

Learning the Lessons for COVID-19 - Opening the Door to Local Intervention

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Abstract

This sixth paper on our COVID-19 series for the UK looks at the confusions surrounding statistics of cases and deaths, the geographies of contagion, and the slow realisation of the government that 'local matters'. The first section reviews the confusion over centrally imposed rules. The second section explores the lack of clarity over data relating to infections and deaths, and the ways in which the data were reported at geographic levels with little relevance to the ways in which the virus spreads. Section 3 describes the complex government structures that struggled to cope with the virus and the after-effects of lockdown. Section 4 proposes a stronger role for local governance and local actors, Section 5 brings together the events up to early August 2020 and Section 6 looks forward to ways to cope better with further COVID-19 'waves'.

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0.0 Prologue

This paper started out as an academic critique of the data that were available to assess the impact of COVID-19 at local levels. We had been asking ourselves a number of questions about this because - even as researchers in the field - we were struggling with how to assess our own risks of catching the virus where we lived. Risks identified at the macro-level seemed to be the focus for central government policy. On that basis, we were all asked to: restrict our mobility, observe social distancing, protect those most at risk of infection, wear masks, assure strict cleaning practices in workplaces, pubs, restaurants and so on. Like most people we complied. However, there was a fundamental question that we struggled to answer:

- What is the COVID-19 risk relating to me and my immediate community?

This question is important, because COVID-19 has a detailed geographical incidence. It operates between people in their daily lives in the places they find themselves. Some places will have large numbers of cases, some few. People sharing their experiences from place to place may say they have heard of no one suffering from it, while others tell of widespread cases near them. Local variability was in evidence from the very beginning from this and from news reports. The questions were clear. What is the shape of this? Why is it rife in some areas and not in others? How close is it to me? These sorts of questions were in people's minds but we did not know enough about what was going on even in our own neighbourhood or community to know just how anxious we should be.

A problem was that the data available to the public right up to the middle of July was not good enough to make a reasonable judgment. Worse still for us as geographers, we were aware that the ways in which statistics are processed and mapped can very much influence the messages received. We saw a lot of maps but they were at the wrong scale to help, and we were also worried about the underlying data. In the face of a policy driven by simple messages from ministerial briefings, these uncertainties in what people were seeing around them could influence how seriously they thought about the risk they were facing in their daily lives. We had graphs and maps about the national, regional and strategic local authority incidence of infection, but what should we read off from them?

The first part of the paper that follows takes us over this terrain. We look first at the numbers; where data on positive cases of COVID-19 came from; how the statistics of 'cases' and 'deaths' were developed; how 'deaths' were measured in different ways; and how much the publicised schemes for tracking and tracing infections fits into all this. We look at maps to see how the use of regions and local authority districts for the scale of presentation could produce often conflicting interpretations of the statistics and kept us in the dark on what was going on at community levels. This led to a second question:

- What should we change in the way we approach the management of the pandemic after mid-July when could see in greater detail, for the first time, how the virus spreads across particular kinds of localities?

Around the middle of July there was a fundamental change in the way we could see the COVID-19 virus in action. The limitations of perspectives that so influenced the way policy was applied dropped away. Better data at granular level finally appeared. People could now be more assured (though still with reservations) about the provenance of the data, and we were presented with information much closer to home on the process of contagion. It was possible now to clearly see hotspots and clusters and the vulnerability of some groups in the population over others.

The last part of the paper moves away from statistics and geographies, to a focus that acknowledges the availability of localised data requiring that we should empower local actors in supporting the post-lockdown phases. This brings in the issue of governance. We look at the role of Directors of Public Health, and how they need to have access to very granular local detail. There are now data licencing arrangements between them and Public Health England which started to give them the local intelligence, but we also bring into play the lack of robust and reliable test and track processes.

All of us may well have to accept that the virus will be here some time. However, while the immediate priority is to deal with the evolving crisis by dramatically stepping up testing, it is important to move from reactive mode to a more robust strategy that will see central government as the orchestrator of an multi-level, multi- partnership approach, co-designing more sophisticated interventions at many levels to add requisite variety to the policy for dealing with embedded COVID-19.

1.0 The Early Stages

1.1 Struggling to cope with a brutal reality

One of the tasks of the UK government is to be prepared at the national level for a major health challenge. To be effective it should learn from past experiences (such as SARS and MERS), and then plan ahead better. In the case of the COVID-19 pandemic, this has not been the case in terms either of preparedness, or prior learning¹: “Boris Johnson has lamented the “brutal reality” that the UK did not learn the lessons from past virus outbreaks in developing sufficient capacity for testing and tracing”². In the first weeks of the UK experience of the pandemic, three signal failures had serious consequences; i) a failure to react quickly enough; ii) a scramble to meet shortages in PPE (Personal Protective Equipment); and; iii) an early decision to prioritise testing for the NHS while missing out the care homes³ (which were obliged to take in residents discharged from hospital without prior testing)⁴. The subsequent impact of these failures on the speed of contagion, the health of front-line NHS staff and of deaths⁵ in the care homes has been well documented. From the beginning of the pandemic in the UK, the government was behind the curve.

1.2 Looking on “the science” to set the pathway

A government needs to show itself as well enough informed to confront the immediate challenge, and to win the trust of the people. To achieve this, politicians need the assistance available from the objective and independent advice of experts. SAGE⁶ - the Scientific Advisory Group for Emergencies (note the term ‘Advisory’⁷) – was called upon to provide scientific advice in the case of COVID-19. Citizens were assured repeatedly that government was “following the science”. However, it needs to be understood that, as Sir Richard Mottram observed:

“there is no such thing as ‘the science’. Scientific advice rightly is embedded within the government’s crisis management machinery in support of decisions that are ultimately a matter for Ministers ... An issue is whether Ministers understand the inherent limitations in scientific advice.”⁸

There was never likely to be a simple definitive recommendation for action from SAGE. At the stages before a pandemic, or in the early stages of it, scientists needed to work more on statistical models where a range of assumptions were made. Different models were developed by different research groups, each with their own assumptions, leading to varying scenarios which the politicians had to understand and evaluate for

¹ <https://www.theguardian.com/world/2020/jul/23/uk-failed-to-plan-for-economic-impact-of-flu-like-pandemic-says-watchdog>

² <https://www.independent.co.uk/news/uk/politics/boris-johnson-coronavirus-test-contact-tracing-sars-mers-hancock-latest-a9535781.html>

³ <https://news.sky.com/story/coronavirus-nhs-prioritised-over-social-care-during-early-stages-of-outbreak-minister-says-11991378>

⁴ <https://www.theguardian.com/world/2020/jul/29/coronavirus-english-care-homes-policy-reckless-mps-say>

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<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/impactofcoronavirusincarehomesinenglandvivaldi/26mayto19june2020>

⁶ <https://www.gov.uk/government/organisations/scientific-advisory-group-for-emergencies>

⁷ “SAGE is responsible for ensuring that timely and coordinated scientific advice is made available to decision makers to support UK cross-government decisions in the Cabinet Office Briefing Room (COBR). The advice provided by SAGE does not represent official government policy”.

⁸ <https://blogs.lse.ac.uk/politicsandpolicy/covid19-crisis-management-machinery/>

policy purposes. For epidemiological models, the basic inputs tend to be similar. The modellers need to know who and how many people are *infected* at a given time, what the risk is that they will *transmit* it to others, who is *susceptible*, and who might be *immune*⁹. A great deal has been learned from past epidemics about how fast a virus can spread in certain situations and this can help with projections of future pathways. This is what science offered in the early days while the system for capturing real information about what was happening was still under development. Over time, as more information comes in, a better sense of the reality of the pandemic can be added to models and conveyed to those developing policy interventions.

The job of the politicians is to take scientific advice, set it within a clear policy framework, be transparent about the process of how this is done, and build trust with the people by providing clear explanations of what is happening. Ideally, the aim would be to promote confidence by showing a government on top of the challenge. All governments found it hard to cope with COVID-19, and they had to balance the 'best' advice from their scientists with what would 'work best' under the system of governance in place. They had to persuade the people to take on board the extreme measures needed to suppress contagion. To be fair, this was an unprecedented challenge and even the best organised governments struggled to cope with it. Some managed better than others. While a great deal can be learned by looking at how other countries coped, *context is critical*. The governance and compliance variables will never be the same.

