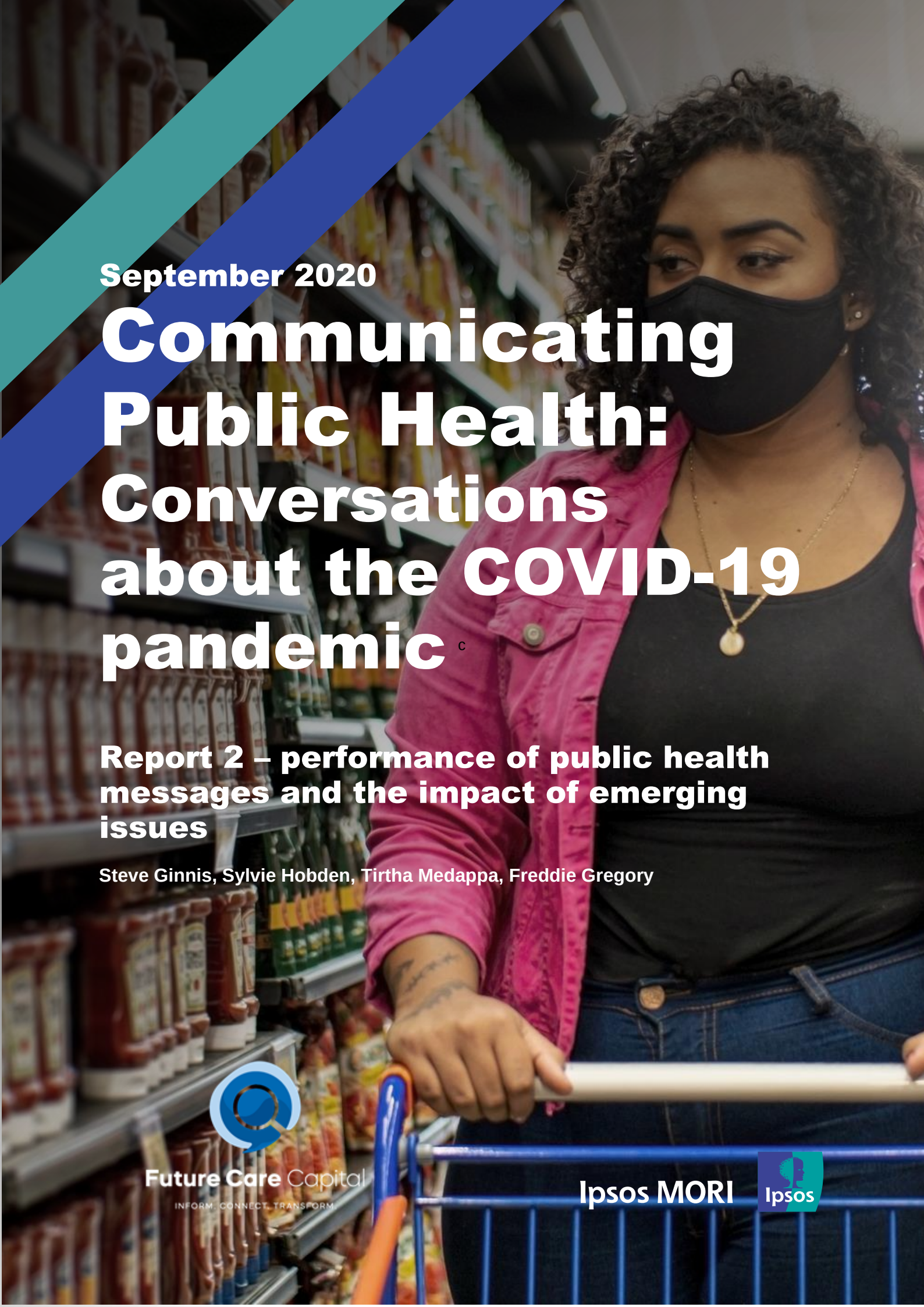

September 2020

Communicating Public Health: Conversations about the COVID-19 pandemic C

Report 2 – performance of public health messages and the impact of emerging issues

Steve Ginnis, Sylvie Hobden, Tirtha Medappa, Freddie Gregory

Future Care Capital
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1 Foreword

The efficacy of public health messages has, perhaps, never been more important than it is now in the midst of the COVID-19 pandemic. We are all reliant upon clear instructions, informed by expert opinion, to guide us in modifying our behaviour to safeguard ourselves and one another in the absence of an effective vaccine at the time of writing. However, communicating important messages about health and care in challenging circumstances is by no means straightforward.

Those tasked with devising such messages in the UK first needed to convey the Government's suppression strategy, which was pursued to try and keep cases to a minimum for as long as possible early in 2020. They moved, thereafter, to explain and secure adherence to more 'drastic' measures that were designed to prevent health services from being overwhelmed when suppression was no longer deemed viable. Once the peak of the first wave of infections passed, the Government took steps to lift the national lockdown it introduced in March 2020. It then needed to issue guidance about 'COVID secure' arrangements to facilitate a return to work, education and leisure activities, and to devise an approach to communicating the parameters of numerous 'local lockdown' arrangements, working in conjunction with local Directors of Public Health and other professionals.

In this second broad-ranging report in a series, we provide an analysis of public reactions to key announcements, public health messages and events amongst social media users during the first six months of the pandemic in the UK. Simple messages, applicable to everyone, were most clearly understood and generally solicited a positive response. Those designed to herald the end of the national lockdown and enter a new phase of the pandemic caused a greater degree of confusion and were generally greeted with negativity, although they coincided with events that generated significant coverage at the time which may have impacted their overall efficacy.

Each of our reports is designed to inform those tasked with communicating important messages about health and care during the ongoing public health emergency. Looking ahead, we anticipate them needing to grapple with a potential second wave in infections. They will also, likely, need to accommodate or, even, overcome the apparent growth in fatigue and, in some cases, outright opposition to public health measures which some deem overly restrictive. There is, crucially, a need to maintain public trust in the safety and efficacy of any vaccine that might result from scientific endeavour. Communicating public health will, then, remain a priority over the months ahead.

Annemarie Naylor, Director of Policy and Strategy

Future Care Capital

2 Key findings

2.1 Value of social media research

The aims of the research were to:

- Understand, based on social media activity, what constitute the key events and milestones related to COVID-19;
- Garner insight into how public health messages were received throughout the pandemic; and,
- Explore emerging issues that affected the way in which public health messages were received and adhered to throughout the pandemic.

The primary methodology used to explore these aims was social media analysis, supported by a combination of desk research and survey research. The result was a series of datasets of social media posts from between 01 February and 30 June 2020, each related to a different public health message or emerging issue. The datasets included posts from social networks, forums, and comments.

For clarity, the social media analysis conducted as part of this project is not representative of the general population; instead, it seeks to be representative of those who posted publicly about the COVID-19 pandemic on social media. Given this, it is important to note that, compared to the general public, it over-represents the views of younger adults, and those from more affluent backgrounds. The findings are also reflective of the nature of social media, both in frequency of posts and in access to publicly available data. As such, the data discussed in this report is naturally weighted towards Twitter content, and towards the earlier stages of the pandemic which witnessed the highest levels of relevant posts on social media.

With these limitations in mind, social media data provides a rich insight into the daily lived experiences of the public during the coronavirus pandemic, and an unrivalled real time perspective of how events, government communications, media coverage and public opinion interlink during a time of crisis.

2.2 Key issues

- Throughout the pandemic, the topics discussed in the highest volumes on social media were those that affected the vast majority of the general public. These included lockdown guidelines, testing and vaccines and the recovery strategy.
- However, topics that affected subsets of the population - including quarantine guidelines, shielding guidelines and social care – were less evident. Together, these findings imply that over-reliance on social media to communicate public health messages leads to a risk that important messages, that affect a subset of the population, get overwhelmed by mass advice.
- Events also emerged from the analysis that were outside control of the government. For example, the Prime Minister's admittance to hospital, and the reports that Dominic Cummings had breached lockdown regulations. In these cases, the data suggests that social media posts from mainstream media outlets were key in driving the conversation.

2.3 Performance of Public Health Messages

- Success in delivery of public health messaging cannot be assessed through automated metrics such as ‘reach’ or ‘impressions’ on social media alone. A more nuanced assessment and analysis of the content in response to the original public health message is required to also assess levels of confusion and likely adherence.

- Public health messaging related to hand hygiene and hand washing appears to have been the most successful over the course of the pandemic. It secured significant attention on social media, and received a positive reception, with endorsement and reinforcement from a range of popular figures to help encourage improved public behaviour.

- In contrast, the announcement to ‘Stay Alert’ receives one of the most negative reviews. The main request to ‘stay alert’ resulted in confusion and ridicule, and interest in this behaviour was not sustained over time.

- Public health messaging on shielding also appears to have been less successful on social media than other messages. This gained relatively little traction with social media users, and resulted in high levels of confusion. The lower volume of conversation relating to shielding may reflect the fact that, unlike other public health messages, shielding measures affected a subset of the population.

- Overall, the performance of public health messaging declines over the course of the pandemic. This is evident in greater levels of discomfort and confusion, and lower levels of adherence to messages to ‘stay alert’, wear facemasks, and steps to ease lockdown. This is further supported in survey research among the wider public, which shows a greater level of clarity in messaging on infection prevention than returning steps to ease lockdown.

- Direct communications from government accounts or prominent officials on social media had less impact than those from other influencers. Government led accounts appear as top influencers in only one of the eight public health deep dives we undertook. Further work is required by government to build positive networks within owned channels, or to work with other key influencers to help maximise the impact of future public health messages.

2.4 Emerging issues relevant to public health

- Conversation relating to the Coronavirus Act received little attention as the pandemic endured. Posts relating to enforcement received the most engagement; though there was some initial scrutiny of the issues not covered (or not covered enough) in the Act, a significant proportion of posts on social media sought to provide advice and information about the implications for members of the public.

- Conversation about the use of technology during the pandemic was the largest single issue captured during the research. However, this was discussed in the broadest possible terms online, with enthusiasm for issues ranging from developments in Track and Trace and technology to discovery of a vaccine. Relatively small amounts of conversation critiqued government use of technology in response to the pandemic.

- In contrast, social media users were more critical of the use of data and information. The spectrum of mistrust and challenge was broad and spilled over into conspiracy theories about the existence of the virus. This topic illustrates the very real challenges for government in countering or competing with incorrect claims made on social media.

- Social media also documents the very personal loss and sacrifice made during the pandemic, and the anger caused by reports that the Prime Minister's Advisor, Dominic Cummings, had breached lockdown regulations. The lack of prominent discussion or search activity about support for people experiencing bereavement and grief suggests that the impact of this loss and sacrifice may not have been adequately addressed.

- Social media provided a valuable vehicle for raising awareness of health inequalities relating to ethnicity – this was championed by prominent politicians such as Keir Starmer, and created a highly engaged group, many of whom posted on the topic several times. In contrast, there was less social media conversation relating to other forms of health inequality, such as wealth. One place where this conversation was evident, was in discussions about mental health. Social media users suggested that issues such as insecure employment and financial pressure were likely to lead to poorer mental health.

3 Introduction

3.1 Background and objectives

In April 2020, during the COVID-19 lockdown, almost half of the British public (47%) reported that they were spending more time than usual on social media[1]. It appeared that, due to the strict physical distancing measures, people were turning to social media to maintain connectivity. The implication of this finding is that, during the pandemic more than ever, social media data should provide a useful insight into the perceptions and experiences of a sizeable proportion of the public.

The research described in this paper aimed to harness this opportunity, in order to understand how social media users responded to COVID-19-related information disseminated by the Government, the mainstream media and other sources.

This insight is urgently needed. The World Health Organisation (WHO) has shared its concern that in fighting the COVID-19 pandemic, they must also combat the "infodemic"[2]. This overabundance of information can cause important messages to go unheard, while misinformation or speculation gains traction. Understanding the nature of the content social media users generated and engaged with, and the way in which they did so, can inform the way in which information is best shared in the future.

Ipsos MORI were commissioned by Future Care Capital (FCC) to explore the insight that could be generated from analysis of social media under four specific aims:

1. Understand what constitute the ‘key’ announcements made in relation to the pandemic influencing social media activity in the UK;

2. Evaluate which public health messages have ‘performed’ better or worse than others amongst social media users;

3. Explore the key trends and timelines associated with a range of challenges and opportunities impacting health, care and allied professionals and their ‘resolution’, as told on social media;

4. Draw on social media data to better understand the implications of the pandemic in the UK amongst social media users relating to mental and physical health.

This report is the second of four outputs from the project, each of which relates to one of the aforementioned objectives. It provides an overview of the methodology, before detailing the findings relating to objective 2: evaluating which public messages have 'performed' better or worse among social media users, and exploring emerging issues related to these public health messages.

Further findings from the project can be found in reports 1, 3 and 4:

- Report 1 - Method review and overview of key announcements

[1] Ipsos MORI. (2020). *Social media, gardening, books, bread and having sex: How Britons are whiling away coronavirus lockdown.* https://www.ipsos.com/ipsos-mori/en-uk/social-media-gardening-books-bread-and-having-sex-how-britons-are-whiling-away-coronavirus-lockdown

[2] Zarocostas, J. (2020). *How to fight an infodemic*. The Lancet, 395(10225), 676. https://doi.org/10.1016/S0140-6736(20)30461-X.

- Report 3 – Discussions about and among health and social care professionals
- Report 4 – Understanding mental and physical health among social media users during lockdown Key findings from Report 1

The social media data collected as part of the project was analysed using a combination of automated analysis, manual coding, and qualitative investigation. Social media analysis was augmented by desk research, survey research and Google search analytics.

An overview of the methodological approach is provided in Chapter 4. A more detailed description of the methodology employed, alongside an exploration of the key merits and limitations provided by social media is provided in 'Report 1'.

3.2 Structure of the report

This report intends to provide insight into the findings from the analysis of social media posts. It provides:

- An overview of the methodology that has been used to export the social media data
- Analysis of the extent to which public health messages can be seen to have performed well among social media users.
- Analysis of social media posts about emerging issues related to public health messages.

3.3 Acknowledgements

Ipsos MORI would like to extend our thanks to Annemarie Naylor, Dr. Peter Bloomfield, and Dr. Josefine Magnusson for their insight, advice and feedback throughout the project.

