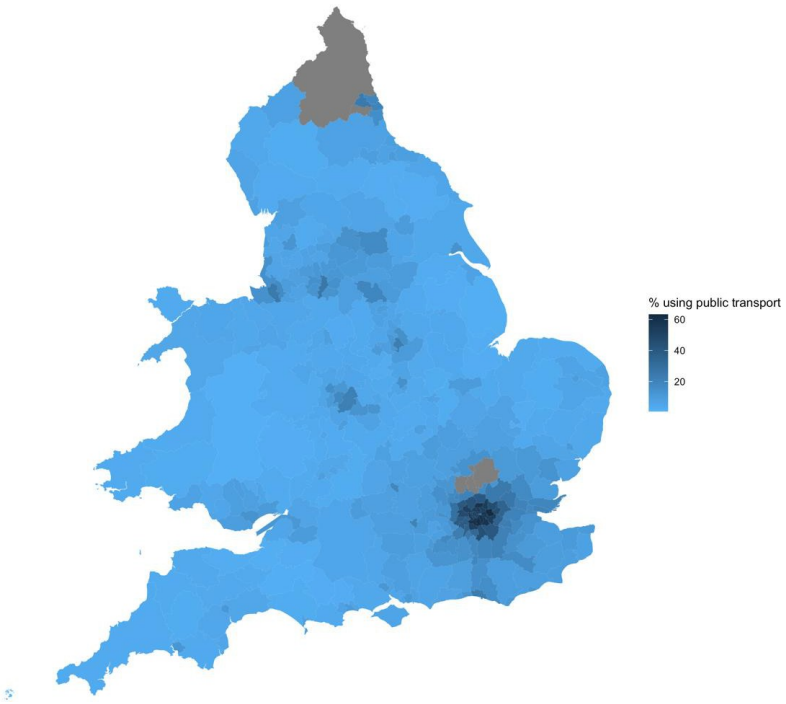


One of these considerations is of commuting to work.

The following data are from the 2011 census retrieved from NOMIS (Method of travel to work, 2001 specification) by distance travelled to work and use of public transport to travel to work.

Many people use public transport around London, Manchester, and Bristol, though this is overwhelmingly evidenced for London, with approximately 50% of people using public transport for travelling to work in the surrounding boroughs (Figure 5). This may be an early indicator of areas of increased risk of spreading viral load once more people return to the workplace, both with movement between towns, cities, and villages, and proportion of people using public transport.

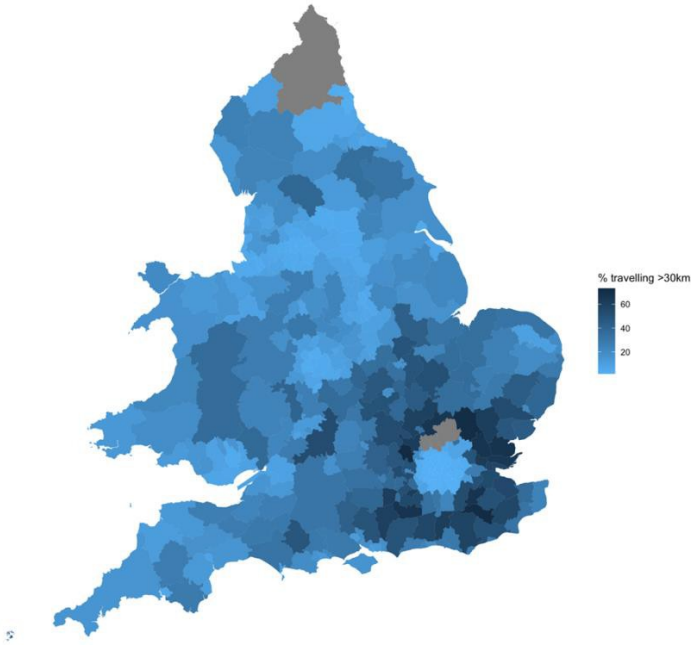
Figure 5: Percentage of people working who use public transport to get to work (by local authority)



Of those who use public transport to travel to work, many travel more than 30km. Figure 6 below shows the percentage of public transport commutes which are further than 30km; local authorities which have greater proportions of such journeys are shown in a darker blue. Longer journeys may increase people's potential for contact with others (dependent on the number of stops made). Those travelling further also have the potential to carry the virus into different areas. In other words, the darker the blue, the greater percentage of longer public transport journeys, suggesting that this could be one risk factor in the potential viral spread across regions.