1.3 Getting the people on board: Exhortation backed up by rules

Confronting pandemics needs the trust, mobilisation, and support of all the people. The means for bringing the people on board ranges across a scale from more coercion at one end to more trust and persuasion at the other. COVID-19 has seen this play out globally with some nations exercising extensive control and surveillance and others depending on having the population comply voluntarily with central messages on the right thing to do. The first move by the UK government was to persuade its citizens to comply voluntarily. Lockdown was the chosen first order policy response and the constantly repeated message was "*stay home; save the NHS; save lives*" – an appeal to the good sense and solidarity of the people. From the science, the simply stated target was to 'flatten the curve' of increasing infections if the health services were not to be overwhelmed. This stark message produced an immediate response.

The main UK approach was, then to encourage compliance through inducing sound behaviours. The necessary legislation¹⁰ to back this up was drafted at an unprecedented speed, with no time for the usual extensive Parliamentary scrutiny¹¹. However, at an early stage, political ideology came into play. It has been suggested that a feature of this was Boris Johnson's own "... *strong sense that the government should not tell people what to do unless absolutely necessary*"¹². The Prime Minister resisted imposing rules early on. However, after his near-death experience with the virus, things changed: "*Boris Johnson has admitted that he has ditched his "libertarian" position on whether or not the state should help people...*" (in this later

⁹ The Kermack–McKendrick epidemic model (1927) and the Reed–Frost epidemic model (1928) both describe the relationship between susceptible, infected and immune individuals in a population as crucial. See

<https://royalsocietypublishing.org/doi/10.1098/rspa.1927.0118> and

<https://www.osc.edu/education/si/projects/epidemic>

¹⁰ <https://www.legislation.gov.uk/ukxi/2020/129/contents/made> and <https://commonslibrary.parliament.uk/research-briefings/cbp-8875/>

¹¹ <https://www.instituteforgovernment.org.uk/blog/government-stop-avoiding-parliamentary-scrutiny-coronavirus-legislation> and <https://www.telegraph.co.uk/politics/2020/06/17/90-coronavirus-laws-rules-imposed-without-parliamentary-scrutiny/>

¹² <https://www.nbcnews.com/news/world/coronavirus-johnson-s-libertarian-views-behind-hesitancy-lock-down-britain-n1164786>

case talking about obesity) ... *after his own brush with coronavirus*¹³. The lack of clarity with rules (and who, and how, the rules should be 'policed') and the Dominic Cummins affair (the subject of one of our previous papers in this series) led William Davies to conclude that the lockdown and other rules:

*"are unlike anything we've experienced before: a mixture of law and algorithm, informal etiquette and formal code ... But if people give up, and if the police are unable to constrain them, the question will arise of why people ever obey rules in the first place"*¹⁴.

To carry the people along, we also add in the ways the mass media in a free society (the television and news media, but also social media - acknowledging the latter's ability to deflect compliance through the often unfettered dissemination of fake news and views) can re-communicate the Government message and position it through lenses focused on their own particular viewers and readerships. The ambition to give a clear message was entirely laudable. The practicalities controlling it in an age of modern media were much more challenging. Once again, we can see significant international variation in approach between those governments that manage their national media and those committed to free speech.

1.4 Confusion further confounded

In spite of previous warnings about pandemics¹⁵, the government (and previous governments are also guilty) had not put in place a provision to contain any pandemic - let alone something like COVID-19. *Critically, no immediately useable system existed for capturing data on emerging cases and on the progression of the contagion process.* No prior thought was given about what sort of intelligence would be needed to know what was going on. This saw the leadership operating partially blind for far too long when faced with a fast-moving viral enemy.

Political action was coloured by the ideological positioning of a newly elected government and by their expectations of how citizens would 'behave' when faced with such a draconian interference in their lives. The first order policy response consisted chiefly of strong, clear messages (but still capable of variable interpretations), communicated through Ministerial briefings and taken up by television, by newspapers and by social media. From the outset it was all a bit of a mess. The Prime Minister brought himself to acknowledge this on 24th July when he "*apologised for not apologising*"¹⁶ for what had happened at the beginning.

One of the most obvious priorities as the pandemic hit was the need to *see and understand what was actually going on*. There needed to be appropriate and timely data, organised at the appropriate geographical levels feeding into governance structures mandated and resourced to intervene. Sadly, this turned out to be anything but the case in the early months of the COVID-19 event. In the first part of the paper we explore some of the realities of this initial period. We turn, in the second part, to see what lessons might be learned as we face the possibility of future waves of the pandemic.

¹³ <https://www.politicshome.com/news/article/boris-johnson-says-hes-ditched-libertarian-position-on-obesity-after-coronavirus-battle>

¹⁴ <https://www.newstatesman.com/2020/07/coronavirus-and-rise-rule-breakers>

¹⁵ <https://www.nationalgeographic.co.uk/science-and-technology/2020/04/experts-warned-of-pandemic-decades-ago-why-werent-we-ready>

¹⁶ <https://www.theguardian.com/world/2020/jul/24/boris-johnson-says-coronavirus-could-been-handled-differently>

2.0 Capturing the Basic Data

2.1 Finding COVID-19 cases

Let us start with where the basic numbers came from. Confronting COVID-19 two key questions needed accurate and hopefully rapid answers. Who has the virus? Where is this most active? To find this out, a test was needed. Fortunately, the science made this relatively easy quite early on. The non-science issue is, *however*; “*how do we organise to get enough tests done for a mass of people in a short time, countrywide?*” and while we are doing this; “*how do we collect, store and report the data that arises?*” This is both for organising medical intervention for those testing positive and for the collection of vital intelligence.

At the beginning of the pandemic, we were operating largely in the dark as far as data was concerned. There were some serious implications as a result of this¹⁷. The first resort for testing was the hospital-based system of the NHS and the testing centres associated with it. This would capture information about the most acute cases on admission and on key NHS staff (the care homes were outside this loop). In March, a move was made to set up drive-through testing centres and “Lighthouse Labs¹⁸”. These were operated both privately and publicly. The key aim was to increase the number of diagnostic swabs processed. Critically, however, no attention was given to the need to see the importance of the testing system for collecting data on the outbreak. It took months for this fundamental error to be rectified¹⁹. The primary agency of the central government for dealing with infections of this order and marshalling the data was Public Health England²⁰, with devolved responsibilities to Public Health Scotland²¹, Public Health Wales²², and Northern Ireland²³.

With a diagnostic test available, government and policy makers needed to be in a position to answer five straightforward-looking questions if they were to make sound decisions about public health during COVID-19. These needed to produce clear; transparent and trustworthy information. This turned out to be challenging in practice – especially at speed (please bear with us, this is going to become rather complicated). First, the questions:

1. How many people have been infected by COVID-19?
2. Where are they located?
3. What is their risk of dying from the virus?
4. How do we warn people who have been in contact with those who are infected?
5. How many have actually died of the virus?
6. How do we report the statistics of COVID-19 deaths and contagion risk?

Two different requirements are embedded in this. One is simply the need to know what is going on – a data issue. The other is how to provide the right level of infection control to stop people becoming infected – a

¹⁷ The most serious, of course, was the failure, at a critical stage, to see what was going on in the care homes - they fell through the data capture net.

¹⁸ <https://www.lighthouselabs.org.uk/>

¹⁹ <https://www.theguardian.com/world/2020/aug/03/uk-virologists-criticise-handling-coronavirus-testing-contracts>

²⁰ <https://www.gov.uk/government/organisations/public-health-england>

²¹ <https://publichealthscotland.scot/>

²² <https://phw.nhs.wales/>

²³ <https://www.publichealth.hscni.net/>

medical (public health) issue. The history of the early months is that these became tangled up, with a dash for track and trace to control infection over-riding the parallel need to produce good data.