4 Methodology

This chapter provides a short overview of the methodology used to conduct the project, and key considerations for interpretation of findings. Further detail regarding the methods used can be found within 'Report 1', which provides a detailed description of the merits and limitation of these methods.

4.1 Our approach

The primary methodology used to explore the objective was social media analysis, which was supported by analysis of search data and survey research.

The key stages to the approach are outlined below. Further detail regarding the methods used can be found within the methodological annex to this report.

Stage 1: Social media data was collected using search queries

Boolean search queries were written to collect data on 14 topics relating to public health messages. Using these search queries, social media data was collected via the Synthesio social listening platform. The result was an initial dataset of circa 50,000 social media posts (fewer where fewer relevant posts were identified) for each of the 14 topics of interest. Data was collected from between 01 February and 30 June 2020, and the dataset included posts from social networks, forums, and comments.

Stage 2: A sample of posts was manually coded

For each of the public health messages or emerging issues, a random sample of 100 social media posts were manually coded to provide an assessment of emotion and humour, and the extent to which comments related to adherence, clarity of understanding, or support of the underlying public health message.

Stage 3: Automated analysis was conducted

Automated metrics for each topic were appended to the data by Synthesio. These included automated sentiment analysis (categorising posts into positive, neutral and negative sentiment), volume of interaction (e.g. 'likes', comments, re-posts) and available demographic data on gender and age.

Stage 4: Integrative analysis was conducted

Once the automated and manual analysis had been conducted, the data was drawn together and integrated in order to draw conclusions about each of the public health messages or related emerging issues.

Table 4.1 outlines the forms of quantitative analysis that were conducted utilising metrics provided within the Synthesio datasets. As all of these metrics are either quantitative or automated, it was possible to apply them to the entirety of each dataset. Further detail about these forms of analysis is available within 'Report 1'.

Table 4.1: Quantitative analysis methods

Volume	The number of relevant social media posts across a defined period of time.
Interaction	The average number of interactions (for example 'likes', shares, comments) received by posts on a specific topic across a defined period. Synthesio automatically generates an engagement score for each post.

Sentiment	The tone of the social media post (positive, neutral or negative). Synthesio automatically generates sentiment for each post using natural language processing.
Posts per author	The average number of posts per author that appear within each dataset.

Table 4.2 outlines the forms of analysis that were conducted manually. As these forms of analysis were qualitative in nature, they applied to a random sample of 100 posts from each dataset. Again, further information about our approach to manual analysis is available within the methodological annex to this report.

Table 4.2: Metrics used to analyse social media data

Emotion	The emotion (fear, surprise, puzzlement, humour, information, happiness or sadness) displayed within each social media post. Emotion was coded manually for a random sample of 100 posts associated with each topic of interest. It should be noted that posts coded as exhibiting **negative emotion**, were not necessarily disagreeing with a public health message. For example, those exhibiting negative emotion relating to lockdown adherence may have been criticising others for failing to follow guidelines.
Content	The type of content contained within each relevant post, and the relevance of this to the performance of the public health message. For example, comments where the message was supported or challenged, well adhered to or unclear. Content was coded manually for a random sample of 100 posts associated with each topic of interest.
Authors	The type of social media account that posted the relevant content. For example, whether a member of the public, media outlet, health organisation or government source. Author was coded manually for a random sample of 100 posts associated with each topic of interest. It was only possible to code author for posts where this information was available. To avoid underestimation of the proportion of posts that originated from the public, posts that are anonymous have been assumed to be from a member of the public. This is likely to be accurate in the majority of cases, as organisations are likely to post content that is public.

Stage 5: Additional insight was collected

Two forms of additional data were used to supplement the social media data. Further

- **Google search activity:** Using the capabilities provided by Google Trends, search activity related to each of the public health messages and issues of interest was analysed. This analysis included volume of search activity over time, and search terms that were related to the search term of interest.
- **Survey of the general public:** A survey was conducted among a representative survey of UK adults, aged 16-75, to explore attitudes towards public health messaging around the

COVID-19 pandemic. The survey was conducted using Ipsos MORI's online Omnibus platform and received a total of 1,105 responses.

Data sources used throughout this report

To aid interpretation of the data used throughout the report, each figure displays a flag in the upper-right corner to identify its data source.

- A **blue** flag signifies that the data drawn from social media
- A **purple** flag signifies that the data is from the representative online survey
- An **orange** flag signifies that the data is drawn from Google search activity

4.2 Sources of conversation

For clarity, the social media analysis conducted as part of this is not representative of all members of the public in the UK; instead, it seeks to be reflective of those who posted publicly on social media about public health messages during the coronavirus pandemic.

It is not possible to identify the precise profile and characteristics of each individual social media user within the data. However, based on the data available, it appears that the data reflects the same skews in profile as that of social media users compared to the wider UK population overall (i.e. social media users are younger and more often male):

- One in four posts within the dataset (26%) had age identified[3]. Of these posts, 45% were posted by social media users aged 29 or younger, and 55% were posted by those aged 30 or older.

- Gender was identified for 16% of posts within the dataset. Within this group, 34% were female, while 65% were male.

It is also important to note that social media analysis does not allow direct examination of who is consuming social media content; only those who are posting it. The volume and demographic profile of those viewing posts on any topic may differ considerably to those actively posting.

Finally, the sample of posts taken from social media for this study reflects the skew in access to publicly available social media data. As such, the majority of posts and conversations captured in relation to public health messages in the UK were sourced from social networking sites, with 75% originating from Twitter and just 14% from Facebook. Forums made up the vast majority of the remaining data (11%), with posts from Digital Spy (3%) and Lipstick Alley (2%) forums being the most represented. A small number of posts were drawn from the comments sections of blogs, news or other sites.

[3] As part of the data collection process, social media aggregators such as Synthesio append 'gender' to datasets where they have either been provided with this by social media platforms by the API, or where this has been declared publicly available by the user. This information is not available for all social media users.

5 Public health messages

Throughout the pandemic, the UK government has employed public health messaging to encourage the UK public to act in ways that minimise transmission of COVID-19. For these public health messages to be effective, WHO suggests that they must be accessible, actionable, trusted, relevant, timely and understandable. However, throughout the pandemic, communications experts have criticised the public health messages deployed in the UK for violating these key principles[4].

Data from survey research has consistently supported these concerns[5]. For example, one in three members of the general public (33%) think the Government hasn't provided enough information about what they personally should do in response to COVID-19. Furthermore, where information has been provided, two in five members of the UK public (43%) report that they found the Government's communications unclear.

Given the increased centrality of social media to individual's lives during the pandemic, an understanding of how public health messages have been received on social media has the potential to add insight over and above that provided by more traditional research approaches.

For the purposes of the research, we defined public health messages as *public health policies, initiated by the government about what the public should or shouldn't do during the pandemic*. Applying this definition to the findings from desk research, four key groups of COVID-19-related public health messages emerge:

1. Infection prevention
2. Lockdown
3. Shielding
4. Calls to action

A series of bespoke search queries were written to collect social media data associated with each of these four types of public health messages. This social media data was assessed against the framework presented in Table 5.1. A range of metrics were used to measure the accessibility, response, understanding, and adherence associated with each message. A description of each of these metrics can be found in Tables 4.1 and 4.2.

[4] PR Week. (2020). *PR-pros lambast new government 'Stay alert' slogan as 'unclear' and 'unhelpful'.* https://www.prweek.com/article/1682781/pr-pros-lambast-new-government-stay-alert-slogan-unclear-unhelpful

[5] Future Care Capital. (2020). *Public not clear about Government advice on socialising, work and travel.* https://futurecarecapital.org.uk/latest/new-polling-public-not-clear-about-government-advice/

Table 5.1: A framework for measuring the performance of public health messages on social media?

	Metrics	Success	Failure
Reach: does the message gain traction?	*Volume over time and interaction data*	High volume of discussion and interest	Low volume of discussion and interest
Response: is the message well received and supported?	*Automated sentiment and manual coding*	Support for premise, govt approach, and effectiveness	Challenge of premise, govt approach, or of effectiveness
Understanding: is the message clear and well understood?	*Manual coding and search data*	Low levels of confusion and complaints over clarity	High levels of confusion and complaints over clarity
Adherence: has the message been followed?	*Manual coding*	Positive reports of people following the advice	Negative reports of people following advice
Audience: has the message been received by all	*Manual coding of profile, and automated coding of demographics*	The message is well targeted and is accessible to all. More organic rather than media led.	The message is poorly targeted and is not accessible to all; and is less organic

- **Key findings relating to the success of public health messages**
- Success in delivery of public health messaging cannot be assessed through automated metrics such as ‘reach’ or ‘interaction’ on social media alone. A more nuanced assessment and analysis of the content in response to the original public health message is required to also assess levels of confusion and likely adherence.
- Public health messaging related to hand hygiene and hand washing appears to have been the most successful over the course of the pandemic. It secured significant attention on social media, and received a positive reception, with endorsement and reinforcement from a range of popular figures to help encourage improved public behaviour.
- In contrast, the announcement to ‘Stay Alert’ receives one of the most negative reviews. The main request to ‘stay alert’ resulted in confusion and ridicule, and interest in this behaviour was not sustained over time.
- Public health messaging on shielding also appears to have been less successful from the point of view of social media coverage. This received little attention and traction with social media users, and prompted relatively high levels of confusion. This may in part reflect the demographic profile of social media users, who are less likely to be shielding themselves. Analysis of other direct communications to this group would help verify these findings.
- Overall, the performance of public health messaging declines over the course of the pandemic. This is evident in greater levels of discomfort, confusion and adherence to messages to ‘stay alert’, wear facemasks, and steps to ease lockdown. This is further

supported in survey research among the wider public, which shows a greater level of clarity in messaging on infection prevention than returning steps to ease lockdown. It should be noted that this decline in performance may reflect the complexity of the public health messaging, which increased throughout the pandemic.

- Direct communications from government accounts or prominent officials on social media had less impact than those from other influencers. Government led accounts appear as top influencers in only one of the eight deep dives we undertook. Further work is required by government to build positive networks within owned channels, or to work with other key influencers to help maximise the impact of future public health messages.

5.2 Infection prevention measures

A range of infection prevention measures have been introduced during the pandemic, some of which have remained consistent and others which have changed over time.

The relative evolution of public messaging around hand hygiene and face coverings is reflective of these differences. A government public information campaign that focused on hand hygiene was first launched on 4 March, and guidance on handwashing has remained consistent throughout the pandemic. In contrast, guidance on the use of face coverings was not introduced until 11 May, when the public were advised to wear face coverings in enclosed public spaces. It has since been updated several times to mandate the use of face coverings on public transport, in shops and other venues.

Given these differences in the evolution of the guidance, it is unsurprising to find that there were also differences in how these public health messages were received. In order to explore this, bespoke search queries were written to collect social media data related to each of these topics between February to June.

The collected social media data was evaluated against the framework described in Table 5.1 above, to assess the relative reach, response, understanding, adherence and audience of the messages.

Key findings

- Following a high volume of posts relating to hand hygiene during March, social media users were equally likely to comment on hand hygiene and face coverings throughout April, May and June. Relevant content was posted by a wide range of accounts, including mainstream media outlets, health organisations, health professionals and private companies.

- Social media users were less positive about the use of face coverings than about implementing hand hygiene measures. This reticence appeared to be driven by concerns over inconsistent evidence relating to face coverings.

- Furthermore, one in five posts about face coverings expressed confusion. Typically, this confusion stemmed from evolving guidelines relating to the use of face coverings and differences in guidelines on this topic around the world.

- Despite these concerns, only a minority of social media users indicated poor adherence to either hand hygiene or face covering guidance. Furthermore, Google search data revealed

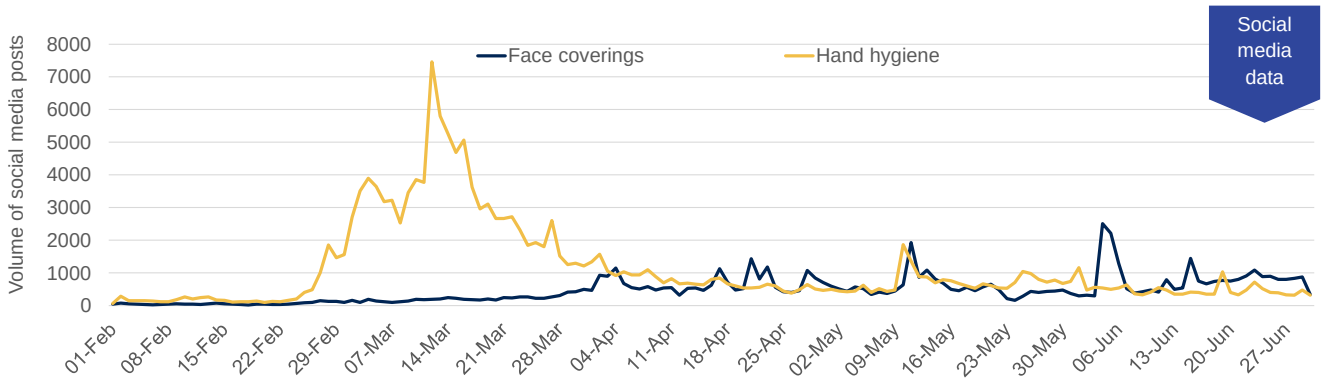
that individuals were acting to implement the guidance by sourcing 'hand washing posters' and sewing patterns for face coverings.

5.2.1 Reach

The volume of social media activity relating to hand hygiene was far greater than the volume of social media activity relating to face coverings over the same period (165,570 compared with 70,406).

Most of the conversation about hand hygiene is isolated to March, when the government guidance on hand hygiene first circulated. This initial interest was not maintained however, and by April the volume of social media posts relating to hand hygiene had declined to similar levels as face coverings. In the event of a second wave of COVID-19, hand hygiene will be critical in mitigating seasonal flu as well as COVID-19. Therefore, reinvigorating messaging about hand hygiene will be crucial to protecting as many people as possible.