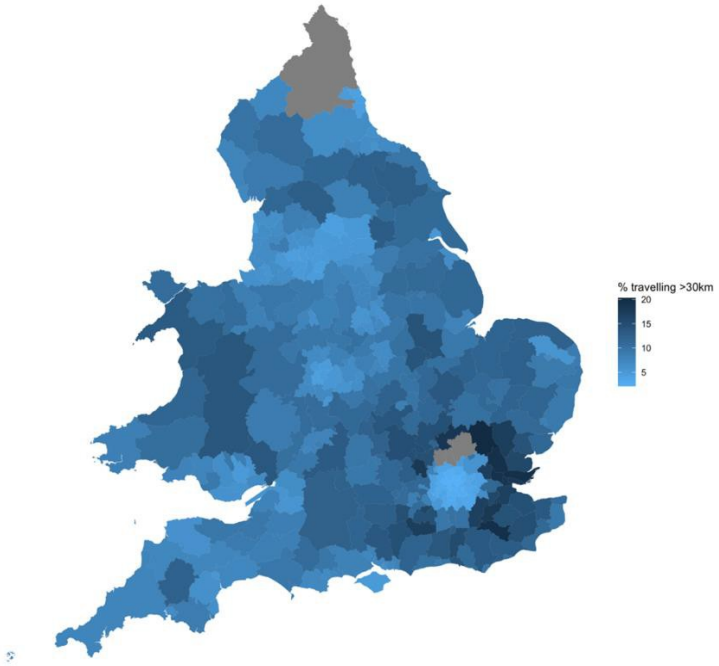
People travel long distances on public transport for work in many local authorities; again, around the London boroughs, but also on the outskirts of Wales, the East of England, and the South-West. This may also be a consideration when consideration local lockdowns to control viral spread in regions that see outbreaks of the virus. This may be particularly relevant for those on the Welsh-English border, with different regulations in each of the nations.

Figure 6: Percentage of people using public transport for commutes who travel more than 30km, by local authority



The same pattern is also seen in those travelling more than 30km to get to work using any mode of transport (Figure 7). Fewer people overall travel over 30km for work (up to 20% of people), however this is again more prevalent in London (though also relatively consistent across England, with many on the Welsh border travelling over 30km for work.

Figure 7: Percentage of people who travel more than 30km to get to work using all modes of transport, by local authority



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YouGov Mood Data

Having analysed the trends, the overall findings can be drawn from figures 8-13, which we have included for reference on pages 13 and 14.

The data analysed in the figures include the dates following the easing of lockdown measures. The overall trends are as follows:

- There is an overall trend of increased happiness since the announcement. This is evident across all sections of society (social grade, political affiliation, sex, age, and location).
- There is some evidence that fewer people are bored and scared. This is also evident across all sections of society, as above.
- Notably, there are no consistent trends for loneliness or fear (except for those who voted conservative in the last General Election, fewer of whom are now reporting feeling stressed).
- There are no great disparities with social grade overall, though those who are not working are still most lonely (~25% people, compared to ~20% from other social grades) and least happy.
- Those in the South (except London) are showing the strongest trend of reduced boredom since the easing of lockdown.
- There remain clear age effects of boredom, loneliness, with younger people (18-24) most likely to report these, and consistently fewer people in each consecutive age group (25-44, 45-64, with fewest over 65s bored, lonely, and stressed).