2.2 Testing for COVID-19: The four pillars

Early steps were taken to add a set of privately and publicly operated, testing centres and labs alongside access to the NHS Public Health testing facilities already under way. These were installed²⁴ under the auspices of the accounting and consultancy company Deloitte, Serco and *Sitel*, assisted by the military with drive-through capability. This produced a complex regime of testing activities operated by different agents. Later this was regularised under the heading of a series of “Pillars²⁵” as shown below:

The of “pillars” of testing and virology research are:

- *Pillar 1: Swab testing in Public Health England (PHE) labs and NHS hospitals for those with a clinical need, and health and care workers*
- *Pillar 2: Swab testing for the wider population, as set out in government guidance²⁶*
- *Pillar 3: Serology testing to show if people have antibodies from having had COVID-19*
- *Pillar 4: Blood and swab testing for national surveillance supported by PHE, the Office for National Statistics (ONS), and research, academic, and scientific partners to learn more about the prevalence and spread of the virus and for other testing research purposes, such as the accuracy and ease of use of home testing*

While Pillars One and Two are needed to find out who has the virus and where, Pillars Three and Four are largely to address to the virologists most basic key question; “know your virus” in the face of the completely unknown that is COVID-19²⁷. The difficult question of contagion risk runs through them all.

2.3 Recording deaths from COVID-19

Turning to the question of how many deaths there are as the result of COVID-19, once again this looks to be simple; but it is not. A key issue is that a table of numbers of deaths has behind it an official definition of someone who died as the result of COVID-19. Public Health England (in charge of data) had defined this as “*all those that have died who had a positive Covid-19 test at any point*”, (this is different from Scotland, Wales, and Northern Ireland, that to be only include “*those who die within 28 days of a positive test*”²⁸).

What, for example, should be recorded if patients who had COVID-19, recovered, and later died: of COVID-19, of the secondary impact of COVID-19 (organ damage), or of something completely separate from

²⁴ Costing some £48 million, with 27,000 testers, many of who by early July were doing little actual tracking and tracing <https://www.independent.co.uk/news/health/test-and-trace-coronavirus-latest-lockdown-figures-contact-tracing-nhs-a9593336.html>

²⁵ <https://www.gov.uk/government/publications/coronavirus-covid-19-testing-data-methodology/covid-19-testing-data-methodology-note>

²⁶ Even now (25th July) Pillar Two test data are not available at local or regional level See:

<https://www.theguardian.com/world/2020/jul/25/coronavirus-near-me-are-uk-covid-19-cases-rising-falling-in-your-area-latest-updates>

²⁷ <https://www.gov.uk/government/publications/coronavirus-covid-19-testing-data-methodology/covid-19-testing-data-methodology-note>

²⁸ <https://www.bbc.co.uk/news/health-53443724>

COVID-19 (such as an aneurism)? On Wednesday July 15 (when we started to write this note), the COVID-19 official statistics²⁹ from the www.gov.uk site stated that the “Total number of deaths of people who have had a positive test result for COVID-19 reported up to Thursday, 16 July 2020” was 45,119. In relation to this, the government website made the following statement on deaths data:

*“The data do not include deaths of people who had COVID-19 but had not been tested or people who had been tested negative and subsequently caught the virus and died. Deaths of people who have tested positively for COVID-19 could in some cases be due to a different cause”.*³⁰

This acknowledges the problem of defining a COVID-19 death, but it also notes that there are two important and potentially large sources of deaths from the virus that have not been in the data from the beginning. It comes as no surprise that the data about all deaths data had to be recalled and reviewed³¹.

2.4 Contacts and tracing: Controlling contagion

For infection control, health authorities need to know with whom the infected person has been in contact - both before exhibiting symptoms and after they appeared. The time-honoured process has been to ask (identified infected people) about contacts; to start with the home and family; friendship and work contacts, cascading the tracking and tracing outwards from there. This was traditionally done by people trained in the process, the public health professionals, who were generally familiar with the local context.

However, in an age of digital technology, there was a quick move by the UK government to downplay this personalised and local contact approach for England in favour of an IT-focused³² ‘track and trace’ mechanism using mobile phones. Businesses in the digital communications field were, unsurprisingly, all too willing to help governments with this in a crisis. At its simplest, while not everyone has a smartphone, their usage is extensive, and in terms of a technology they can be used to provide information on where individuals have been, and who may have been ‘near³³’ to them. Established methods for doing this exist. The global telecoms giants (Apple iPhone, and Google Android) are the operating system handlers of most smartphones, and their location tracking system can keep a highly detailed record of where we are, while their Bluetooth capability helps to identify which other phones may be near us³⁴. Despite being mortal competitors, both Google and Apple agreed to work together to develop a tracing App³⁵ at a speed appropriate to the demands of the moment. (These mobile phone systems are in play in many countries).

²⁹ <https://coronavirus-staging.data.gov.uk/>

³⁰ <https://coronavirus-staging.data.gov.uk/deaths>

³¹ <https://www.bbc.co.uk/news/health-53443724>

³² And here we went again with the politicians being seduced by information technologies. For a truly horrifying historical perspective read ‘The Blunders of our Governments’. Politicians have little sense of learning from past disasters. <https://oneworld-publications.com/the-blunders-of-our-governments.html>

³³ Another statistical diversion – how do we define ‘near’ to us to the extent where there is a strong ‘probability’ that we may have infected them. All sorts of issues – within 2 metres on a train is different to within two metres, but downwind, of someone.

³⁴ The fact that two phones may be near each other does not imply evidentially that the actual owners were near each other. But, broadly speaking, we can assume that for most of the time the phones are on us.

³⁵ And the European Union noted that an App would need to work across the open borders of the EU, and that working together was important https://ec.europa.eu/commission/presscorner/detail/en/IP_20_670 The UK, having ‘taken back’ control of its borders with Brexit, was having none of this.

The UK Government decided to build its own “*world beating*” App using the same principles³⁶. Regardless of the technical problems involved, an immediate issue with the mobile phone approach was – of course - *personal privacy*. The UK Government did not, however, factor this in. Staggeringly; “*The Department of Health has conceded that the initiative to trace contacts of people infected with Covid-19 was launched without carrying out an assessment of its impact on privacy*”³⁷. It is hardly surprising that not everyone who was tested positive by this method wanted to share their status and contacts with a Third Party. The pilot exercise conducted on the Isle of Wight was less than satisfactory; “*71.1% of the contacts provided were reached, but 21.8% of those who originally tested positive said they had not been in close contact with anyone during the required time frame*”³⁸.

Subsequently the government abandoned its stand-alone approach (after considerable expenditure) and moved to the Apple-Google model, which did factor in a degree of privacy protection³⁹ We still wait to hear more about the progress of this. The Guardian is sceptical that it will ever take off:⁴⁰

Meanwhile, there is scant proof from anywhere around the world that smartphone apps using Bluetooth are an effective method of contact tracing. Back in March, it seemed that the hugely powerful devices most of us carry with us might help us emerge from this health crisis. Now it looks as though a human being on the end of a phone is a far better option.

Taking on the personal contact approach for England (the other three devolved administrations have their own arrangements), the government hired 27,000 contact tracers to ring up and tell people that they have been in contact with someone infected once an identified case has been reported to them. To do this they were dependent on first having an accurate *infected person contact list* - with all the issues that involves. This method was slow arriving and only partial – having the operators sitting idle for weeks – another shaky start⁴¹. By the middle of July, a system for what is now called “test and trace” was finally in operation with the call centre telephone approach at its heart⁴². Put out to a series of private contractors to deliver, it is suggested that this “*will not be fully operational until September*”⁴³ The government further admitted on 20th July that it had been breaking the law; “*in rolling out its test-and-trace programme without a full assessment of the privacy implications*”⁴⁴ Once again, we see that the issue lies not entirely in knowing how to get the answer to a question but also about the *governance of the process*.

Providing effective contact tracing information is still giving trouble. The threat of a further wave is being feared, and the capturing of evidence of local clusters and spikes on lifting lockdown is finally moving things toward more localised action (we address this topic in more detail in a later section).

³⁶ On the 12th of April, the UK Health Secretary Matt Hancock announced a coronavirus track-and-trace app. On the 20th of May, Prime Minister Boris Johnson promised that the “world beating” app would be released within days <https://www.youtube.com/watch?v=VdlIVAwWmB8> . On June 18th the government confirmed that the app had been abandoned https://www.vice.com/en_uk/article/jqx5p8/uk-track-trace-coronavirus-app .