Figure 5.2: Volume of social media posts related to face coverings and hand hygiene, over time



Base: 62,385 posts captured between 23/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

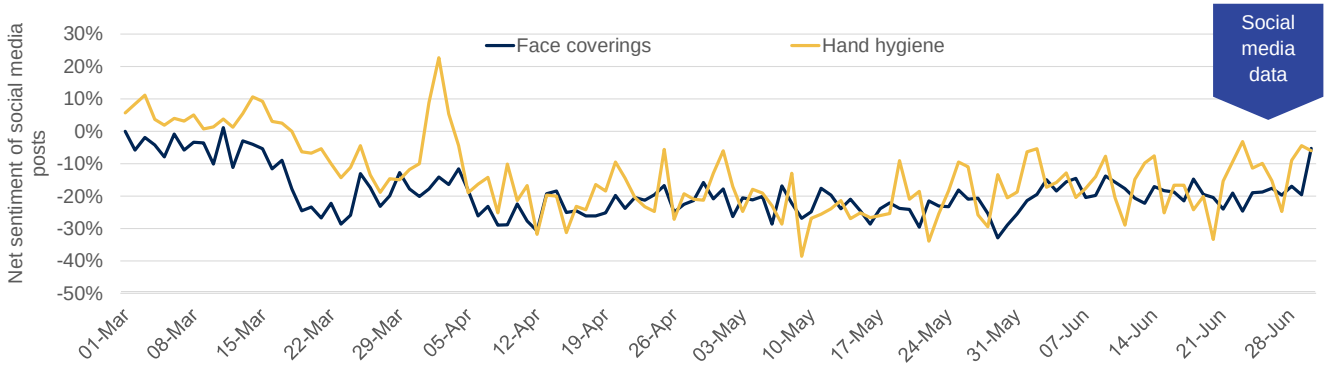
While volume is a good indicator of the number of social media users who felt strongly enough to post on a topic, interaction data provides a better sense of wider engagement with the topic. Posts about face coverings were shown to prompt higher levels of interaction on average (85) than posts we analysed about hand hygiene (79 interactions per post on average).

To resolve this contradiction between the volume of posts and the level of interaction with posts, it is necessary to understand more about how social media users are responding to the public health messages.

5.2.2 Response

Automated analysis, which categorises posts as either positive, negative or neutral, demonstrates that the sentiment exhibited towards hand hygiene and face coverings followed a similar trajectory over time. On average, however, posts relating to hand hygiene were slightly more likely to exhibit positive sentiment than posts relating to face coverings.

Figure 5.3: Net sentiment of social media posts related to face coverings and hand hygiene, over time



Base: 100,000 posts captured between 23/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

Manual coding of the emotion associated with social media posts also found that posts relating to hand hygiene were associated with a positive reaction (77%) more frequently than face coverings (58%). For example, large numbers of posts relating to hand hygiene sought to reinforce the importance of hand hygiene or to share positive humour relating to hand washing.[6]

Only 19% of posts within the manual coding for hand hygiene were identified as a negative reaction. This represents the smallest proportion across all deep dives. In contrast, almost half of posts relating to face coverings were associated with a negative reaction (46%). These included posts questioning the evidence on which the guidance is based or making claims against the efficacy of face coverings. Another group of posts questioned why the use of face coverings had not been introduced earlier.

Together, these concerns suggest that the government should consider how it can strengthen and clarify its guidance around the use of face coverings as society re-opens further; particularly in light of the re-opening of schools.

5.2.3 Understanding

Regardless of the sentiment with which social media users regard them, guidelines about infection prevention must be clearly understood in order to function effectively. Survey data indicates that this was the case; most social media users we surveyed (80%) thought that the communications from the government about how to protect themselves from infection were clear.

Figure 5.4: How clear, if at all, have you found messages from the Government about what to do in response to coronavirus to protect yourself from infection?

Base: 1,105 UK adults aged 16-75, 26-29 June 2020
Source: Ipsos MORI

[6] 10% of posts within the manual sample were found to contain positive humour – by far the largest proportion across the deep dives.

Manual coding of social media data suggests a more nuanced picture however. One in five posts (20%) about face coverings expressed puzzlement about the guidance; the second highest of the public health messages that were analysed. This confusion stemmed from a range of issues, including perceived and/or real differences in guidance published by the WHO and other countries, the type of mask that should be worn, and whether the guidelines were likely to change in the future.

Puzzlement was also seen in relation to hand hygiene (15%) albeit to a lesser extent. Confusion relating to hand hygiene stemmed from fewer issues, generally related to the efficacy of handwashing in tackling the virus. For example, a small number of social media users questioned the extent to which soap and water was effective in tackling the virus, and whether the disease was transmitted via the skin.

5.2.4 Adherence

As mentioned, higher proportions of social media users appeared to question the evidence for face coverings than for hand washing. However, analysis of social media data suggests these concerns may not translate into lower levels of adherence. Manual analysis found that only a minority of social media posts indicated poor adherence to either hand hygiene (11%) or face coverings (14%).

Providing further evidence for these high levels of adherence, Google search data reveals that one of the most common search terms relating to hand hygiene is 'hand washing poster'; revealing that individuals and businesses are taking action to encourage others to comply with guidance. In a similar vein, common search terms relating to face coverings include 'Etsy' and 'sewing'. Again, this indicates that high numbers of individuals are seeking to equip themselves by purchasing or making their own masks.

Finally, the three most frequently shared images related to hand hygiene all clearly encouraged adherence. This is not the case for the most frequently shared images in relation to face coverings which feature clarifications, and data supporting their use. This difference underscores the higher levels of puzzlement associated with face coverings in comparison with hand hygiene.

It may be the case that, given the perceived clarity of the guidelines, and the relative simplicity of the interventions, social media users were willing to adhere to the guidance even in circumstances where they questioned the evidence.

5.2.5 Audience

For a public health message to be considered successful, it needs to reach the audience at which it is targeted. Social media analysis does not allow direct examination of who is consuming social media content; only those who are posting it. However, by examining the profile of the accounts that are posting relevant content, the extent to which messages may be reaching relevant audiences can be inferred.

The guidance relating to hand hygiene and face coverings affect most of the general public. Ideally therefore, content relating to hand hygiene and face coverings would be posted by a broad range of accounts to maximise coverage.

Manual analysis of a sample of relevant social media posts identified that, for both hand hygiene and face coverings, the majority of social media posts originated from accounts that likely belonged

to members of public (67% and 73% respectively). In the case of hand hygiene, the remaining posts originated from a diverse range of accounts, including media outlets, health organisations, health professionals, local government, and private companies. In contrast, posts about face coverings appeared to originate from a less diverse range of accounts, with the majority originating from the media. Given that posts from health organisations, health professionals and local government, are more likely than posts from the general public to support public health messages, the profile of accounts posting may partially explain the relative positivity expressed in relation to hand hygiene in comparison with face coverings.

Nonetheless, the top influencers posting about the topics (calculated based on number of relevant posts, and number of interactions per post) are diverse; including journalists, scientists, politicians, and entertainers.

The initial introduction of lockdown on 23 March, and the subsequent updates and relaxations to the guidance, prompted some of the highest overall levels of social media activity seen throughout the pandemic. Coupled with evidence that social media served as an important form of connectivity for many people during lockdown, this suggests that understanding responses to lockdown on social media could be particularly insightful.

Two bespoke search queries were written to collect social media data related to adherence to lockdown restrictions, and the easing of lockdown restrictions. The collected social media data was evaluated against the framework described in Table 5.1, to assess the relative reach, response, understanding, adherence and audience for the guidance.

Key findings

- Social media posts relating to the easing of lockdown restrictions significantly outnumbered posts relating to lockdown adherence throughout the lockdown period. The only exception to this was a peak in conversation about lockdown adherence at the point the Prime Minister's advisor, Dominic Cummings, was reported to have breached lockdown.
- Content relating to lockdown adherence tended to be negative in tone, and often cited instances of lockdown regulations being broken. Social media users were more likely to interact with these posts. This is illustrated by the most influential posts relating to lockdown; many of which mention lockdown breaches.
- Reflecting the findings of survey research, around half of the social media posts analysed presented a negative reaction to the easing of lockdown. In many cases social media users suggested that it was too early to ease lockdown, or cited concerns about a second peak.
- However, Google search data suggests that the government's 'roadmap' announcement on 11 May was successful in alleviating some of these concerns. Following the announcement, there was a sharp drop in Google search activity related to the easing of lockdown.

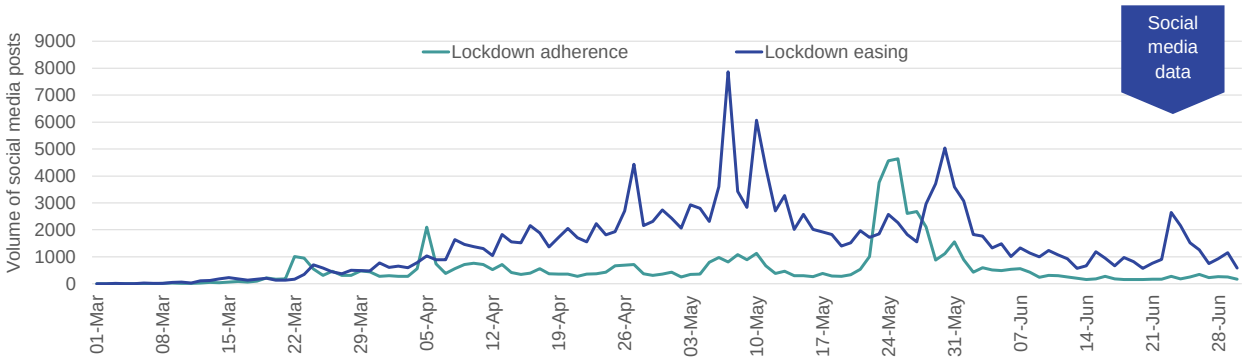
5.2.6 Reach

It is notable that, for much of the lockdown period, posts related to the easing of lockdown restrictions significantly outnumbered posts related to adherence to lockdown restrictions. Conversations about the relaxation of lockdown build throughout April before reaching peaks on 7

May, when lockdown was extended for a second time, and 10 May when the Prime Minister set out plans for the easing of lockdown.

In contrast, the volume of posts relating to lockdown adherence remain relatively low throughout the period. This may be a function of the young average age of those represented on Twitter (from where the majority of the data was sourced). Survey research has identified that younger members of the public were less likely to adhere to the lockdown guidelines[7] which, in turn, may make it less likely for them to comment on adherence to lockdown. The main exception to this is in late May, around the time that the Prime Minister's advisor, Dominic Cummings, was reported to have breached lockdown rules and at which point there is a distinct peak in posts about lockdown adherence. As noted in Report 1, events relating to individual personalities, and the media coverage associated with them, appear to be very effective at driving social media conversations.

Figure 5.5: Volume of social media posts related to lockdown adherence and lockdown lifting, over time



Base: 249.571 posts captured between 01/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

In contrast to the absolute volume of posts, the average interaction with posts about lockdown adherence (64) is higher than average interaction with posts about the easing of lockdown (59). This suggests that these posts may tend to be more engaging or controversial in nature. Furthermore, lockdown adherence has a smaller proportion of unique users within the conversation – a higher average number of posts per user suggests that this topic was of greater significance to a smaller proportion of social media users.[8]

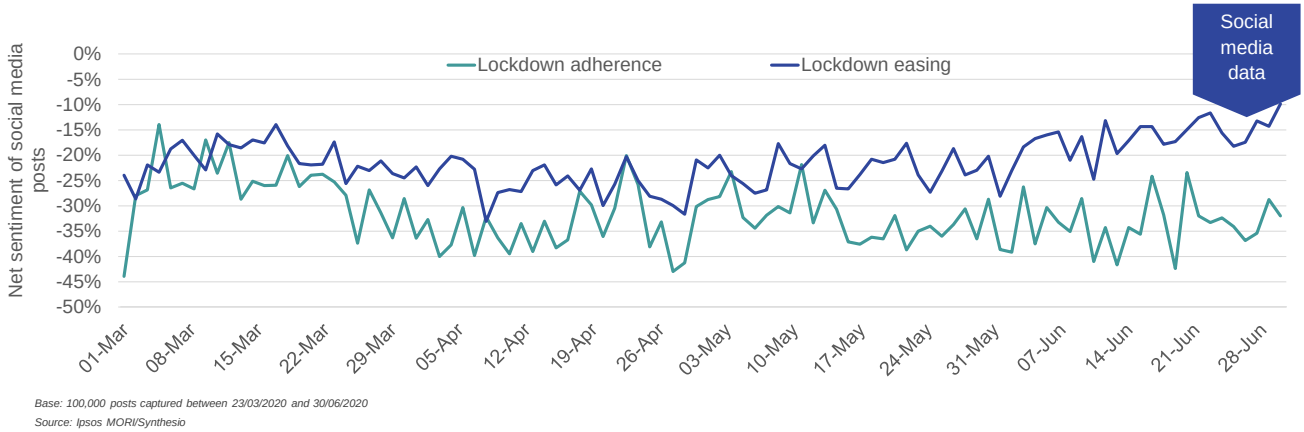
5.2.7 Response

Automated analysis, which categorises posts as either positive, negative or neutral, demonstrates that the sentiment of posts related to lockdown adherence is consistently more negative than the sentiment of posts related to lockdown easing (although it should be noted that both topics exhibit negative sentiment).

[7] University College London. (2020). *More than half of young adults not 'strictly' sticking to lockdown.* https://www.ucl.ac.uk/news/2020/may/more-half-young-adults-not-strictly-sticking-lockdown-guidelines

[8] Adherence to lockdown had on average 3.02 posts per user, this is the third highest across the deep dives, and compared to 2.3 posts per user for lifting lockdown.

Figure 5.6: Net sentiment of social media posts related to lockdown adherence and lockdown easing, over time



Base: 100,000 posts captured between 23/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

Manual coding of the emotion associated with social media posts supported this finding; posts about lockdown adherence were more likely to exhibit a negative emotion than any other public health message (75%). Specifically, many posts (54%) mentioned examples of individuals breaking lockdown regulations, and one in ten posts exhibited anger (10%) at these occurrences.