Figure 8: YouGov Mood: Location (England)

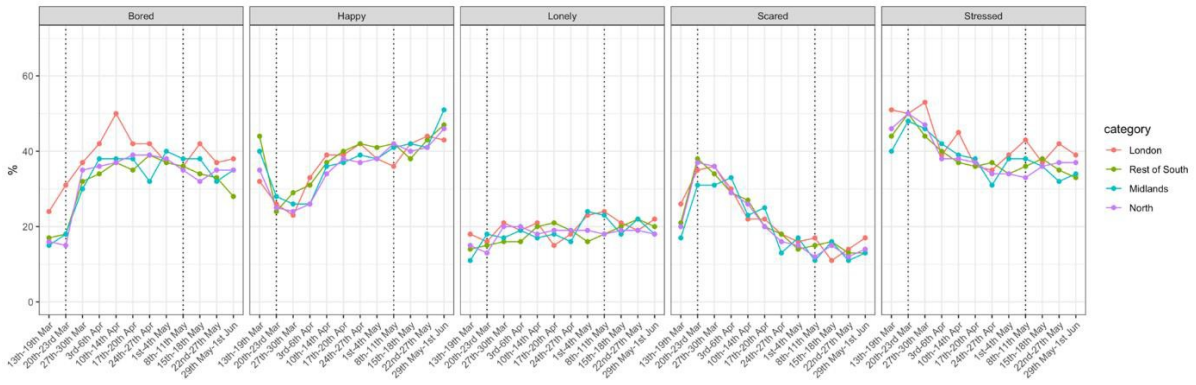

Figure 9: YouGov Mood: Location (Scotland and Wales)