³⁷ <https://www.bbc.co.uk/news/technology-53466471>

³⁸ <https://www.bbc.co.uk/news/health-53463068> When track and trace was introduced the satirical magazine Private Eye had a spoof article noting that informing the tracers that your enemies had been in contact could then result in them having to isolate for 14 days. There is nothing so unpredictable as human behaviours.

³⁹ <https://metro.co.uk/2020/06/18/nhs-track-trace-app-ditched-new-model-focused-better-privacy-12871208/>

⁴⁰ <https://www.bbc.co.uk/news/technology-53114251>

⁴¹ <https://www.dailymail.co.uk/news/article-8375925/Contact-tracers-say-obviously-not-ready-admit-day.html>

⁴² <https://www.gov.uk/guidance/nhs-test-and-trace-how-it-works>

⁴³ <https://www.theguardian.com/society/2020/jun/04/nhs-track-and-trace-system-not-expected-to-be-operating-fully-until-september-coronavirus>

⁴⁴ <https://www.theguardian.com/technology/2020/jul/20/uk-government-admits-breaking-privacy-law-with-test-and-trace-contact-tracing-data-breaches-coronavirus>

2.5 Assembling test data and reporting statistics

Assembling, storing and reporting data on the virus has been a running sore throughout the five months of the pandemic and it still remains a major issue. In the early months of the pandemic, the NHS testing data (Pillar One) was the only source of knowledge about cases and deaths and this was what was adding detail to the modelling process that government was so dependent on⁴⁵. For the population at large, trying to measure the risk of the pandemic, this was the only thing they heard about as it was presented through Ministerial briefings and through the media. Cases active in the wider population, later collected through Pillar Two, were largely invisible. Maps and graphs were key part of the approach to informing the public, and we review them in the next section.

⁴⁵ Public Health England (see later) was formally responsible for tracking the course of the epidemic. It had a staff of only 290 at the time and was quickly overwhelmed.

3.0 Mapping the Geography

3.1 Mapped data and the perception of risk

A widely misunderstood and misrepresented feature of COVID-19 has been its geography. This is important since maps had such a high-profile role in communicating messages about the virus to the public. Scientists know that the virus has a very particular spatial incidence and there is an epidemiological literature showing how contagious diseases travel from place to place over time and how important this is for measures to suppress it. The standard models of geographical diffusion show how the contagion process travels outwards from a source like the *waves* in a pond from a dropped stone and *hierarchically* flowing through a settlement system from city, to town to village. Nowadays, the *networks* that can see contagion jump from nation to nation and continent to continent through airline travel have become particularly important. All three types of flow have played a role in the COVID-19 pandemic. The models capturing this have provoked the measures to deal with its spread - from lockdown to air travel embargoes.

Maps of viral infections and deaths for COVID-19 have been regularly produced by continent, by nation and by region – with shaded areas. They can inform but they can also mislead. Behind them lies the testing regime in place and the way the data are assembled. Until mid-July in the case of England this meant mapped results from Pillar One only. The right data are needed at the right spatial scale to see the process of infection in action. It is important they have *veracity* – *that is they are a faithful representation of the phenomenon they propose to describe and are perceived as such by the people who look at them.*

In the case of a pandemic like COVID-19, maps serve for much more than just interest. They have a significant influence on the risk that individuals construct from what they see. For example: *“Oh, it’s OK there is not much happening here”*; *“I am going to give that planned trip to the Lake District a miss”*; *“I hope my relatives are OK, there is a lot of infection where they live”* – and so on. Data in maps can become a key contributor to the risk profiles made by not just by individuals, but also by communities, by businesses and by governments. Maps of aggregated data by cases can show whole countries like Spain, regions like Catalonia (Spain) or Victoria (Australia) shut down, or counties like Cumbria telling people to “stay away” from the usual tourist areas and attractions - when this is all they believe they can do if they cannot see where the local clusters *within them* are actually to be found or whether it is a more generalised outbreak.

Sadly, this is an area where both the data and the method of depiction throughout the pandemic have had a disturbing tendency to mislead as we have been working through the crisis. To understand the nature of the problem we need to say something about what mapped data can and cannot tell us.

3.2 Shading can mislead: The misuse of choropleth maps

Geographers call a map that uses a single shading applied across an area that represents something of interest a choropleth (“equal shading”) map. Think of it in terms of the focal lens of a camera. It lets you see things sharply at one scale but nothing of more detail below it. It is a strong filter that controls the viewer’s understanding. This is the lens through which we have mostly been looking at the geography of COVID-19 for the last five months (sometimes the maps show proportional circles rather than shading – but the data still refer to the data unit - the region or the strategic local authority as a whole.

Other filters applied to what is displayed come from how the base information is divided into categories; the choice of shading - all shown on the ‘legend’. The eminent geographer Mark Monmonier wrote the

authoritative book on ‘*How to Lie with Maps*⁴⁶’, warning that we can push a particular message depending on what geographies, data, and visualisations we decide to use. The maps we see on COVID-19 are not then ‘truths’ but are particular depictions of reality. This matters and we should be careful about what is being communicated. Vital for the core message of this paper (by two Geographers) is that a map at a given spatial level does not show what goes on with the virus *below the spatial scale (level of resolution) of the map in front of us*: the need to see clusters and spikes. With the maps on offer for the last four months we have not been able to see what goes on below the region, the county or the metropolitan borough. The local is where the distribution of the virus gets real to people on the ground.

What most people need to know is this; “*what would be a reasonable and informed estimate of the risk I take when I step out of the door?*” and “*what is the situation around where I live?*” but none of the maps and reports of “cases in your area” up to mid-July have been fit for purpose in helping to judge this. Until July the same was true for information available to the local Directors of Public Health, GPs, or anybody who wants to understand what is going on at their local level and make some attempt to deal with it⁴⁷.

3.3 Connecting data on the virus to other information: The role of ONS population data

As time went on in the pandemic, the Office for National Statistics (ONS) began to play an increasingly important role in the provision of data to help us understand the wider referents of what was happening⁴⁸. A critical ONS input in the past had been in getting data of all kinds down to *very local levels*. For example, the need to look at deprivation at local neighbourhood level in the 2001 census led to the creation of units called Super Output Areas (SOAs). These were used to calculate an Index of Multiple Deprivation in 2004. The SOAs are sub-divided into two further levels - Lower Layer (LSOA) with around 1,500 people and Middle Layer (MSOA) with up to around 7,000 people.

At a key point in the evolution of the debate about COVID-19, data from the ONS became the most useful source for deaths due to COVID-19. Critically, important was the fact that they could now be linked to other aspects of the population such as age, gender, socio-economic group, and occupation. It was from this data that, for the first time, a detailed map of deaths by Super Output Area⁴⁹ was to be seen. On an “eyeball” basis, it was obvious that the map of deaths from the virus was remarkably similar to the Index of Multiple Deprivation⁵⁰ showing the most disadvantaged local areas. Closer examination revealed a strong association of deaths from the virus with spatially localised clusters of the least well off and of the BAME population. It was shown that the pandemic had a propensity to have more dangerous effects on certain segments of the social and occupational hierarchy. For example:

- Hospital workers are more exposed to risk because they are dealing with the most extreme cases of infection (and needed from the outset to be well protected with PPE);
- Bus drivers more at risk than senior managers because drivers are in direct contact with many customers;

⁴⁶ <http://www.markmonmonier.com/>

⁴⁷ <https://www.theguardian.com/world/2020/jul/24/coronavirus-data-failing-local-authorities-england-health>

⁴⁸ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases>

⁴⁹ <https://www.ons.gov.uk/methodology/geography/ukgeographies/censusgeography#super-output-area-soa>

⁵⁰ <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

- Those in low wage 'precarious' jobs are more at risk – they cannot afford not to work. (The Chancellor tried as best he could to mitigate this through furlough, but lots of people fell through the cracks);
- People in high-density housing, with shared facilities, are more at risk.

From this point the debate about the impact of the virus began to have a greater focus on the poorest in society - and the BAME groups in particular. Late in the day, the ONS had provided a statistically independent and methodologically sound window on what had been happening at the most local level of geography available.