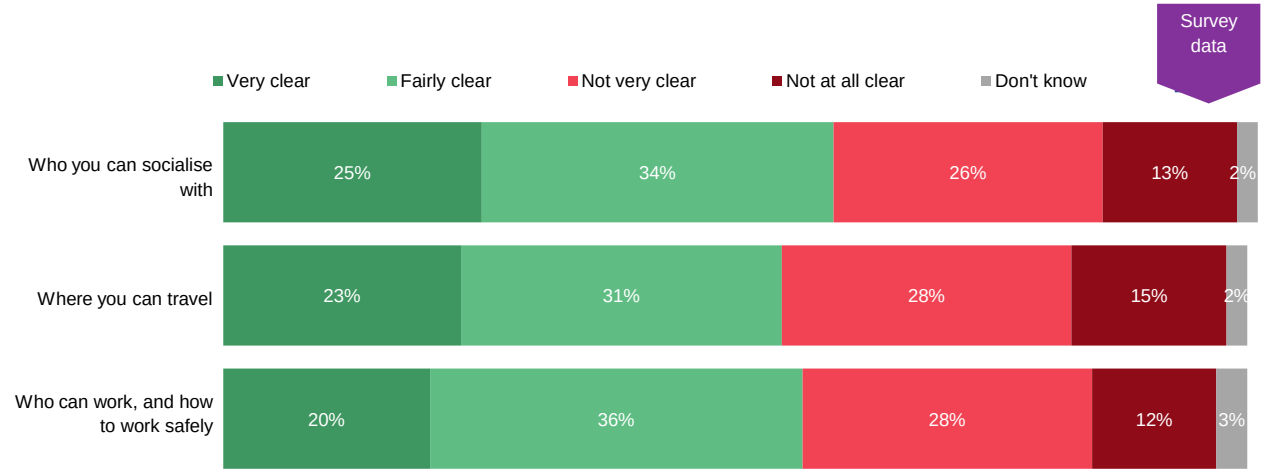
This pattern of negative posts, mentioning controversial instances of lockdown regulations being breached, may explain the high level of interaction that posts relating to lockdown adherence secured. This is supported by analysis of the top influencers posting about lockdown, many of whom shared content relating to lockdown being breached.

5.2.8 Understanding

Given the frequent changes to the guidelines, both during lockdown and as it eased, public health messages related to lockdown had the potential to cause widespread confusion. Survey data indicates that this was the case. Around two in five respondents regarded the guidelines about who they could socialise with (39%), where they could travel (43%), and who could work (40%) once the Government began to ease the national lockdown at the end of June, to be unclear.[9]

[9] This is significantly higher than for guidance about symptoms (14% unclear), when to self-isolate (16% unclear) and how to reduce risk of infection (17% unclear).

Figure 5.7: How clear, if at all, have you found each of the following messages from the Government about what to do in response to coronavirus?



Base: 1,105 UK adults aged 16-75, 26-29 June 2020
Source: Ipsos MORI

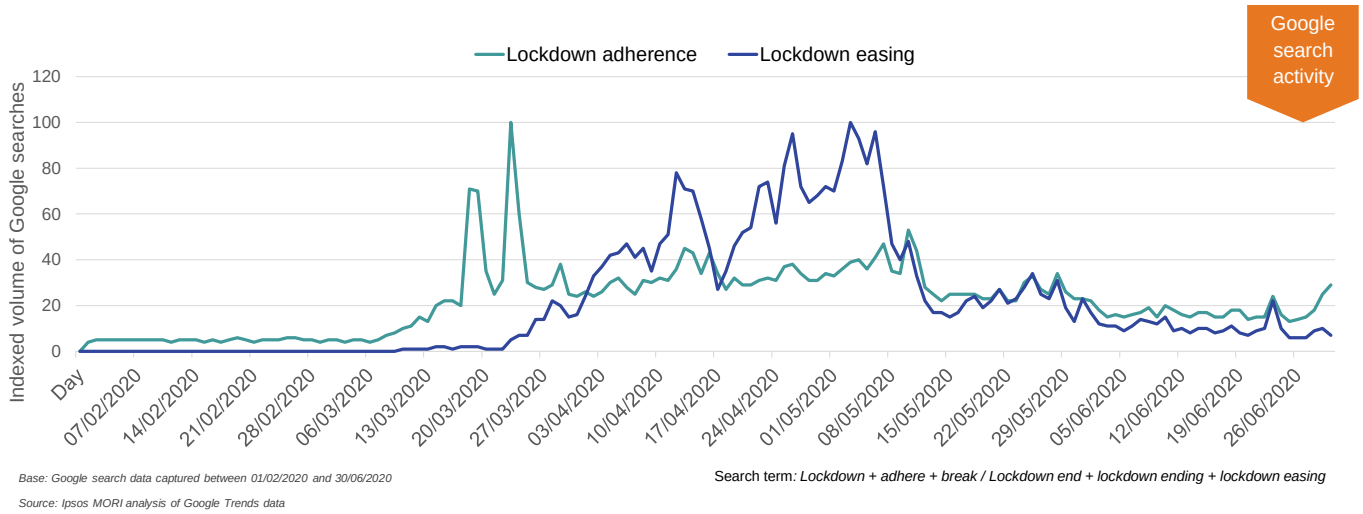
Manual coding of social media data supports this finding. Of the posts about lockdown adherence, 15% expressed puzzlement about the guidelines. Concerns were raised that the rules were open to interpretation and that this led to people exploiting loopholes. In some cases, social media users suggested that given these loopholes, the rules could be ignored.

A degree of this confusion remained as the lockdown guidelines were eased; 10% of associated social media posts expressed puzzlement about the changes to guidelines. Much of this confusion related to the perceived slow pace with which lockdown was eased, with notice given before the revised guidance came into effect.

However, analysis of Google search data suggests that the government's 'roadmap' announcement on 11 May, was largely successful in providing clarity regarding the easing of lockdown. As shown in Figure 5.8, although Google searches related to the easing of lockdown increased steadily in the weeks leading to the announcement, the volume of searches decreased significantly following the 11 May.

Taken together, these findings indicate that social media users respond positively to clear, decisive action, whereas incremental or pre-planned changes to regulations incite confusion and anxiety in some social media users.

Figure 5.8: Indexed volumes of Google searches relating to lockdown adherence and lockdown easing, over time



Base: Google search data captured between 01/02/2020 and 30/06/2020

Source: Ipsos MORI analysis of Google Trends data

Search term: *Lockdown + adhere + break / Lockdown end + lockdown ending + lockdown easing*

5.2.9 Adherence

Throughout lockdown, the government's announcements aimed to encourage the public to comply with strict guidelines. However, as lockdown eased, the announcements increasingly suggested to the public that it was safe to reintroduce a degree of normality to daily life. These shifting objectives have the potential to present a dilemma, whereby the success of the first objective (encouraging the public to adhere to the lockdown rules) has the potential to undermine the success of the second objective (encouraging the public to embrace their returned freedoms). Indeed, analysis of social media data suggests that this interaction may have taken place.

As noted, although social media posts relating to lockdown adherence contained a high proportion of posts with negative sentiment, these were largely in response to perceived breaches of lockdown by others. There was little suggestion that social media users themselves were failing to follow the guidelines. This concurs with survey data showing that, during the first week of lockdown, 79% of the public were avoiding leaving their homes[10].

However, analysis of social media posts relating to the easing of lockdown tells a different story. Only one in four (27%) posts supported the easing of the lockdown regulations, while almost half (46%) were either in opposition to it or critique of it. Social media users who supported the easing of lockdown, suggested it was necessary to support the economy, and that it was safe to do so. Those who opposed the easing of restrictions cited anxiety about leaving the house, concerns that the number of deaths had not decreased sufficiently, and concerns about a second peak. Again, these apprehensions have been reflected in other research; a survey in early May found that low proportions of the public felt comfortable going to a bar or restaurant (29%), using public transport (21%), or going to large public gatherings (17%).[11]

[10] Ipsos MORI. (2020). *Government message cutting through on COVID-19.* https://www.ipsos.com/ipsos-mori/en-uk/government-message-cutting-through-covid-19

[11] Ipsos MORI. (2020). *Majority of Britons uncomfortable returning to large sport or music events, public transport and bars or restaurants post lockdown.* https://www.ipsos.com/ipsos-mori/en-uk/majority-britons-uncomfortable-sport-music-bars-coronavirus

5.2.10 Audience

For a public health message to be considered successful, it needs to reach the audiences at whom it is targeted. Social media analysis does not allow direct examination of who is consuming social media content; only those who are posting it. However, by examining the profile of the accounts that are posting relevant content, the extent to which messages may be reaching relevant audiences can be inferred.

The guidance relating to lockdown applied to all members of the general public. Ideally therefore, content relating to lockdown would be posted by a broad range of accounts to maximise coverage.

Manual analysis of a sample of relevant social media posts identified that, most of the content relating to lockdown adherence (90% compared with 80% for lockdown easing) was likely posted by members of the public, with few other author-types posting on the topic. In contrast, a significant proportion of content relating to lockdown easing was shared by social media accounts belonging to media outlets (13% compared with 7% relating to lockdown adherence).

5.3 Shielding

The announcement introducing shielding measures on 16 March prompted the first large peak in social media activity that was seen in relation to COVID-19. This is potentially significant given that the shielding guidelines disproportionately affected older individuals, who are less represented among social media users (particularly Twitter users, who make up a large proportion of this dataset). However, it is also apparent through qualitative analysis that some of these posts are shared by family and friends of those shielding.

A bespoke search query was written to collect social media data related to the shielding guidelines and the shielded patient list. The collected social media data was evaluated against the framework described in table 5.1, to assess the relative reach, response, understanding, adherence and audience of the guidance.

Key findings

- The number of social media users who engaged with posts relating to shielding was relatively low. This may reflect the fact that the shielding population are underrepresented on social media, meaning posts were less likely to be encountered by other users with whom they resonated.
- Most posts about shielding were positive, with many reinforcing the importance of shielding for vulnerable people or reiterating the guidelines.
- However, evidence of confusion about the shielding guidelines was reflected in the findings from manual analysis of social media data. Several posts called for more information about the distinction between the risk groups, and the scientific basis for the classifications.
- A relatively low proportion of posts relating to shielding guidelines originated from members of the general public. This may be because social media users sought to maintain the confidentiality of their health status, and therefore have not posted about shielding as much as they have about other issues.

- Instead, a large proportion of the posts relating to shielding were posted by social media accounts belonging to health organisations, charities, or local governments. While it is positive that a broad range of authors are posting on the topic, given the demographic profile of the target audience, the limitations of relying on social media to disseminate information should be noted.

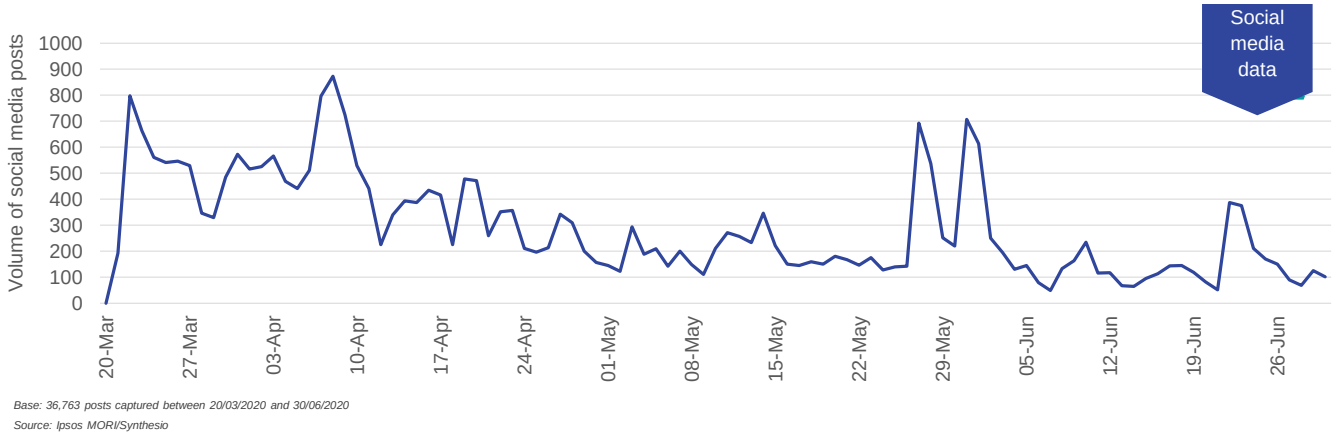
5.3.1 Reach

As shown in Figure 5.9, since the shielding measures were implemented, the volume of social media posts relating to the shielding patients (29,922) has been significant and has exhibited a series of distinct peaks. These peaks fall in line with:

- the introduction of the shielding guidelines (20 March)
- the shielding list being sent to supermarkets (8 April)
- changes to the conditions that were on the 'extremely vulnerable' list (27 May)
- updated government guidance on shielding (31 May)

Aside from these peaks in activity, it is notable that the volume of posts relating to shielding declines gradually between March and June and that our data collection cut-off preceded subsequent advice and guidance from Government about the end of shielding and shielding in the context of more recent, local lockdowns.

Figure 5.9: Volume of social media posts related to shielding, over time



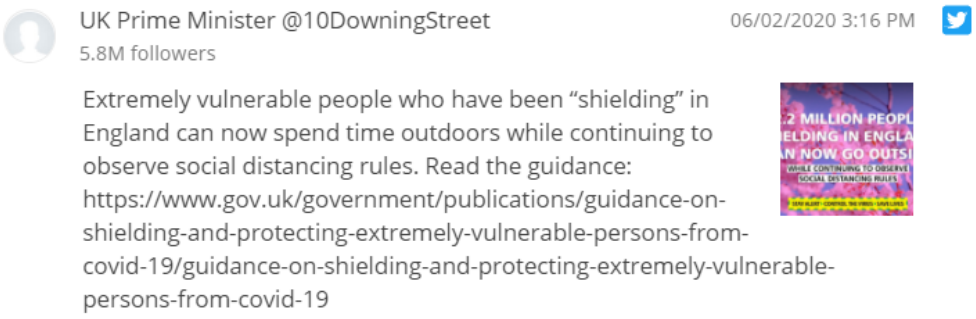
Base: 36,763 posts captured between 20/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

On average, each post relating to shielding guidelines received 31 interactions from other social media users. This is a relatively low number; approximately half the average number received by each post relating to lockdown for example. This lower interaction may be because shielding affects a subset of the population, and each post was therefore less likely to be encountered by another social media user with whom it resonated.