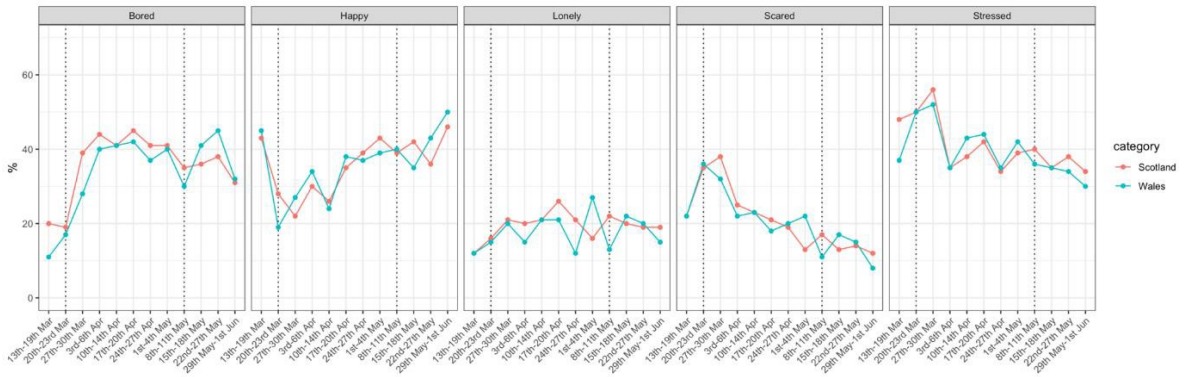

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Figure 10: YouGov Mood: Age

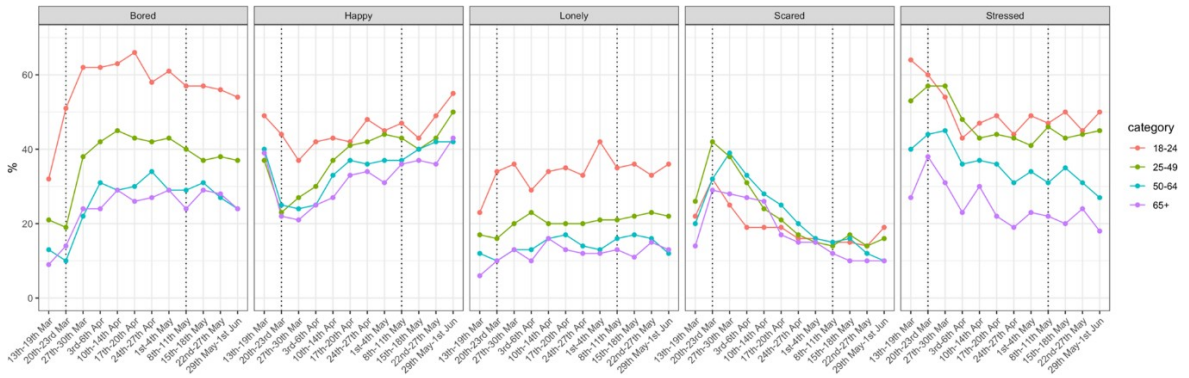


Figure 11: YouGov Mood: Sex

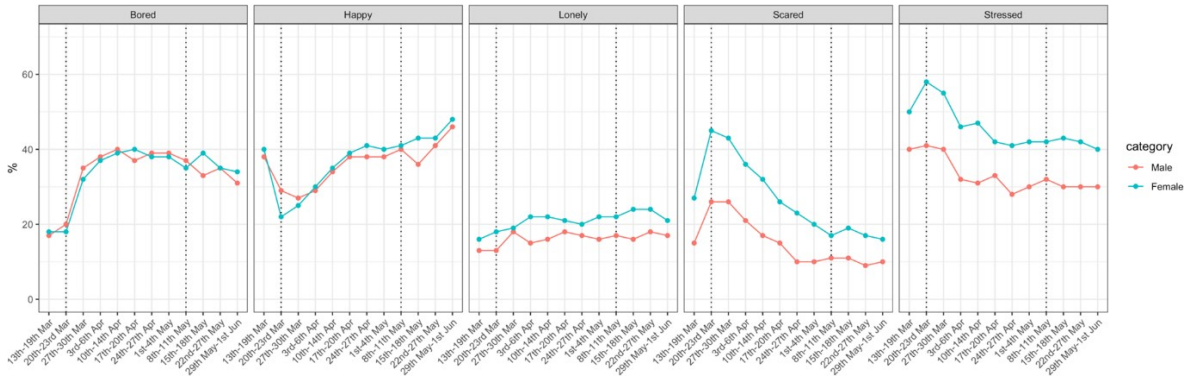


Figure 12: YouGov Mood: Political Affiliation

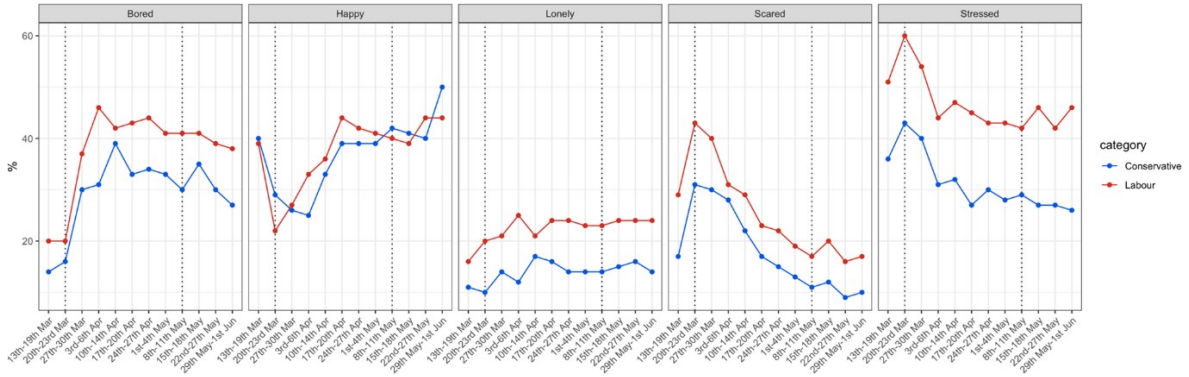
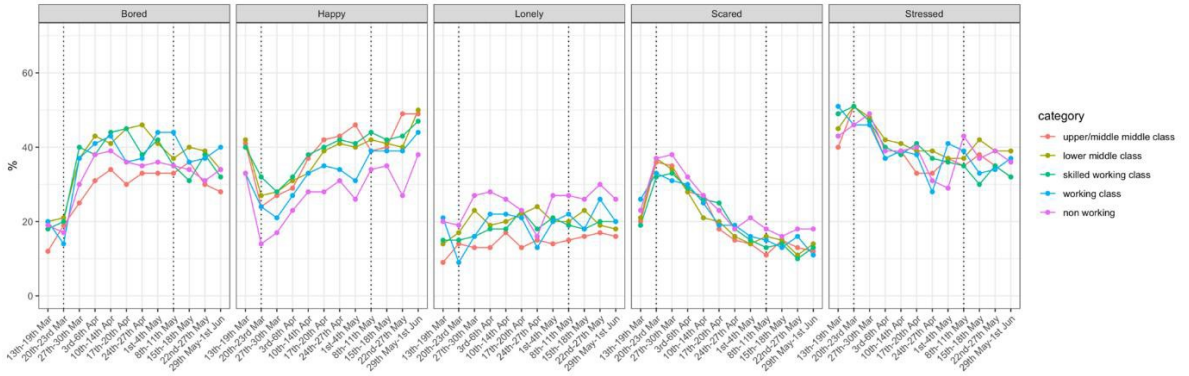