4.0 Governing the Process

4.1 A strong centralising tendency

We now turn to the way the crisis was managed through the system of governance in place. For the UK government prior to the pandemic, Brexit was a dominant and policy focus. Success in capturing support for this had come from making complex issues simple for the electorate to grasp by using simple, clear messages. The phrase, “*Take Back Control*” and its successor; “*Get Brexit Done*” - during the election campaign - had clearly worked well. The lesson for government was to be bold, make it simple and have central government assisted by the private sector get on with it. This translated directly over into the pandemic approach. What government failed to take into account, however, was the need to recognise that governing was different from campaigning not least in the face of a fast-moving and deadly virus⁵¹. The instinct to centralise and retain control pervaded the early approach to policy action along with the tendency to turn quickly to the private sector to deliver practical solutions. An ingrained mistrust of the public service and of the local authorities in particular seemed to be part of the package.

Good governance, however, requires that, in “getting on with it”, there is a need to make some attempt to join up policy and practice *horizontally* across departments of state, the private and third sectors, and *vertically* down the levels all the way to the local - where the contagion process is actually taking place. For COVID-19, there is benefit to be had by being willing to consult and listen - not only to the scientists of SAGE - but also to those others who can help capture the *grounded, context-sensitive reality* of what is going on. Facing a struggle for hard data in the first months, there was considerable local intelligence to be found on what was going on from place to place but no governance vehicle to capture it.

In the event, the local authorities, the Directors of Public Health and the Third Sector often felt left out in the face of an emerging crisis “on their patch”⁵². Yes, decisive early action was necessary at the outset and it needed the centre to take a strong lead - but for four months there was a legacy that still carried the centralising mindset. The scale and speed of what was happening in March could perhaps justify by-passing the complexity of the processes of governance, but potentially facing a “second wave”, it was surely vital to mobilise the full array of local actors. As we discuss in the next section, the ‘penny finally did drop’.

4.2 Factoring in the devolved administrations

The existence of a system of devolved powers for Scotland, Northern Ireland and Wales was always going to complicate a centralised UK approach to the pandemic. In legal terms, the devolved administrations can make their own decisions over substantial areas of policy for COVID-19⁵³ - and have done so. Public health and education services are generally devolved to Northern Ireland, Scotland and Wales. Under the Coronavirus Act 2020⁵⁴, regulations to restrict movement, public gatherings and require certain premises and businesses to close were initially the same but as time passed they were amended in different ways across the devolved regions⁵⁵. In the case of simple “all-UK” statements designed for boldness and central leadership, devolution meant that the other administrations had their own powers to qualify the messages.

⁵¹ <https://www.economist.com/britain/2020/06/18/the-british-state-shows-how-not-to-respond-to-a-pandemic>

⁵² For example, <https://www.lancs.live/news/lancashire-news/special-report-inside-blackburn-darwens-18629582>

⁵³ <https://www.instituteforgovernment.org.uk/explainers/coronavirus-and-devolution>

⁵⁴ <https://www.legislation.gov.uk/ukpga/2020/7/contents/enacted>

⁵⁵ England and Wales come together under this - with Scotland and Northern Ireland each separately identified.

Where the messages for devolved administrations varied from those for England - made by UK Ministers - there was an opening to confusion, and also for the potential for Scotland to promote independence⁵⁶.

Devolved administrations are still dependent on the UK parliament for the Treasury support programmes⁵⁷. This awkward situation is still a problem, with recriminations both ways about failures from the centre and from the centre about failures in the devolved regions⁵⁸. It took until 28th July for Michael Gove to announce that the devolved administrations “*will be joining a shared plan*” in relation to COVID-19⁵⁹. We await further information on what that plan might look like not just for the devolved regions but for the UK as a whole.

4.3 Engaging with local government on public health in England

While the situation with regard to devolution made things more challenging for building a coherent policy message at one level, having to work downwards through the administrative power structures *within England* took complexity to another. It also brought into play political mindsets about engagement with the local authorities⁶⁰. An internal administrative reorganisation of local government within England had been moving along since 1994 and was still incomplete. Further moves to consolidate administrations were still being pursued when the pandemic arrived⁶¹. Part of this complex equation was the situation surrounding the authorities in respect of public health. Each of the higher tier local authorities has a defined function in this area and a Director of Public Health (DPH) to help them discharge it. The following section provides some detail of how this is supposed to work, and how until the middle of July the DPHs had only a *limited role in handling the pandemic crisis*. First, Public Health England needs to be introduced into the discussion.

4.4 Public Health England

PHE describes itself as:

“an executive agency of the Department of Health and Social Care, and a distinct organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry

⁵⁶ <https://www.politics.co.uk/comment-analysis/2020/08/03/the-road-to-independence-how-covid-and-brexit-pushed-scotland>

⁵⁷ Westminster's Scottish Affairs Committee heard there was a lack of transparency from the UK Government in the early days of the crisis. Professor Linda Bauld, an expert on public health at the University of Edinburgh, said Ministers at UK level also failed to make clear when their decisions only applied to England. See

<https://www.dailyrecord.co.uk/news/politics/devolution-hindered-uk-governments-response-22215912>

⁵⁸ <https://www.bbc.co.uk/news/uk-northern-ireland-53423313>; <https://www.express.co.uk/news/politics/1298076/UK-devolution-Scotland-coronavirus-four-nation-approach-chaos-sturgeon-johnson-latest>;

<https://www.scotsman.com/news/politics/covid-care-homes-worst-failure-devolution-2858660>;

<https://www.newstatesman.com/politics/wales/2020/07/how-covid-19-crisis-may-accelerate-break-uk>

⁵⁹ <https://www.scotsman.com/health/coronavirus/uk-government-release-shared-covid-19-plan-holyrood-2925691>

⁶⁰ It was not all about the responsibility of the government in place at the time but also the nature of the policy systems and structures they had inherited (mostly from their own predecessors running a programme of austerity).

⁶¹ England, following the grant to London of special powers in 1994, went on to be subdivided into nine Regions. These no longer have any statutory or executive powers function as data collection entities as we saw earlier in Section 2. Combined Authorities were introduced outside Greater London in 2009 to cover areas larger than the existing local authorities but smaller than the regions. These are created voluntarily where a group of local authorities agrees to pool responsibility and, in return, they receive certain delegated functions from central government (chiefly transport and economic policy). There are currently 10 Combined Authorities, beginning with Greater Manchester in 2011, followed by Liverpool City Region along with three others in 2014, two in 2016, two in 2017 and one in 2018.

and the public with evidence-based professional, scientific expertise and support”⁶². It was “established on 1 April 2013 to bring together public health specialists from more than 70 organisations into a single public health service”⁶³.

The brief for PHE is:

- *“Making the public healthier and reducing differences between the health of different groups by promoting healthier lifestyles; advising government and supporting action by local government, the NHS and the public;*
- *Protecting the nation from public health hazards;*
- *Preparing for and responding to public health emergencies;*
- *Improving the health of the whole population by sharing our information and expertise, and identifying and preparing for future public health challenges;*
- *Supporting local authorities and the NHS to plan and provide health and social care services such as immunisation and screening programmes, and to develop the public health system and its specialist workforce;*
- *Researching; collecting and analysing data to improve our understanding of public health challenges and come up with answers to public health problems.⁶⁴”*

Public health in England began with local roots but, in 1974, public health and its Directors of Public Health (DPH) were taken out of local government and placed within the NHS. However, following the 2012 Health and Social Care Act⁶⁵, it was put back again under the restructuring⁶⁶ by Andrew Lansley. This divided responsibility for public health between a national agency, Public Health England (PHE), which has responsibility for infectious diseases, and the local authorities. This came at a time when the latter were under constant pressure from funding cuts under the austerity programme. Ring-fencing protected the service for a time but was removed in the year before the virus hit with a significant loss of many of the most senior and experience staff. In February 2015, the King’s Fund concluded with some prescience:

“The organisational changes contained in the Act have been both damaging and distracting. Damage is evident in the serious fragmentation of commissioning, the bewildering complexity of regulation (to use the words of the Berwick review into patient safety), and the loss of continuity as leaders have been replaced and organisations have been restructured”⁶⁷.