5.3.2 Response

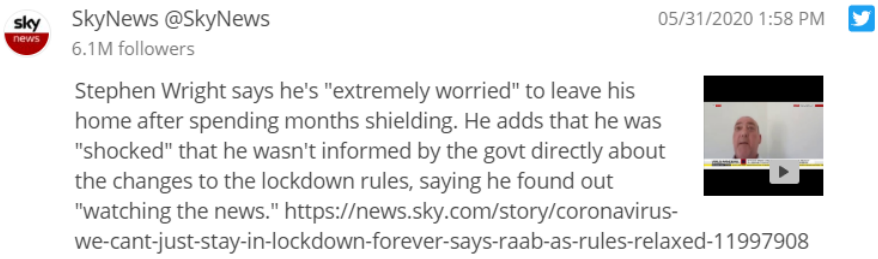
Manual coding suggested that the majority (70%) of posts about shielding guidelines were positive. Many of these posts reinforced the importance of shielding for vulnerable people, and shared updates to the guidelines – as many as 65% of the posts coded manually included a link within their post, the highest of all public health deep dives. For example, one of the most influential posts

relating to shielding was the announcement from the Prime Minister that people who were shielding could spend time outdoors.



Other posts shared personal experiences of shielding. For example, one of the most frequently shared images in relation to shielding was an image of a grocery delivery, and a positive message about the reassurance it had given the recipient.

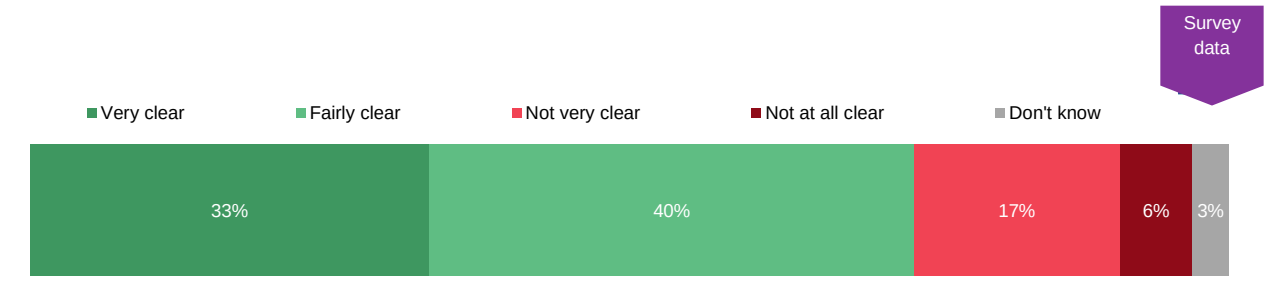
Within the posts that displayed negative sentiment (33%), a large range of concerns were raised. These included anxiety about measures being relaxed, concerns about mental health, and concerns about the long-term sustainability of shielding. For example, one of the most influential posts related to shielding was posted by the MSM and described the apprehension felt by shielding people as the shielding guidelines were relaxed.



5.3.3 Understanding

Several changes to the shielding guidelines were issued after its introduction, with the potential to instil confusion. Although survey data indicated that a representative sample of the general public (73%) thought that the advice about who should be shielding was clear, almost one in four (23%) found the guidance to be unclear. Given that many of the respondents in this representative sample will have been unaffected by shielding guidelines, this proportion is relatively high.

Figure 5.10: How clear, if at all, have you found messages from the Government about who should be shielding in response to the COVID-19 virus?



Base: 1,105 UK adults aged 16-75, 26-29 June 2020
Source: Ipsos MORI

Evidence of confusion was also reflected in the findings from manual analysis of social media data; around 17% of posts relating to shielding raised concerns about the clarity of the guidelines.[12] Several posts called for more information about the distinction between those at moderate risk (clinically vulnerable) and those at high risk (clinically extremely vulnerable). There were also calls for more information about the scientific basis for the classifications, and in relation to specific conditions (including diabetes). Towards the end of the data collection period, concerns were also raised about the long-term sustainability of shielding as the lockdown rules changed and people were encouraged to return to work.

5.3.4 Audience

A relatively low proportion of posts relating to shielding guidelines originated from members of the general public (39%). Again, this may be reflective of the fact that relatively small portions of those affected by the guidelines are social media users.

Instead, a relatively large proportion of the posts relating to shielding were posted by social media accounts belonging to health organisations (26%), charities (7%) politicians (6%) or local government (8%). For example, one of the most frequently shared images relating to shielding was a personal story shared by Macmillan Cancer Support, and one of the most frequently shared tweets was information on shielding guidance from Asthma UK. The profile of social media accounts that posted content relating to the shielding guidelines may be related to the high levels of positivity seen on this topic; health organisations, charities and government are unlikely to post content that undermines the guidelines. While it is positive that a broad range of authors are posting on the topic – in order to reach as large a range of social media users as possible - the limitations of relying on social media to disseminate information should be noted. Given the age profile of those shielding, communications via social media need to be supplemented by communications using more traditional channels.

5.4 Calls to action

Throughout the pandemic, two key campaigns have been employed by the Government to call people to action. "Stay at home. Protect the NHS. Save lives.", first appeared in the Prime Minister's press conference on 20 March and was used extensively throughout the lockdown period. The second, "Stay alert. Control the virus. Save lives." was introduced on 10 May, at the point the Government announced its roadmap to recovery from COVID-19.

The two campaigns were designed to have different effects. While 'Stay at home' was designed to reinforce the lockdown regulations in the minds of the public and encourage compliance, 'Stay alert' signalled the start of a series of deliberate measures to re-open society. The shift represented a move away from strict expert advice, back towards individual discretion[13].

Mass media responses to the campaigns were equally dissimilar. While 'Stay at home' was generally embraced and reinforced by the media, the 'Stay alert' message was divisive which prompted a series of clarifications from the Government.

[12] This is high, but not as high as advice on lifting lockdown (25%) staying alert (33%)

[13] London School of Economics. (2020). *From 'stay at home' to 'stay alert': the importance of language in the UK government's COVID-19 response.* https://blogs.lse.ac.uk/medialse/2020/05/14/from-stay-at-home-to-stay-alert-the-importance-of-language-in-the-uk-governments-covid-19-response/

In order to explore the response of social media users, bespoke search queries were written to collect social media data related to each of the campaigns. The collected social media data was evaluated against the framework described in Table 5.1, to assess the relative reach, response, understanding, adherence and audience of the messages.

Key findings

- If the intention of the 'Stay alert' message was to replace, rather than complement, the 'Stay at home' message, data suggests that this aim was not met. The initial volume of social media conversations about 'Stay alert' was not maintained following its introduction.

- However, the introduction of 'Stay alert' did lead to a significant and sustained drop in the volume of posts mentioning 'Stay at home'. Therefore, if the 'Stay alert' messaging was intended to reduce the salience of the 'Stay at home' message, the data implies that it may have achieved this aim (although the reducing death toll, and end of the Downing Street press conferences might also have played a role in reducing the salience of both messages).

- The vast majority of posts relating to 'Stay at home' were positive in tone, with many reiterating and reinforcing the message. A lower proportion of posts relating to 'Stay alert' were positive, with many criticising the clarity and efficacy of the message.

- Many posts employed humour to highlight the ambiguity of the 'Stay alert' message. Others however raised earnest concerns that challenges interpreting the message would lead to lower adherence among the public, and worse outcomes.

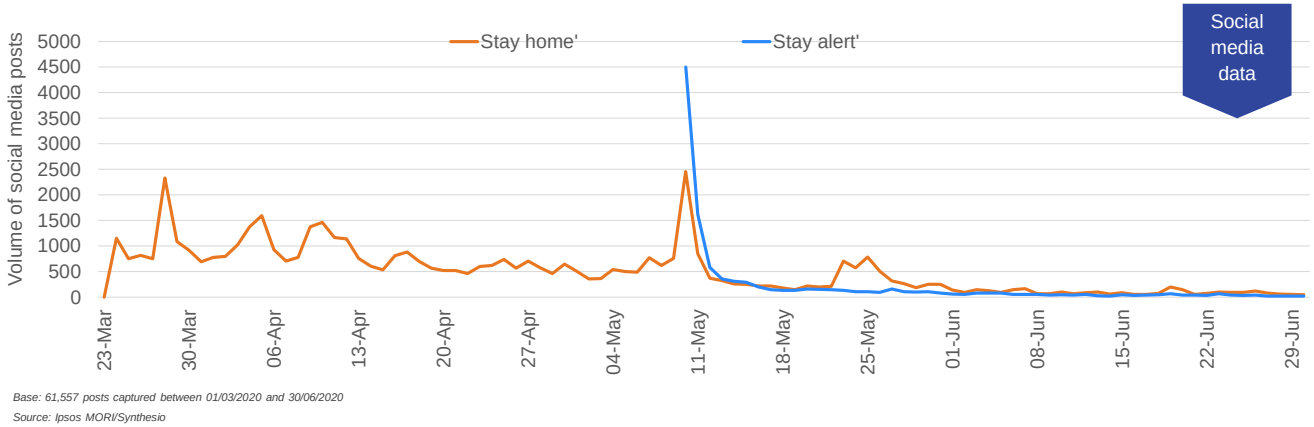
5.4.1 Reach

When assessing what the reach of the campaigns tells us about their relative success, it is useful to consider the intention of the 'Stay alert' campaign in comparison to the 'Stay home' campaign.

If the intention of 'Stay alert' was to replace, rather than complement, the 'Stay at home' messaging, the data suggests this aim has been met only to a limited extent. As shown in Figure 5.11, at the point that 'Stay alert' was introduced, there was a large uplift in conversation relating to both 'Stay at home' and 'Stay alert'. However, activity relating to 'Stay alert' was not maintained and, at several points, activity mentioning 'Stay at home' continued to lead. It is clear that 'Stay alert' did not embed itself among social media users to the same extent as 'Stay home'.

However, as the introduction of 'Stay alert' signalled commencement on the path to recovery from the initial incidence and peak of COVID-19, it could be hypothesised that the intention of 'Stay alert' was not to replace 'Stay home', but simply to make 'Stay at home' obsolete. If this was the aim, then social media data presents a more positive picture. The volume of conversation relating to 'Stay at home' decreased considerably following the introduction of 'Stay alert'.

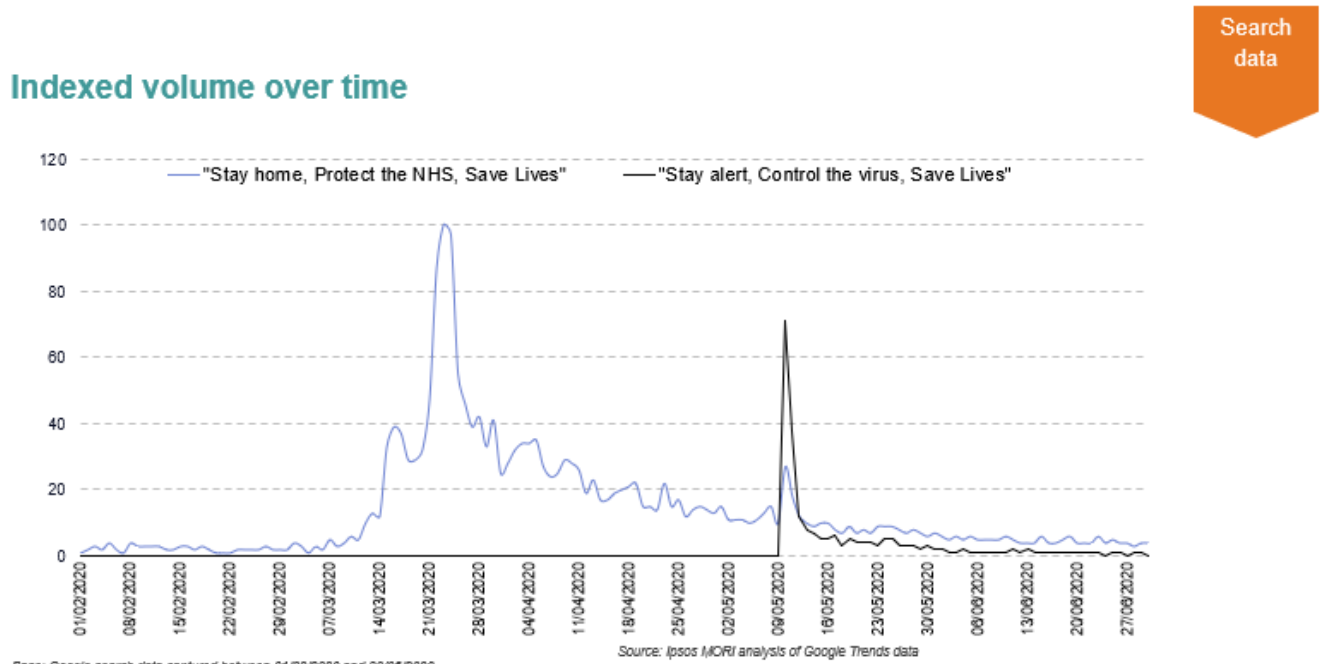
Figure 5.11: Volume of social media posts related to 'Stay at home' and 'Stay alert' campaigns, over time



Base: 61,557 posts captured between 01/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

This picture is mirrored in the search data, where peaks in searches relating to the two flagship Government statements match the main announcement dates. However, 'Stay at home' had a much longer shelf life; in contrast significant interest in 'stay alert' lasts just 3 days.

Figure 5.12: Google search relating to Stay Home and Stay Alert



Source: Ipsos MORI analysis of Google Trends data

Base: Google search data captured between 01/02/2020 and 30/06/2020

Data is indexed over time

Search term: *'stay alert', 'stay home'*

Interestingly, given the divisive nature of the 'Stay alert' message, average interaction per post was far higher for those relating to 'Stay at home' (122) than those relating to 'Stay alert' (55). This may well be related to the respective timings of the different campaigns. Overall, both volume of posts and level of interaction with COVID-19-related content declined as the pandemic progressed; with far higher levels of engagement in March, when 'Stay at home' was announced, than in May, when 'Stay alert' was announced.