Figure 13: YouGov Mood: Social Grade



What we do in this analysis, how and why (caution when interpreting)

A data review is undertaken by academics at Nottingham Trent University every week to inform the C19 National Foresight Group. Data related to Covid - 19 UK social and economic trends is reviewed to inform, guide and help prioritise discussions at national and local decision-making level (LRFs). The C19 National Foresight Group are keen to ensure that the data included has been ethically governed and structured to adhere to open access, data protection and GDPR regulations and principles. For example, the data is to be manipulated in an ethical manner, and the content and context is to be fit for purpose in terms of the audience and decision timeframe in question.

Activity Completed

The following findings are based on a review of multiple data sources exploring Social, Economic, Psychological, Community aspects of Covid 19 in the UK. These could include:

- ONS: covers wellbeing, perceived financial precarity, objective indicators of UK economy, household financial pressures, perceived impact on work life
- OfCom: Public perceptions of information to help manage Covid 19, perceptions of preparedness and action
- ONS: Deaths from Covid - 19
- Gov UK: Relevant contextual information
- Census and geographical data: Geographical/location specifics
- IMD: Socio economic trends associated with spread or primary/secondary impacts
- LG Inform: Population, social, demographic, lifestyle and health data
- You Gov: Public mood
- NTU's own analysis of open source data (lead by Dr. Sally Andrews)
- Other academic survey work published within the last week

Limitations for Consideration

The National Foresight Group have been keen to quality assure the data assumptions, including the equity and representation of participants.

Internet use data indicates representational issues in older adults

Almost all of the data sets draw from online surveys. With this in mind the statistics behind online access were explored. The following is to be considered in the assumptions taken from the data sets.

The table below shows the estimated number of people who have never used the internet. The data are drawn from ONS 2019 Internet users:

Table 1: estimated number of people who have never used the internet

Age	Estimated number of people who have never used internet	Age	Estimated number of people who have never used internet
16-24	20,000	55-64	389,000
25-34	28,000	65-74	869,000
35-44	46,000	75+	2,482,000
45-54	158,000	Equality Act Disabled Not Equality Act Disabled	2,336,000 1,657,000

Table 1 shows that caution should be applied when considering the inferences made in the rest of the document as older adults could be underrepresented in the samples. The estimated numbers of those that have never used the internet begins to increase around age group category 35-44, the subsequent age categories increase by approximately twice as many non-users as the age category that precedes it. The numbers of 'over 75s' (2,482,000) for example not using the internet equates to almost a million more than the total of the other age group categories (1,510,000).

The interpretation of data should also consider the proportion of people known to be disabled by government agencies who do and do not meet the Act's criteria. These numbers make up 3,993,000 of the population, so this should be considered in the representativeness of the data.

END.

Contact us: If you have any questions about this output please email: c19foresight@ntu.ac.uk

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