PHE, as a separate agency, had expanded and built up a reputation in some areas but it was quickly overwhelmed by the responsibility for tracking COVID-19. As discussed in the next section, local-area knowledge has always been essential to tracing infections – back to its very origins - and there was an obvious need for COVID-19 to scale up local intervention. A national level response to the virus was clearly needed at the very beginning, but it is hard to see why, until mid-July (in the presence of now visible

⁶² PHE employs 5,500 staff (full-time equivalent), mostly scientists; researchers and public health professionals across 8 local centres, plus an integrated region and centre for London. It operates across 4 regions (north of England, south of England, Midlands and east of England, and London) “working closely with public health professionals in Wales, Scotland and Northern Ireland, and internationally”

⁶³ <https://www.gov.uk/government/organisations/public-health-england/about>

⁶⁴ <https://www.gov.uk/government/organisations/public-health-england/about>

⁶⁵ <https://www.gov.uk/government/publications/health-and-social-care-act-2012-fact-sheets>

⁶⁶ For the political history of the restructuring see <https://www.kingsfund.org.uk/publications/never-again>

⁶⁷ <https://www.kingsfund.org.uk/blog/2015/02/government-record-nhs-reform-our-verdict>

emerging local clusters) government stuck to its centralised and privatised approach of excluding actors locally and on the ground where knowing the context makes such a difference.

4.5 Public health in the local context

Returning to the role of public health in local authorities and their relationship with PHE. Perhaps the easiest route into this is by way of the job specifications for the Directors of Public Health (DPH) with 134 appointees across 152 local authorities (some share the function). Their brief is to support a local government-led approach to improve public health⁶⁸. A specialist DPH is jointly appointed by the local authority and the Secretary of State of the Department of Health and Social Care (in practice, Public Health England).

A DPH is accountable for the delivery of their authority's public health duties as a statutory chief officer and as the principal adviser on all health matters to elected members and officers. The DPH has frontline leadership role spanning all three domains of public health - health improvement, health protection and healthcare public health. A key entry in the specification is responsibility for: *"exercising their local authority's functions in planning for, and responding to, emergencies that present a risk to the public's health"*. It can hardly be clearer that the DPH should have a key role in a pandemic on behalf of their two sponsors – PHE and the local authority.

Until the middle of July, government, despite endless requests, refused to make the COVID-19 cases data series available at a level where a DPH could see the local detail or to ask them engage their very considerable local knowledge in tracking and tracing cases of the virus. It is across this layer of governance that one might have imagined there to be some *first line responsibility for pandemic policy to be deployed on the ground*. Not so. The local authority Public Health Departments and their Directors of Public Health had no direct responsibility for track and trace and were even denied the data to know what was going on in their patch – that is until the middle of July. As Allyson Pollak put in in the Guardian on 31st July 2020:

*"Instead of putting local public health experts and NHS services in charge of contact tracing, the health secretary ... handed over responsibility to private companies such as the outsourcing giant Serco, which has previously been fined for deaths of workers and members of the public that could have been prevented. The list of problems in the test and trace system is already immense – three data breaches, poor training and faulty online administration systems among them."*⁶⁹

The 152 local public health departments employ public health professionals and form an on-the-ground network. Critically, what is lost under the arrangement to employ private non-local contractors for track and trace, is that the DPHs and their staff know the local geographical economic and social context.

4.6 Carrying out test; track and trace in the private sector

As a governance choice, the allocation of the responsibility for ground-level actions to test; track and trace in England to private providers has been a tale of missteps and functional difficulty. It is hard not to judge that ideology rather than informed understanding of the nature of what was required conditioned the early choices by government⁷⁰. We have nothing more to add about the costly decision to abandon testing in the early days of the pandemic. Messages conveyed to the public in Ministerial press conferences about how many tests would be completed in a given period drove the process forward, and horribly mixed the need

⁶⁸ <https://www.gov.uk/government/publications/directors-of-public-health-role-in-local-authorities>

⁶⁹ <https://www.theguardian.com/commentisfree/2020/jul/31/outsourcing-england-test-trace-nhs-private>

⁷⁰ <https://www.theguardian.com/world/2020/aug/03/uk-virologists-criticise-handling-coronavirus-testing-contracts>

to provide transparent information to the public with the political obsession about the statistics matching the predictions. During the first week of July:

“Ministers are spending £10 billion on the test and trace programme which is failing to hit targets – and it’s still not yet fully operational. ... officials in charge of NHS test and trace, which was championed by Health Secretary Matt Hancock, admitted this week it is still not hitting Government targets. A total of 31,421 people who tested positive for Covid-19 in England had their case transferred to the contact tracing system during the first five weeks of its operation, according to figures from the Department of Health and Social Care. Of this total, 23,796 people – 76% – were reached and asked to provide details of recent contacts, while 21% of people could not be reached. A further 980 people, or 3%, could not be reached because their communication details had not been provided. The figures cover the period May 28 to July 1”⁷¹.

The geographical state of the spread of the virus was badly misjudged, leaving Pillar Two testing managed by Deloitte, with queues at some centres and no candidates at others. The rest of the story about the over-estimation of numbers and double counting is well known, as is the fact that care homes were out of the loop on all fronts. As noted earlier, this fed into the data system for reporting and monitoring the progress of the pandemic – producing information that was partial, double counted, geographically illiterate and *plain wrong* (as with death rates were withdrawn for review). The people were expected to make their personal risk assessments on this basis by watching “the cases near you” in the media.

In parallel, the Government was promising the “world beating” track and trace app. The reach out for a “technofix” was beguiling - but as the Isle of Wight pilot⁷² quickly revealed - entirely misplaced in the UK context (others made it work – Germany, Denmark, and Ireland⁷³ for example). There also was the call centre approach under Serco with its 27,000 staff to manage track and trace. All this had the effect of taking the “eye off the ball” for the proven effectiveness, since the days of cholera and the parish pump, of locally knowledgeable people mapping clusters and tracing contacts. There was an infrastructure in place that could help but it was entangled in disconnected and dysfunctional governance systems and denied the granular data it needed to identify local clusters and peaks. We are even now stuck with a national system that can find less than 80 percent of cases – even in previously identified high concentration areas⁷⁴

⁷¹ <https://metro.co.uk/2020/07/09/government-spent-10000000000-failing-test-trace-programme-12967585/>

⁷² <https://www.bbc.co.uk/news/technology-52709568>

⁷³ <https://www.bbc.co.uk/news/technology-53322751>

⁷⁴ <https://www.theguardian.com/world/2020/jul/22/test-and-trace-system-in-england-failing-to-contact-thousands>

5.0 Learning the Lessons

5.1 Local data changes the debate

What has been learned during the pandemic is that geography and distance play an important part in the process of infection. Proximity does matter. If someone who is infected is nearby to you then the aerosol dispersion of the virus puts you at risk. So, wear masks and maintain a 'physical distance' between each other. Large groups of people gathered together in crowded locations (whether it is a pub, a club, a religious building, or a house) accelerate the risk of contagion – hence maintain 'social distance' by avoiding being involved in such gatherings. Those working in precarious jobs (the 'precarariat') are more at risk of being infected – the clothing sweatshops in Leicester, the workers in meat processing factories, the care home workers who lacked PPE in the early stages of the pandemic are all more at risk. Many in the precariat do not have sickness cover and are more likely to go to work if ill. Now add in those who are in poor or crowded accommodation, or multi-occupancy houses, or who have extended families in the same household. With access to local level cases data (at MSOA), even a cursory glance at the figures shows a strong association with the most disadvantaged towns, suburbs and neighbourhoods in the country. It also shows how persistent the infection tends to be in such areas.

5.2 Local data can empower new actors

The next challenge, as the mobility of people resumed, was to have information about how infected people have interacted with others, particularly during a period when they were asymptomatic. Without a fully functional track and trace programme as yet in prospect in the UK, this is an existential danger⁷⁵ ⁷⁶Indeed, such has been the lack of progress on this that on July 29 the Director of Public Health for Sandwell announced that they would create their own local version of track and trace: "*The council has instead decided to set up its own system to deliver "a lite version of contact tracing" to plug the gaps of people with the virus not being reached. Language has been a particular barrier amid a struggle to provide staff with translation services to help them communicate with people who don't speak English*"⁷⁷.