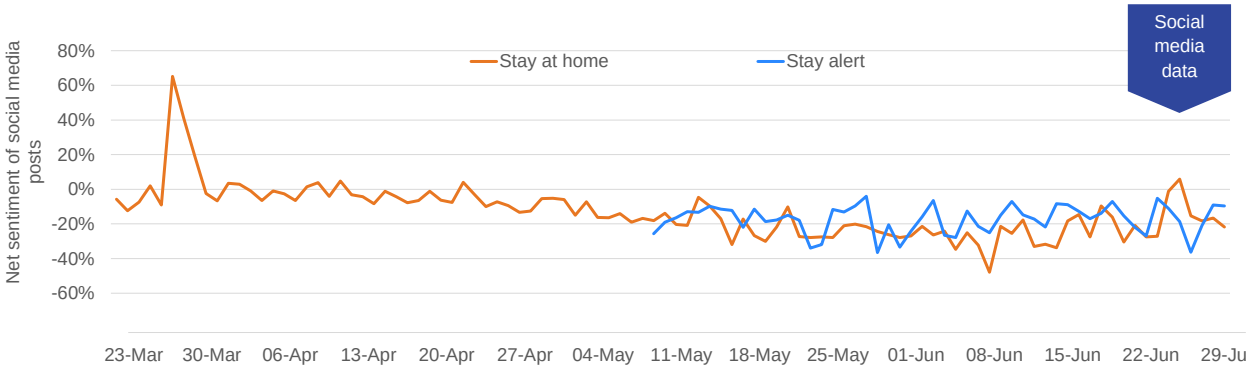
5.4.2 Response

Automated analysis, which categorises posts as either positive, negative or neutral, was conducted on posts relating to 'Stay at home' and 'Stay alert'.

As shown in Figure 5.13, after an initial peak in positive sentiment after its introduction, posts relating to the 'Stay at home' messaging became gradually more negative across the course of April. Perhaps surprisingly, given negative media coverage of the campaign, posts about 'Stay alert' did not exhibit particularly negative sentiment in comparison to 'Stay at home'. The search data paints a similar contrast: queries related to ‘stay home’ are positive, including search for stay at home rainbows, songs, images and logos; within searches relating to ‘stay alert’, ‘meme’ and ‘meme generator’ feature three times in top 13, and searches querying ‘what does stay alert mean’ feature twice.

This may be because, due to the pervasive nature of the campaigns, posts that mention them reflect the dominant sentiment towards the COVID-19 situation, rather than to the campaigns themselves. Supporting this hypothesis, research has consistently shown that a range of public attitudes and perceptions became consistently more negative between March and June. For example, the proportion of the public who think the Government introduced lockdown measures too late increased from 56% on the day lockdown was introduced to 69%by the end of June.

Figure 5.13: Net sentiment of social media posts related to 'Stay at home' and 'Stay alert', over time



Base: 61,667 posts captured between 23/03/2020 and 30/06/2020
Source: Ipsos MORI/Synthesio

Manual coding of the emotion associated with 'Stay at home' and 'Stay alert' presented a more nuanced picture. While almost four in five posts (78%) mentioning 'Stay at home' exhibited positive sentiment, this applied to just half (53%) of posts mentioning 'Stay alert'.

The 'Stay at home' campaign benefitted from a large volume of posts that reiterated and expanded upon its message, with relatively few posts presenting a challenge. In contrast, a far smaller number of posts reiterated the 'Stay alert' message. Instead, posts were more likely to criticise the clarity of the campaign or suggest that the guidance was not effective in suppressing the virus.

These differences are emphasised by comparing the images related to 'stay at home' and 'stay alert' that gained most traction on social media. While the images related to 'stay at home' are simple reiterations of the message, or stories of individuals adhering to the guidelines, the most commonly shared image relating to 'Stay alert' lambasts the campaign.

5.4.3 Understanding

Social media data suggests that reactions to the 'Stay at home' and 'Stay alert' campaigns differed in the volume of response and sentiment of response. It also suggests that this difference may have been driven, at least in part, by large perceived differences in the clarity of the messages. Manual coding of social media data found that one in four posts about 'stay alert' (26%) suggested puzzlement about the meaning of the guidance. In contrast, fewer than one in twenty posts about 'Stay at home' (3%) expressed the same confusion. This makes 'Stay alert' by far the most puzzling of the public health messages analysed in this research.

Among the social media posts suggesting the 'Stay alert' message was unclear, many employed humour to highlight the challenges of interpreting the message. The image of the virus as a mugger or a spy that could be evaded, was commonly cited. Other posts exhibited more earnest concerns that the ambiguous nature of the message would lead to lower levels of adherence among the general public.

It is notable that a larger proportion of posts relating to 'Stay alert' (32%) contained a link to an external information source than posts relating to 'Stay at home' (11%). The most frequently shared links relating to 'stay alert' were:

- BBC News coverage of Robert Jennick's defence and explanation of the 'stay alert' slogan[14]
- Sky News discussion of the leaders of Scotland, Wales and Northern Ireland's rejection of the 'stay alert' slogan.[15]
- Guardian article proposing that the 'Stay alert' message is a vehicle to shift blame from the government to the public.[16]

The sharing of this information reflects that negative press coverage of the 'Stay alert' slogan gained strong traction across social media. It may be the case that social media users were attempting to seek clarity around the new guidelines. However, as discussed earlier, posts with negative sentiment and humour tend to attract greater interaction than those with positive sentiment. The negative tone of the coverage, rather than genuine confusion among social media users, may have led to these posts' influence.

5.4.4 Audience

The 'Stay at home' and 'Stay alert' campaigns were intended as calls to action for all members of the public. Ideally, therefore, content relating to the slogans would be posted by a broad range of accounts to maximise coverage.

Manual analysis of a sample of relevant social media posts identified that, most posts relating to both 'stay at home' (68%) and 'stay alert' (73%) likely originate from the general public, with relatively low proportions of content being generated by accounts belonging to media outlets, politicians, health organisations or charities. This is supported through relatively high proportions of

[14] BBC News. (2020). *Coronavirus: Minister defends 'stay alert' advice amid backlash.* https://www.bbc.co.uk/news/uk-52605819
[15] Sky News. (2020). Coronavirus*: Leaders unite against PM's 'stay alert' slogan.* https://news.sky.com/story/stay-alert-the-governments-new-coronavirus-slogan-falls-flat-11985891
[16] Owen Jones for The Guardian. (2020). *The real message behind 'stay alert': it'll be your fault if coronavirus spreads.* https://www.theguardian.com/commentisfree/2020/may/14/stay-alert-coronavirus-blame?CMP=share_btn_tw

unique users within each dataset.[17] These findings indicate that, regardless of the sentiment of the content being shared, it is being shared organically, in a bottom-up nature, by the general public. This is in line with the aims of communications and indicates that, from an audience perspective, both messages were successful.

5.5 Conclusion

This research aimed to compare how a range of COVID-19-related public health messages were received on social media against a common framework. In doing so, it is possible to draw some conclusions about the factors which have supported or undermined the success of public health messages throughout the COVID-19 pandemic.

Firstly, clarity of the 'call to action' appeared to be the primary driver of adherence to a public health message. Even in the case of public health messages for which the scientific evidence was questioned, adherence was generally high so long as the guidelines were seen to be straightforward. An early example of this was the case of hand hygiene. Although the scientific underpinnings of the guidelines were not universally accepted, there was little evidence of low adherence among social media users. Challenges arose however, as the pandemic progressed, and guidelines became increasingly complex. This is evidenced by greater levels of anxiety, confusion and failure to adhere to messages to ‘stay alert’, wear facemasks, and take steps to ease lockdown. This presents a challenge to government when designing and communicating public health interventions; a balance between simplicity and efficacy may be required to secure maximum adherence.

Secondly, even where public health messages perform relatively well, salience over time is rarely sustained. Posts relating to public health messages regarding hand washing, lockdown adherence, and shielding all decreased in volume over the course of the pandemic. While this is to some extent to be expected and reflects a broader decrease in social media conversations relating to COVID-19 over time, it presents a challenge in situations where messages need to be reinvigorated at short notice. For example, in the case of a second peak, acting quickly to increase the salience of messages surrounding hand hygiene, for example, will be crucial to protect the public.

Finally, this research has highlighted that, when assessing the success of a public health message, the criteria against which it is judged must be tailored to its purpose. For example, although the announcement to ‘Stay Alert’ received one of the most negative reviews (given its failure to provide the requisite clarity), it secured high volumes of social media coverage and contributed to a reduction in conversation about "Stay home, Stay safe". It may be the case that, in achieving this, the messaging fulfilled its primary aim.

In conclusion, the research has demonstrated the complex reactions to public health messages that have transpired over the first months of the UK pandemic. Over the coming months, it may be the case that further public health messages are required to ensure the safety of the public. If so, these messages will need to take effect among a population whose opinions towards the pandemic have been shaped by the public health messages that have gone before. To be effective, therefore, the

[17] Stay at Home average of 2.11 posts per user, Stay Alert 2.05.

communications must build on the successes and failures of the messages thus far to ensure clarity of purpose, clarity of instruction and longevity result.

6 Emerging issues relevant to public health

A review of social media posts relating to COVID-19 demonstrates that spikes in the conversation were driven as much by emerging issues and events as by government-led public health campaigns. Analysis of social media data can help identify the groundswell of public opinion on key issues as they emerged; and in contrast, also consider why some important issues received relatively little attention.

This chapter considers a further 7 key issues, in four groupings, that all interact with the public health messages and policies studied in chapter 4. These either represent some of the mechanisms of the Government response, or issues that emerged as top priorities in response to government policy. They all contribute to an overall assessment of how successful the Government has been in response to the coronavirus pandemic.

The groups of issues studied are:

1. Trust in data and enthusiasm for science and technology
2. Public emotion – reuniting with family and friends, and experience of death and grief
3. Health inequality – relating to both ethnicity and wealth
4. Coronavirus Act

Although these broad issues are related to public behaviour during the crisis, they do not represent specific public health advice. Though it is not the intention to assess government performance as per the full evaluation framework presented at Table 5.1, it is still important to consider: i) the reach and audience of discussion; and ii) the reaction to these issues.

Key findings

- Conversation relating to the Coronavirus Act received little attention as the pandemic endured. Posts relating to enforcement received the most engagement; though there was some initial scrutiny of the issues not covered (or not covered enough) in the Act from the point of view of social media users, a significant proportion of posts sought to help provide advice and information about the implications for members of the public.
- Conversation about science and technology during the pandemic was the largest single issue captured during the research. The conversation covered a broad range of topics; from development of Track and Trace, to vaccine research. Relatively small volumes of conversation critiqued government use of science and technology in response to the pandemic during the period of time we analysed.
- In contrast, social media users were more critical of the use of data and information. The spectrum of mistrust and challenge was broadand spilled over into conspiracy theories about the reality of the virus. This topic demonstrates the very real challenges for government in countering or competing with incorrect claims made on social media looking ahead.

- Social media also documents the very personal loss and sacrifice made during the pandemic, and the anger caused by reports that Dominic Cummings had breached lockdown guidelines. The lack of prominent discussion or search activity about bereavement and grief suggests that the impact of this loss and sacrifice may not yet have been addressed.

- Social media provided a valuable vehicle for raising awareness of health inequalities relating to ethnicity – this was championed by prominent politicians and created a highly engaged group, many of whom posted several times. In contrast, social media data shows the relatively low level of attention paid to other drivers of health inequality, such as wealth – this had a more fragmented call to action.

6.1 Coronavirus act

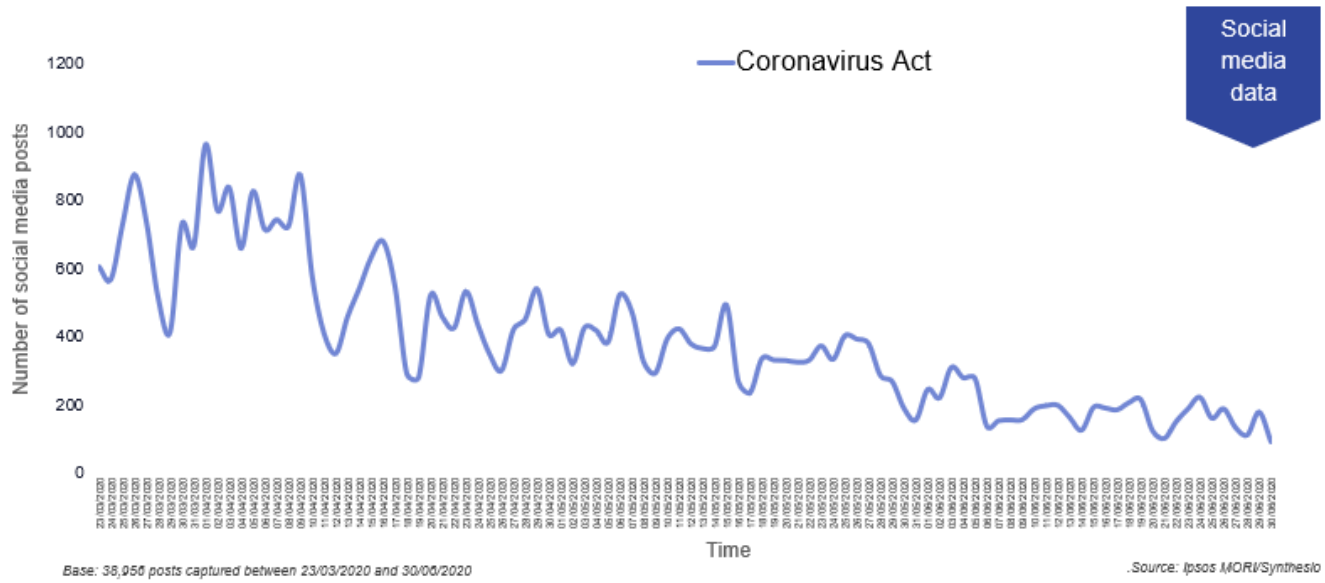
The Coronavirus Act was introduced to Parliament on 19 March and received Royal Assent on 25th March having passed through without a vote. It provided the Government with the emergency powers required to respond to the coronavirus pandemic. The Act included measures that sought to ease the burden of frontline staff and mitigate the impact of staff shortages, help contain and slow the spread of the virus, and provide some economic support.

6.1.1 Reach and audience

Conversation on social media directly citing the Coronavirus Act received considerable initial focus, generating a high immediate volume of posts, before petering out over the course of the pandemic. Our analysis identified 53,945 relevant posts overall. Key peaks occur on 26 March when the lockdown regulations were enforced in the UK.

This short, sharp burst of interest is also reflected in search data. The first rise in searches took place on 26 March, when the ‘Lockdown Regulations’ came into practice in the UK. The biggest peak occurred on 1 April when the first arrest was made at a railway station when a woman failed to comply with the Coronavirus Act. There was then a relatively sharp decline in searches over the following weeks and months, however it should be noted that the term 'Coronavirus Act' was likely not used as new regulations were enacted, which may result in an underestimation of the impact of the regulations.