Up to Mid-July, the Directors of Public Health were not just being blindsided by the lack of reliable track and trace for infection control coming from the central system, but also by the absence of granular data on infections that would help them carry out their assigned mission in the local area. The arrival of more detailed data for 'Middle Super Output Areas' (MSOAs) was a game-changer. Data could show infections at the most detailed geographical levels, but still maintain confidentiality and not risk the disclosure of information that can be identified to an individual. It was now possible to see for the first-time hotspots and clusters and could alert local agencies at every level to step up their activity in helping suppress further

⁷⁵ <https://www.theguardian.com/world/2020/aug/05/englands-contact-tracers-making-handful-of-calls-a-month>

⁷⁶ <https://www.theguardian.com/politics/2020/aug/05/just-another-very-quiet-day-in-the-home-office-of-dedicated-contact-tracers>

⁷⁷ <https://news.sky.com/story/coronavirus-sandwell-council-sets-up-own-contact-tracing-system-amid-anger-with-governments-version-12038597>

spread. We now have the official Government COVID-19 Dashboard⁷⁸ started to report infection cases⁷⁹ by MSOA on a weekly basis, with open and downloadable data⁸⁰. This represented a huge step forward.

However, to understand where new cases are located in a given area would require address-level data. We understand the DPH now has access to this^{81 82}, and local authorities are being given access as well⁸³. This opens the door to the sort of action we have already seen in Sandwell with local “old fashioned” but effective track and trace. It has also opened a further window on the failure of the centralized telephone system to keep up with events in the hotspot areas. Once identified as hotspots through the new data, local areas can target messages both to comply with the preventive measures and to seek testing more actively if they show a wide range of symptoms.

Inevitably, of course, knowing where to look will see cases rise as testing is sought more widely. A danger that has been pointed out is that there may be a perverse incentive – finding more cases this way may see more stringent measures applied and a local lockdown. Better this, however, than runaway contagion. There is also, as we pointed out in an earlier paper, a risk of stigmatisation where clusters can be identified with some local groups or areas. This is where trust plays in strongly. Having people do the right thing and seek testing will work best set in an environment of trust, where they can expect a pushback from locally aware agencies and players that will be supportive.

5.3 Co-Designing a central-local response to a “Second Wave”

The month of August opened with the Government imposing restrictions on movement for large parts of northern England, reacting to the identification of local infection clusters. Coming the day before the Muslim festival of EID, and the fact that many of the areas so affected have Muslim communities, the timing (9.18 pm with no prior notice) was not the most culturally sensitive announcement – indeed it was widely criticised⁸⁴. The last-minute move provided a glaring example of the disconnect between the centre and those who, at local level, would have given them better and certainly more timely advice. We raised the issue of orchestration of policy earlier in the paper. This example shows how it is badly needed that policy should be co-designed rather than centrally imposed. The central government has its role to play but so does the local. There is enormous capacity waiting to be mobilised at the local level. Up to this point, there has been little scope for this to be deployed directly to the task of controlling the spread of the virus. The arrival of better data for all to see the local incidence of COVID-19 should be a game-changer in this respect.

Whether there is a possible second wave, or whether the first will have a series of earthquake-like aftershocks, there are genuine fears among scientists (and SAGE) that, as Chris Whitty warned: “*Britain has “probably reached the limit of opening up society” and will only be able to open schools in September*

⁷⁸ <https://coronavirus-staging.data.gov.uk/cases>

⁷⁹ “Number of people with a lab-confirmed positive test newly reported on or up to the latest reporting date.”
<https://coronavirus-staging.data.gov.uk/about-data#daily-and-cumulative-numbers-of-cases>

⁸⁰ https://coronavirus.data.gov.uk/downloads/msoa_data/MSOAs_latest.csv

⁸¹ <https://www.gov.uk/government/publications/accessing-public-health-england-data/about-the-phe-odr-and-accessing-data>

⁸² <https://www.england.nhs.uk/contact-us/privacy-notice/how-we-use-your-information/covid-19-response/nhs-covid-19-data-store/>

⁸³ <https://www.theguardian.com/society/2020/aug/06/councils-in-england-to-be-offered-near-real-time-data-on-covid-cases>

⁸⁴ For example: <https://www.birminghammail.co.uk/news/uk-news/muslim-council-hits-out-government-18693805> and <https://www.examinerlive.co.uk/news/west-yorkshire-news/kirklees-council-leader-slams-timing-18695264>

by trading some existing freedoms”⁸⁵. There was a flurry of press articles on August 2nd stating that the Government was considering shutting pubs, or even making many of those aged over 50 stay at home for a prolonged period⁸⁶.

Here we still see a continuation of the macro-geographical view of the central government, looking at aggregate figures across often meaningless geographical areas, not carefully evaluating the implications of an announcement, and then imposing conditions through a late central fiat. This was shown to be clearly evident in the interview with the Health Secretary by Naga Munchetty on July 31st⁸⁷, when he seemed to contradict some of the statements made the previous day about the new conditions in northern England. Small wonder, then, that in the last week of July:

“More than half of the UK does not trust the government’s advice on when it is safe to return to work, school and leisure activities, a new poll suggests”⁸⁸, with the Prime Minister “accused of sleepwalking into a second Covid wave after a series of mixed messages and conflicting guidelines”⁸⁹.

What is worrying is that the situation regarding COVID-19 response is that it is like an *iceberg*. We most clearly see the smaller part above the waterline – the central government - dominating the policy interventions Below, and less visibly, the rich landscape of Directors of Public Health, Mayors, Local Authority Chief Executives and all those who have local knowledge are left trying to articulate central fiat into local relevance while doing their best to support people affected by the lockdown - for example a multi-agency emergency response announced in Manchester on August 2nd ⁹⁰.

Given agency and armed with accurate local and (with due protection) address-based data (as in Hong Kong for example⁹¹), local players can construct local networks and deliver information campaigns that are *locally, culturally, and economically focused*. Many are doing this already, like Barnet⁹², Blackburn with Darwen and Sandwell (starting their own local track and trace as we have seen) and no doubt others - but they are undertaking such actions within the noise created by central messaging, and by the progressive erosion of public trust and confidence in a government that is so often behind the curve of the viral challenge.

⁸⁵ <https://www.telegraph.co.uk/news/2020/07/31/prof-chris-whittys-trade-offs-warning-could-mean-pubs-closing/>

⁸⁶ <https://news.sky.com/story/coronavirus-millions-of-over-50s-could-be-told-to-stay-at-home-to-avoid-second-nationwide-lockdown-12040780>

⁸⁷ <https://www.express.co.uk/showbiz/tv-radio/1316771/Naga-munchetty-snap-matt-hancock-coronavirus-lockdown-rules-bbc-breakfast-video> and <https://www.bbc.co.uk/news/av/uk-53607635/coronavirus-matt-hancock-appears-to-contradict-new-government-lockdown-rules>

⁸⁸ <https://www.independent.co.uk/news/uk/politics/coronavirus-uk-poll-boris-johnson-government-lockdown-end-a9640976.html>

⁸⁹ <https://www.mirror.co.uk/news/politics/boris-johnson-sleepwalking-second-wave-22455084>

⁹⁰ <https://news.sky.com/story/coronavirus-major-incident-declared-in-greater-manchester-after-covid-19-rise-12041276>

⁹¹ <https://chp-dashboard.geodata.gov.hk/covid-19/en.html>

⁹² https://www.barnet.gov.uk/sites/default/files/slide_23_data_sharing_agreement_test_and_trace_phe_lbb.pdf

6.0 Conclusion

Never before have we been faced with such a crisis of national and local governance, with potentially catastrophic implications for society and economy, and with such differentiated impacts on particular demographics (the elderly, rather than the young but the latter as key players in the process). On the ground; the *national* pandemic has always ‘played out’ at *local and family* levels, across geographical spaces that bear little resemblance to the administrative geographies applied by the central government.

COVID-19 is a particularly potent enemy to human society. Its most alarming feature is the variety that it can display in its form, its modes of contagion, its speed of development – its sheer ability to defeat the traditional methods of control. Ashby’s (1956) Law of Requisite Variety⁹³ would suggest that to control a system; “*the number of states of its control mechanism must be greater than or equal to the number of states in the system being controlled*”. Converted into simple language this indicates that – facing a variable and flexible entity like the virus – simple and central control in the hands of a largely closed managing group can only go so far. Control in the local and on the ground as part of the package would give far greater scope for tackling COVID-19 with the requisite variety to have a meaningful impact. It seems that, late in the day, this message is getting through but we probably have a window of months at the most to recover the ground lost in tackling the virus through turning toward a flexible and context-sensitive approach.