Figure 6.1: Social media posts relating to Coronavirus Act, over time



Compared to other issues, conversation relating to the Coronavirus Act had a smaller proportion of posts generated by the general public (58%), and a more concentrated group of unique users posting regularly about this topic (average 2.92 posts per author). A key area of interest was enforcement. Police Forces account for authors of the top 4 most frequently shared images, some of which share detail on specific criminal acts enforced as a result of the Act. Alongside other influential journalists, also of note is the presence of well-known conspiracy theorists in the top 5 most influential authors within this conversation – declaring the act 'Null and Void' in early June.

6.1.2 Reaction

The response to the Coronavirus Act as captured on social media was divided. Manual coding of a sample of 100 posts suggests that 35% of posts gave a broadly positive response. However, relatively small proportions (8%) offer direct support for the Act; positive conversation is largely made up of promotion of articles that seek to help the public digest the implications for them. Given the profile of social media users, it is perhaps not surprising that a number of the topics were directly relevant to young adults – for example, advice on lettings and accommodation, educational studies and safety of young people.

A similar proportion (31%) of posts gave a negative response. A small group of these sought further clarity on specific issues, such as regulation in supermarkets or toilets; however, a larger proportion of comments criticised the lack of focus on a number of areas deemed 'forgotten' by the Act. These include, care homes, mental health and special education needs, and the health impact on prisoners or detainees.

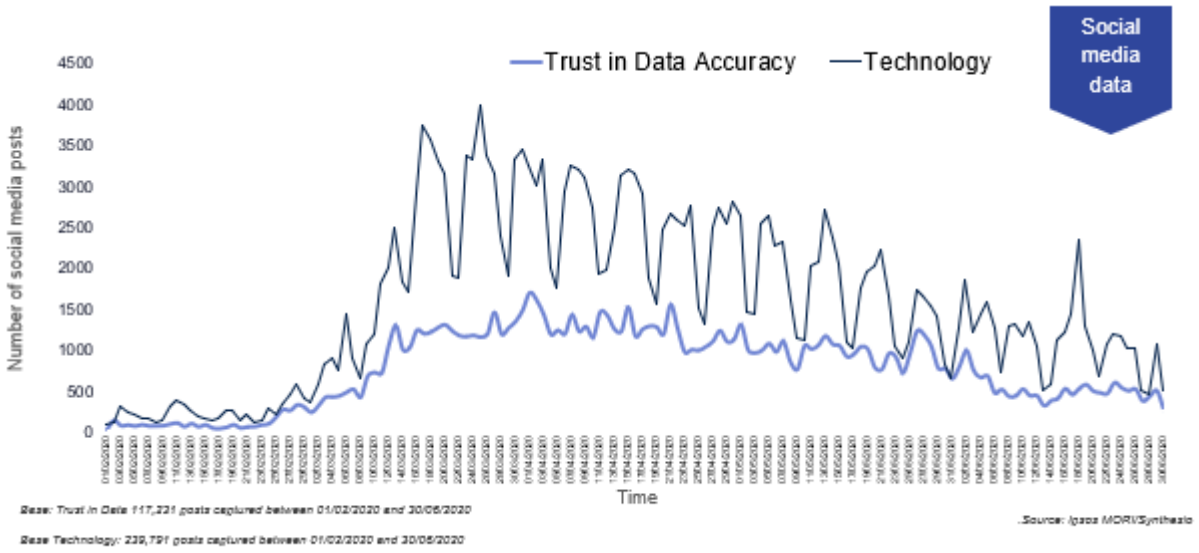
6.2 Trust in data and enthusiasm for science and technology

Data, science and technology have been key aspects of the Government response to the coronavirus pandemic. These have been directly relevant to the public health messages that seek to control and contain the virus in a number of ways – for example through the development of technology to underpin a track and trace system and in the use of data to support the communication of key decisions to enforce or ease lockdown as well as in 'following the science'.

6.2.1 Reach and audience

Conversation about technology during the pandemic was the highest single issue captured during the research – accounting for 308,221 posts. The use of data was also of significant interest, generating 190,216 posts, only behind conversation relating to hand hygiene and easing of lockdown.

Figure 6.2: Social media posts relating to data and technology, over time



- Discussions of technology were broad and were not limited to the direct use of technology by government. For example, conversations relating to technology included: discussions of the manufacture of ventilators; the use of technology technology in hospitals to help patients communicate with visitors; steps taken by tech companies to support public experience (e.g. reduced streaming quality of Prime Video streams); the role and use of digital music during lockdown; and, the Government's proposed track and trace smartphone app.

Authors of conversations relating to science and technology went beyond the general public; a third of the sample (36%) used for manual coding was posted by other mainly private sector companies – the highest proportion of all deep dive samples. conflation

The biggest conversational peak occurred on March 25, when it was reported by some media outlets that home finger-prick tests could be available to the public within days and would be distributed by Amazon. Another peak occurred on 18 June when the UK abandoned its plans for a centralised contact tracing app in favour of the Google-Apple model.

The salience of technology within the public conscience is also apparent in the wider survey research. Even accounting for likely overclaim, high proportions of the public claimed to have heard of the Government's Track and Trace smartphone app (94%), the app developed by King's College London to track COVID-19 symptoms (70%), and the Government's COVID-19 datastore (64%). Furthermore, when asked to name companies that had been involved in the use of science and technology in responding to the pandemic, survey respondents named a wide range of providers, from those developing hardware and ventilators, to those involved in vaccine development.

Conversation relating to the use and trust in data and information during the pandemic had the second lowest number of unique authors of all deep dives, suggesting that this was a topic of greater importance to a smaller number of people.[18]

As shown in Figure 6.2, trust in data accuracy peaks consistently throughout the pandemic period with posts centring around doubting reported figures and questioning the truth behind 'misleading' government statements. This stretches beyond use of hard data, but to trust and accuracy of reports on wider government delivery, most notably the delivery of PPE.

The greatest volume of searches occurs between 13 March and peaked on 13 April. During this period the UK entered its first stages of lockdown, the UK death toll increased and Boris Johnson tested positive for Covid-19. Interest fell over the following month but hit a sharp rise on Saturday 13 June following the first week of the NHS Test and Trace system.

Discussion of science and technology, data and trust in government information did receive interest from well-known journalists and politicians, but also sparked interest among well-known conspiracy theorists, such as Paul Joseph Watson.

The amount of interest in the delivery of the testing programme and associated vaccine research can be seen in the images which received the highest number of interactions over this period. These were all announcements on testing progress from authorities accounts such as the Foreign Office, University of Oxford and University of Glasgow.

6.2.2 Reaction

Conversation relating to technology was largely positive or neutral – 37% of posts coded manually talked about their experience of efforts within the technology sector to support people and the wider response to the pandemic. In contrast, only a small proportion of conversation sought to challenge and critique government use of technology. The single biggest issue was from those struggling to understand the effectiveness of the technology developed to support the Track and Trace approach – but represented only 5% of posts coded manually.

Beyond the development of the Track and Trace app, direct scrutiny of the other technology commissioned by the Government received comparatively little attention on social media. For example, our search query identified only 42 posts that commented on the role of Faculty AI. The commissioning of Palantir did generate several peaks; the largest on May 5 was driven by suspicion around Palantir and strong reservations and negativity about giving them access to personal data. Another peak occurred on 5 June when the Government released their datastore contracts with Palantir and others.

This low awareness was reflected by the general public's survey responses. Two in three (65%) members of the public could not name a company commissioned by the government to develop new technology. No respondents demonstrated unprompted awareness of Palantir and only one spontaneously mentioned Faculty AI. It was notable that respondents who did demonstrate awareness tended to be younger and more highly educated than those who could not (44% of those

[18] Average posts of 3.05 per author.

with an undergraduate degree, masters or PhD could name a company, compared with 23% of those with only GCSE-level qualifications).

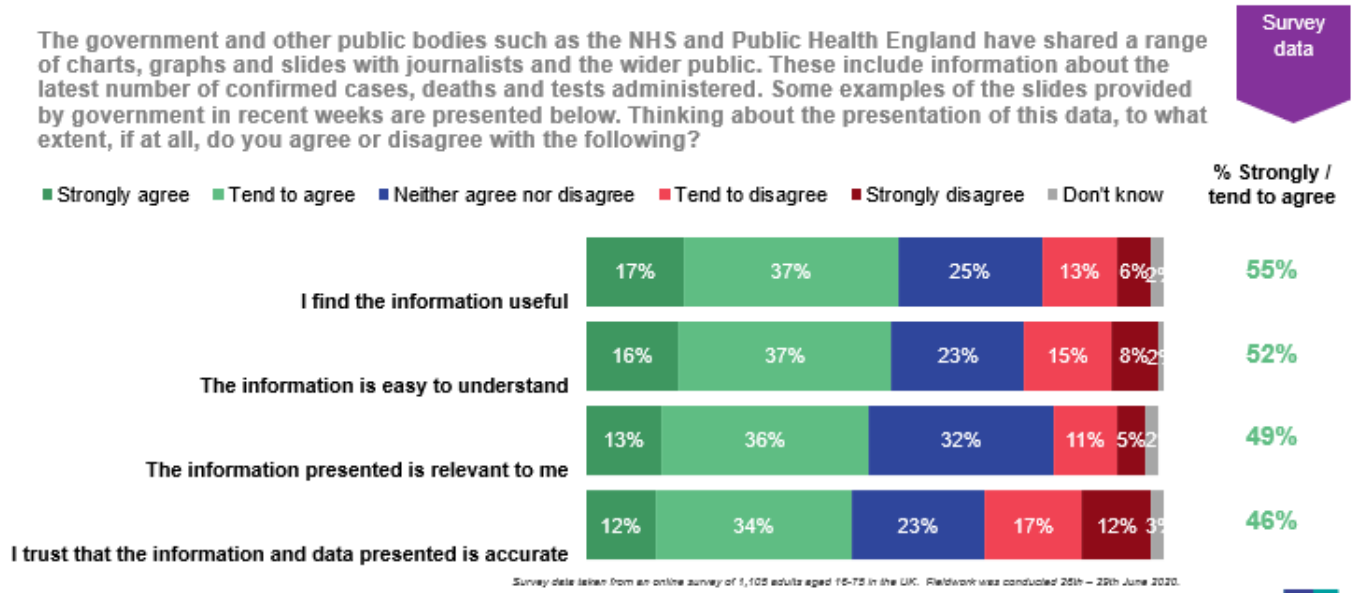
Despite low awareness of technology companies' involvement, the survey responses demonstrated that the majority of the public support limiting the ways in which companies can use data gathered during the pandemic. High proportions of the general public agree that personal data collected during the pandemic should be deleted after use (80%) and that tech companies should have limited use of the data (80%).

Social media users often discussed issues relating to technology in tandem with issues relating to 'science'. For example, posts relating to track and trace technology were frequently mentioned in conjunction with discussions of vaccine research or the scientific basis for herd immunity. This conflation between science and technology was supported by the survey data. When asked to name companies asked by the government to develop new technology, a significant proportion of those mentioned were involved in developing vaccines, or other scientific endeavours to better understand the virus (e.g. AstraZeneca, GlaxoSmithKline, Oxford University). This association between science and technology among social media users may have been driven by the Government's assertion that the decisions it took – including decisions relating to technology - were 'led by' or 'following' the science. Given the apparent lack of trust in technology companies' use of data, this association could have implications for trust in scientific endeavours such as the development of a vaccine.

In contrast to discussion about technology, discussion of the use and presentation of data and information in response to the pandemic was much more critical. A manual analysis of a sample of posts identified 77% as a negative reaction – the highest of all deep dives investigated for this project. However, the balance of opinion should be understood with some nuance. The survey research suggested that while members of the public are more likely to be positive than negative about the information and data presented by government, there are a large number who remain indifferent (Figure 6.3).[19]

[19] Overall, only 54% said they trust that the information the government was providing on coronavirus – this had fallen five percentage points from the end of May to end of June 2020.

Figure 6.3: Public attitudes to use of data during the pandemic



The manual coding identified four main areas of negative reaction on social media relating to the use of data and trust in information presented by the Government during the pandemic:

- Some efforts to challenge the accuracy of information shared about COVID-19 beyond the UK Government. This included Fact Check services on quality of data on transmission and death rates from other countries, through to whether or not the virus can be spread by animals.
- Counter to this, conversation which sought to undermine the legitimacy of concern about virus. This included comments to question the origin of the virus, or of the prevalence or risk of infection.[20]
- Specific critique of UK government use of data and information presented during the pandemic, most notably on conflicting advice from science experts, and government claims of delivery on and procurement of PPE; 17% of posts said they felt the information was misleading or needed further clarity.
- A further 9% of comments challenged the reporting of the pandemic by the media and criticised the role of social media and sensationalist reporting.

Finally, the survey data reveals demographic differences in attitudes and knowledge that may have implications for the success of technological interventions related to the pandemic. For example, older respondents and those with lower household incomes are less likely to say they have become more open to data sharing as a result of the pandemic, and were less likely to know about the government's plans to use the smartphone app. In effect, those groups who are most at risk from COVID-19, are the least open to technological solutions to the virus. This has the potential to undermine the success of any technological interventions the Government introduces and

[20] Conspiracy theories were also evident through search data related to technology. Related searches for 5G saw a sharp increase between 1 – 4 April, following arson attacks to Telecom equipment in Liverpool, Birmingham and Northern Ireland. The attacks were related to conspiracy theories that relate 5G to the spread of Coronavirus.

underscores the importance of engaging with these groups to improve the accessibility and acceptability of such solutions.

6.3 Emotion - reuniting with family and friends, death and grief

A core part of the pandemic experience has been the huge loss and sacrifice made by members of the public. The pain caused from the thousands who died was exacerbated by the restrictions on being able to see loved ones to help control the virus.