From a more practical and less theoretical point of view, there are broad lessons emerging from the experience of the last five months. The most important is the need to expedite the availability of accurate, trusted, and usable data and intelligence, and to engage better with the variable geographies of contagion. It was only when solving the local data issue allowed us to set the microscope lens to where the local became visible (in mid-July), that hotspots and clusters became the news headlines in the UK. We do, at last, have the basis for a personal risk assessment that says something meaningful about “cases near you”. We now understand that it was no coincidence that the early ONS map of deaths from virus looked similar to the Index of Multiple Deprivation. The local perspective allowed us to see different dimensions of both the distribution of infection and of the economic and social context where this takes place.

For the last five months the government has struggled to bring together the intelligence needed to understand the nature of what has been going on around us with COVID-19. Since this was an unprecedented virus event, this was not so hard to understand at the outset. But, taking a war analogy, it was surely an absolute requirement to know as quickly as possible what was the capability of the enemy to hurt us, and how and where and to come up with a strategy and some tactics to counter the threat. So, for building a strategy what key lessons should we emphasis from a paper that had its origins in the dismay of a couple of geographers about the way COVID-19 data was being collected, assembled and displayed?

- *Trust the local and work together in partnership – local actors have the intelligence to nuance central strategy at a community level*

One of the signal failures of the approach to the pandemic in the early months was its distinct centralising and privatising tendency. Struggling to be effective on its own terms, it had the unhelpful property that it under-valued the enormous potential available from among the voluntary and charitable sector, civil society organisations, the smaller than corporate businesses and local community organisations. It also left no scope for engaging with other levels of governance such as the big city and sub-regional combined authorities and local government in general. Local organisations and actors have not been idle. They have

⁹³ <https://www.edge.org/response-detail/27150>

been very busy indeed. Unmeasured except by uplifting stories and anecdotes, the wider set of non-government and non-corporate bodies in the country have played an enormous role⁹⁴ in helping with the social and economic outfall of the virus and the emergence from lockdown.

Many will have felt themselves to be on the side-lines, watching a process of critical importance to them, but not being called upon in any coherent way to lend their knowledge and experience. Yes, it is (as we have shown) a complex array, and yes again in the early days broad-scale mobilisation would have been an issue. However, five months on it is finally being taken on board that *context is critical*, for example whether it is about knowing the situation of the BAME community or of workplaces where risk is higher, or just where the young people usually hang out who seem to be ignoring the advice.

We have emphasised the critical role of the Directors of Public Health. What has been lacking from the centre is an acknowledgement of the value of having a network of trained public health professionals on the ground across the entire country. They had been aware all along of what was going on in their patch , but they needed the data to legitimate their position and to get the issue up to the attention of central policy. Thankfully, it finally arrived. The Office for National Statistics and Public Health England are now providing the consistent and full geographical coverage of statistics at a granular level we need to inform and complement the localised and contextual track and trace.

Inequality and disadvantage are a primary contextual variable for what we are now better able to see and this should have a profound effect on macro-policy once the immediate event is past. In the short term, and critically, with a window before the second wave fast-closing, the empowerment of the local agents – public health in particular – should be a coherent next step in the orchestration of policy.

- *Target resources strategically and rapidly to raise the scale of testing, tracking and tracing*

Testing, testing, testing was an early mantra from the WHO as the means to defeat the virus. Nothing has changed here. This is still the most vital weapon in the armoury. In early August voice after expert voice was being raised that the testing regime was inadequate. It was neither moving fast enough nor penetrating deeply enough from place to place, and recent criticism argues that the testing regime actively ignored public sector capability in ideologically favouring the private sector⁹⁵. There have been reports of new, faster turnaround, testing techniques but we are hearing at the same time that even in the, now identified, hotspots the existing organisation of the system makes it difficult to achieve the coverage needed.

Testing is just to identify the cases. It leaves open the question of contact tracing which is still centrally deployed on a phone basis; declaring that it will not be “fully up and running” by September. With a small and closing window, this is surely not good enough, and there are fears that the return to schools and to work in offices could generate a second wave more than twice that of the first one⁹⁶. Little wonder that some local communities have decided to protect their people by running their own track and trace. Blackburn with Darwen sees it this way:

⁹⁴ For example: <https://theshuttle.org.uk/partners-support-vulnerable-people-through-covid-19-crisis/>
<https://www.blackburn.gov.uk/coronavirus/bwd-help-hub-residents> <https://www.pleckgate.com/talha-mullas-amazing-charity-story/> <https://www.lancashirebusinessview.co.uk/latest-news-and-features/blackburn-organisation-doubles-food-support-during-covid-19>

⁹⁵ <https://www.theguardian.com/world/2020/aug/03/uk-virologists-criticise-handling-coronavirus-testing-contracts>

⁹⁶ <https://news.sky.com/story/coronavirus-second-covid-wave-twice-as-big-as-the-first-without-effective-test-trace-isolating-strategy-says-new-modelling-study-12042000>

“Paul Fleming, the council's director of business change, said the system, launched in partnership with Public Health England, complemented the national service "because we have the local knowledge of the area and the ability to send officers round to people's addresses".”⁹⁷

“Complementing” is the key word in the above statement. With our forthright promotion of the local, we are not recommending that central government steps back and leaves responsibility to the local. The national-level systems in place need to be *fixed and run up to the right scale* to meet the challenge. It is the *effective orchestration* of the levels of governance we are looking for. Facing the second wave, it is *partnership, speed and commitment* that are the vital process requirements. But this would best be set within and *coherent and openly declared strategy* from the centre. A second wave and a further lockdown must be a terrifying prospect for the Chancellor as well as the population at large. The economy has been badly weakened by the first wave, and it is ill-equipped to survive a second. The month of August should not be about going on holiday and keeping the pubs open. It needs to be a time of intensive policy activity to repair the systems in place and put new ones quickly into play.

Five months into the pandemic and there is still a series of dominantly macro-level responses. We still depend on ministerial announcements that react to unfolding events. Reports in the weekend of August 1 noted “war gaming” scenarios involving modellers, the Prime Minister, and the Chancellor. Rumours appeared of possible lockdowns of the over 50s⁹⁸, or of some form of containment within the M25⁹⁹ in London. These hardly generated credibility, and instead led to strong reactions and a media feeding frenzy¹⁰⁰. On August 5th the Children’s Commissioner for England questioned why pubs had been opened before robust testing was provided for schools, arguing that *“if the choice has to be made in a local area about whether to keep pubs or schools open, then schools must always take priority”*¹⁰¹. In reviewing the regulations for the restrictions in place in the North of England national newspapers highlighted inconsistencies about where people could, or could not, meet¹⁰². We must do better than this.

⁹⁷ <https://www.bbc.co.uk/news/uk-england-lancashire-53648362>

⁹⁸ <https://www.dailymail.co.uk/news/article-8584445/Over-50s-face-stay-home-order-nuclear-plans-drawn-Boris-Johnson.html>

⁹⁹ <https://www.itv.com/news/london/2020-08-03/coronavirus-london-mayor-sadiq-khan-surprised-over-plans-to-use-m25-to-seal-off-london-if-covid-19-surges>

¹⁰⁰ <https://www.independent.co.uk/voices/coronavirus-lockdown-manchester-deaths-boris-johnson-hancock-second-wave-a9650981.html>

¹⁰¹ <https://www.childrenscommissioner.gov.uk/2020/08/05/children-and-schools-must-come-before-pubs-and-shops-in-planning-for-future-covid-19-lockdowns/>

¹⁰² For example *“Gatherings of two or more people in a private dwelling who are not from the same household have been banned under new coronavirus lockdown rules imposed in the north of England, meaning couples who do not live together can no longer have sex indoors and stay overnight... However, holiday accommodations such as hotels and bed and breakfasts are not included under the “private dwellings” definition, which means couples will be able to meet in hotel rooms.”* <https://www.independent.co.uk/news/uk/home-news/manchester-coronavirus-lockdown-sex-ban-covid-regulations-government-a9654061.html>