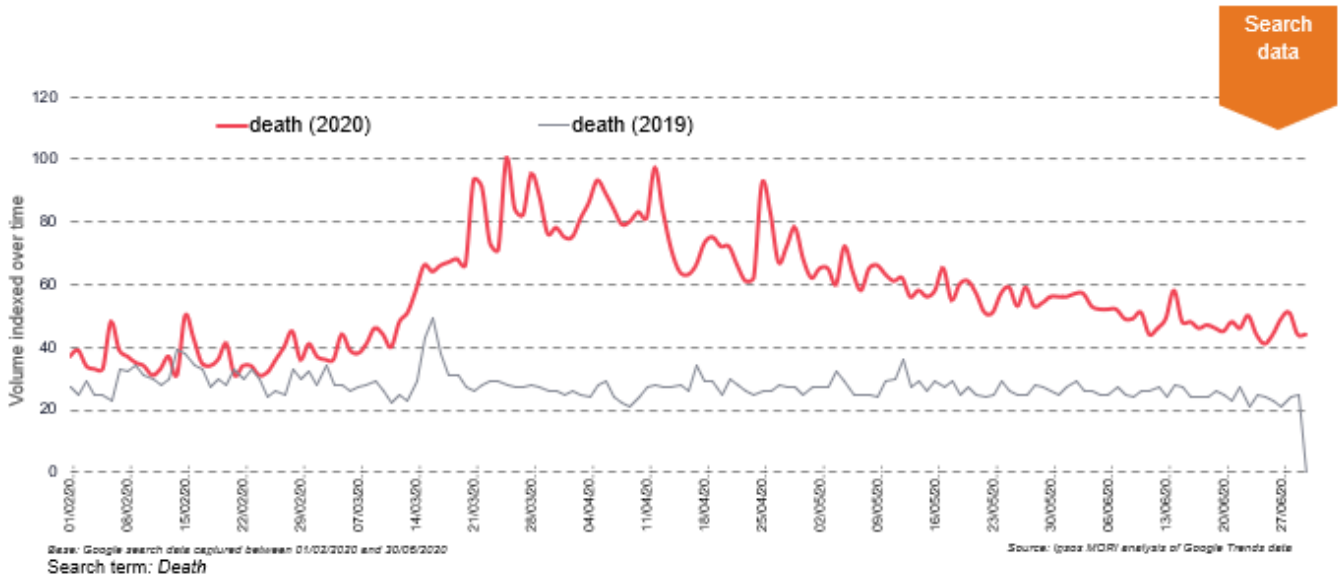
Analysis of social media offers some insight into the public's lived experience during this time.

6.3.1 Reach and audience

Analysis of Google search data points to a nation obsessed with talking about death. As shown in Figure 6.4, searches relating to death are much more prominent in 2020 compared to the same period in 2019. Death remains a core part of searches surrounding COVID-19 – 'coronavirus + death' is a more common search term than 'coronavirus + symptom'. Users looking for the latest 'death rate' or 'covid death figures' account for 6 of the top 10 searches related to COVID-19.

Yet Google Search data also suggest that the public are no more likely to be searching for help and advice relating to, for example, grief or funerals than in 2019. One growing trend in 2020 relates to search queries asking 'how many + funeral' to seek clarification of how many can attend funerals during the pandemic (this initially peaked on 30 March but has become a growing trend since May 9th as lockdown eases); however, this remains a relatively small proportion of searches relating to funerals, with general queries about funeral times or directors topping search requests. The major spike in searches relating to funerals on 10 March 2020 relates to the funeral for Caroline Flack and the spike in 2019 relates to Keith Flint.

Figure 6.4: Search data relating to death, 2019 compared to 2020



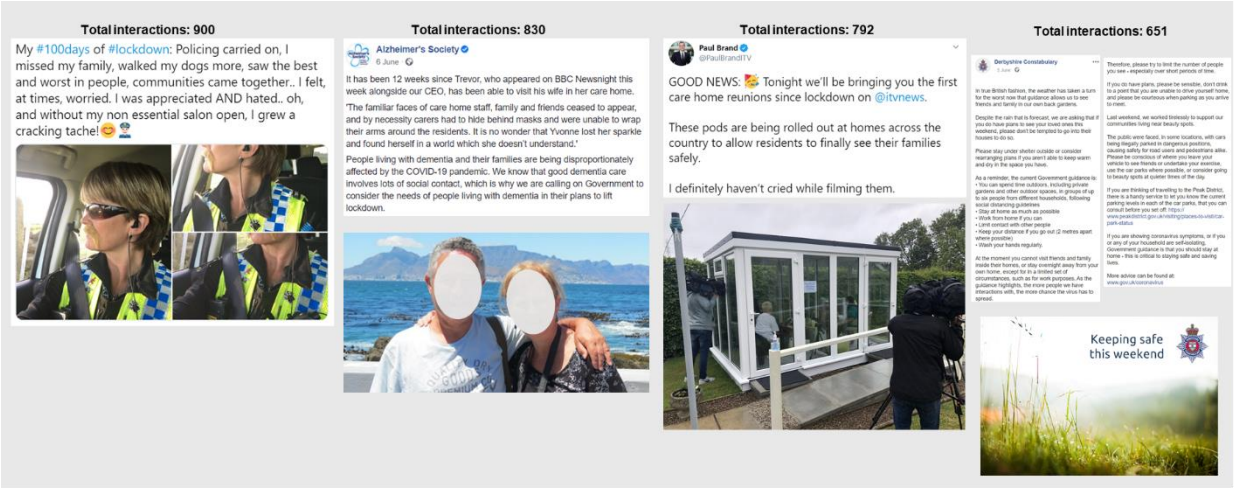
One hypothesis would be to assume that our experience of death during the pandemic was functional rather than emotional; however, analysis of social media data points to a very different picture. In total, we captured 84,950 posts relating to death, loss and grief. A quarter (24%) of those posts analysed manually shared experiences of their loss and grief. These personal stories captured

significant attention through media shares on social media and triggered the highest number of interactions – only behind hand hygiene and the 'stay alert' slogan. Posts about death, grief and loss peaked on 28 April, in part due to the death of David Gomoh, a nurse who had recently lost his father to COVID-19 and who was subsequently stabbed in an unprovoked attack. A second spike appeared on 25 May in response to reports that the Prime Minister's Advisor, Dominic Cummings, had failed to follow lockdown regulations.

Figure 6.5: Frequently shared images on social media related to death

A smaller proportion of conversation explicitly discussed reuniting with family. Conversation here also peaked in response to the reports of Dominic Cummings breaking lockdown regulations in late May, though personal stories of individuals who had been reunited did gain significant traction on social media.

Figure 6.6: Frequently shared images relating to family reunion



Source: Ipsos MORI/Synthesio

6.3.2 Reaction

Posts discussing death and family reunion contained high volumes of emotion – both sadness and anger at the situation. Whilst sadness is to be expected, anger should not necessarily be prevalent – 12% of posts coded manually relating to family reunion were angry, the highest of all deep dives; a further 9% of those relating to death and grief.

A key aspect of the anger expressed on social media related to the behaviour of Dominic Cummings, and the perceived double standards about the sacrifices members of the public were expected to make compared to those in positions of power.

Confusion was also a common sentiment expressed within these conversations – 19% of those relating to death and grief felt information was unclear, alongside 12% of those relating to family reunion. Confusion can also be seen in the search data. Here, there was an initial spike in search across all groups as lockdown was announced between 21 and 23 March. Eagerness to find out how and when people can see friends remains broadly constant throughout. The largest spike, on 10th May, relates directly to Boris Johnson's announcement on future easing of lockdown. There is a second significant spike in searches on restrictions to see family as the Dominic Cummings story broke on 23 May.

Conversation about bereavement services – for example the National Bereavement Service – was notable for its absence. Within the sample of posts that were manually coded, there was no mention of this, or other bereavement services. This lack of profile may indicate that knowledge of such services was not getting to those who were in need.

Confusion was also apparent in the reporting of deaths related to COVID-19. This included lack of clarity around what doctors put on death certificates and concern that it is difficult to identify the true figure of deaths caused by the pandemic. Some posts were fighting for greater clarity on the cause of death for loved ones.

6.4 Health inequality- ethnicity and wealth

The coronavirus has exposed a range of health inequalities, inside the UK and around the world. Initially, the Government had suggested the virus was indiscriminate, however as more data became available, pressure grew on the need to better understand and tackle health inequalities.

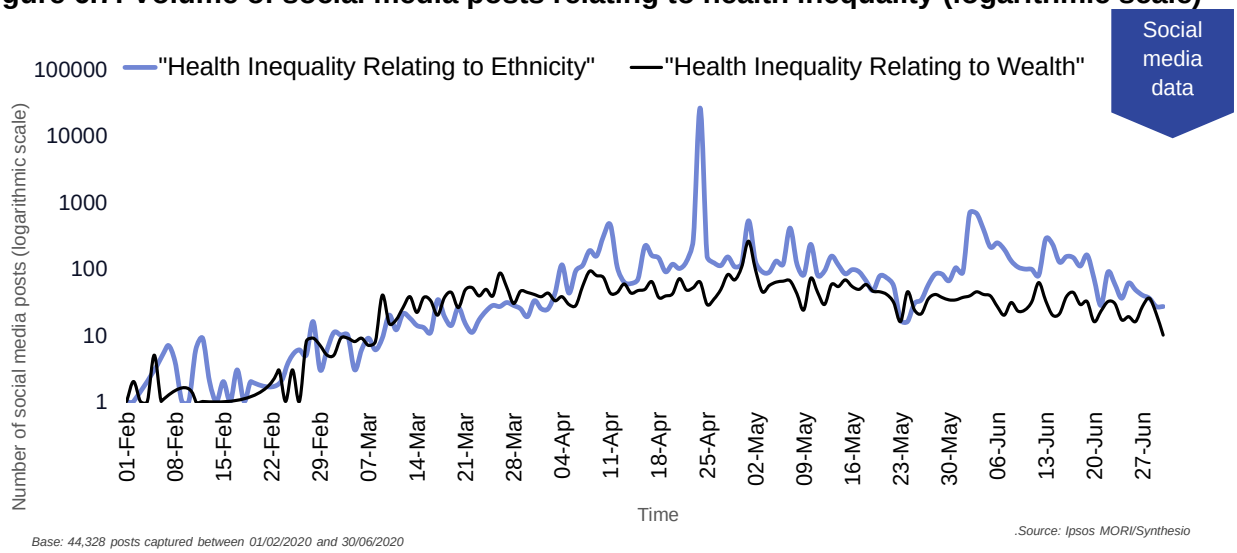
6.4.1 Reach and audience

Social media data suggests a stark contrast in the attention given to health inequalities related to ethnicity compared to those relating to wealth. Inequality relating to ethnicity received 48,091, compared to just 7,653 that specifically cited inequalities related to wealth.

Conversation relating to ethnicity was championed by key figures of the Labour party – most notably on social media by Keir Starmer and Dianne Abbott. This topic had the lowest number of unique users, with 5.95 posts on average per user. This suggests a high volume of discussion amongst a concentrated group of people. The key peak in health inequality conversation occurred on the 24th April, when it was announced that Baroness Doreen Lawrence would lead the Labour review into the disproportionate impact of COVID-19 on BAME communities.

Wealth-related health inequality is a less common topic, with consistently low volumes overall. In contrast to inequality relating to ethnicity (and others whether individual journalist/TV personality accounts had led interest), inequality relating to wealth was championed by stories from national press such as Economist, Guardian, and Independent.

Figure 6.7: Volume of social media posts relating to health inequality (logarithmic scale)



Base: 44,328 posts captured between 01/02/2020 and 30/06/2020

.Source: Ipsos MORI/Synthesio

Interest in inequality relating to ethnicity can also be tracked to key events using Google search data. The first uptick in searches, on 16 April, aligns with the announcement of the inquiry into the disproportionate impact of COVID-19 on BAME people; the second peak falls on the 17 May, the day on which the ONS released a comparison of COVID-19 related death rates by ethnicity; the volume of searches peaked for a third time on 2 June, the day on which PHE released their review of COVID-19 related risks and outcomes, which failed to include recommendations related to ethnicity.

Conversation relating to ethnicity also generates much more interaction among social media members. Images which championed the cause and told personal stories received the most attention.

6.4.2 Reaction

Discussion of health inequality and ethnicity largely focused on raising awareness of the disproportionate deaths among people from Black, Asian and Minority Ethnic backgrounds – 56% of those coded manually fell into this category. A smaller proportion (14%) directly challenged the Government to hold an enquiry. Overall 11% expressed ‘puzzlement’, where it was common to ask ‘why’ this was the case. Posts asking for clearer communications also questioned the way the PHE report had been published, and the lack of an action plan to tackle the situation.

Conversation relating to inequality and wealth was more fragmented. The biggest single topic was raising awareness of the disproportion impact on poorer areas – cited by 25% of the posts coded manually. There was less clarity on a call to action, or what should be done to address the issue. The most common request to was mitigate the impact on prisons, others focused on ensuring services to those in need could still be delivered, and there were calls for those more affluent to provide greater support.

The manual coding identified a series of posts at the intersection of ethnicity and wealth inequality. For example, posts suggested that systemic racism that detrimentally impacts housing, employment and education – and thereby leads to poverty - is one underlying causes of the mortality rates among people from Black, Asian and minority backgrounds. While some of these posts were accompanied by mentions of the Black Lives Matter movement, the conversation about ethnicity and wealth inequality appeared to stand relatively independently of the movement.

6.5 Conclusions

Public health messages do not act in a vacuum, even during a global pandemic. A review of social media posts relating to COVID-19 demonstrates that spikes in the conversation were driven as much by emerging issues and events as by government-led public health campaigns. An appreciation for the effects of these issues and events can help safeguard the efficacy of future public health messages.

A clear example relates to the conversations regarding the use of data and information, which prompted high volumes of social media posts. The high levels of mistrust and concern displayed in these posts foretell the very real challenges that may be faced by the Government if trying to utilise individuals' data to tackle the virus. For example, in early June [21], two in four members of the public reported that no reassurances about data collected would be enough to satisfy their concerns about using the Test and Trace app. Had the roll-out of the app gone ahead as planned at the time, understanding and mitigating these concerns would have been crucial to its success and will be again once ongoing pilot activity to test the Government's new app comes to an end.

In a very different vein, social media also documents the very personal loss and sacrifice made during the pandemic. The lack of prominent discussion or search activity about bereavement and grief suggests that the impact of this loss and sacrifice may not yet have been addressed. Social media can therefore provide a helpful opportunity to understand people's experiences of loss, so as to better meet their needs as the pandemic progresses.

[21] Health Foundation/Ipsos MORI. (2020). COVID-19 survey. https://www.ipsos.com/sites/default/files/ct/news/documents/2020-06/health-foundation-covid-19-study-charts.pdf

For more information

3 Thomas More Square
London
E1W 1YW

t: +44 (0)20 3059 5000

www.ipsos-mori.com
http://twitter.com/IpsosMORI

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