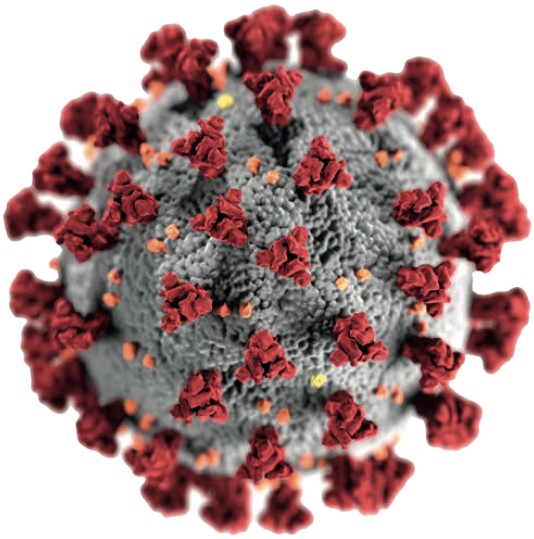
COVID-19
RESPONSE



HART
Health Advisory & Recovery Team

As we approach the milestone of the expiry of the Coronavirus Act, all of us need to be well informed of the latest scientific data around COVID-19.

We have compiled this document to help inform decision-making in the upcoming vote in Parliament.

HART
Health Advisory & Recovery Team

HART is a group of highly qualified UK doctors, scientists, economists, psychologists and other academic experts. www.hartgroup.org

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EXECUTIVE SUMMARY: COVID-19 - An overview of the evidence

The data is in: lockdowns serve no useful purpose and cause catastrophic societal and economic harms. They must never be repeated in this country.

We have compiled this document to help inform decision-making in the upcoming vote in Parliament to renew the Coronavirus Act, which **we urge you to vote against**.

The '*sunk cost fallacy*'[1] is a well known one. World War 1 is the classic example. By Christmas 1914 it was obvious to all that the war was a catastrophe, but to admit this was to admit that all the lives lost had been lost pointlessly. And no country would confess that.

However, after a year of pain, suffering and enormous loss, the UK must reach for new solutions to the COVID-19 problem and any future respiratory disease outbreaks. We must learn from errors, acknowledge the harms of the measures we have taken and account for them moving forward. We now need a more holistic, measured approach.

Many international studies bear out that lockdowns have proven to be a complete failure as a public health measure to contain a respiratory virus. They did not succeed in their primary objective of containing spread yet have caused great harm.

Lockdowns were explicitly not recommended even for severe respiratory viral outbreaks in all pandemic planning prior to 2020, including those endorsed by the WHO and the Department of Health. The reasons for ignoring existing policies and adopting unprecedented measures appear to have been (i) panic whipped up by the media (especially scenes from China), (ii) a reluctance to do things differently to neighbouring countries and (iii) the unfaltering belief in one single mathematical model, which latterly turned out to be wildly inaccurate (Imperial College, Neil Ferguson[2]).

We must find the courage to do things differently and to admit mistakes. The USA is leading the charge here, with more and more states turning their backs on lockdowns and mask mandates.

Moving forward, we would recommend the following steps:

1. **Reinstate the existing pandemic planning policies from 2019**, pending a detailed review of the policies adopted in 2020. Look to countries and states which did things differently. **There should be a clear commitment from the Government that we will never again lockdown.**
2. **Stop mass testing healthy people**. Return to the principles of respiratory disease diagnosis (the requirement of symptoms) that were well researched and accepted before 2020. Manufacturers' guidelines state that these tests are designed to assist the diagnosis of symptomatic patients, not to 'find' disease in otherwise healthy people.
3. **Stop all mask mandates**. They are psychologically and potentially physically harmful whilst being clinically unproven to stop disease spread in the community and may themselves be a transmission risk.
4. **Vaccination.** Abandon the notion that vaccine certification is desirable and that children should be vaccinated. There is no logical or ethical argument for either.
5. **Devise a public education programme** to help redress the severe distortions in beliefs around disease transmission, likelihood of dying and possible treatment options. A messaging style based on a calm presentation of facts is urgently needed.
6. **A full public enquiry** into the extent to which severe/fatal COVID-19 is spread in hospitals and care homes. There is stark recent evidence on this from Public Health Scotland[3] and if true for the rest of the UK, there needs to be better segregation of COVID-19 patients and staff within these settings.
7. **More funding and investigation of treatments for COVID-19**, instead of only focusing on vaccination as a strategy. Given the high rates of hospital transmission, encourage a drive for more early treatment-at-home using some of the protocols discussed herein.
8. **Divert funds.** The not inconsiderable money saved from ceasing testing programmes can be diverted to much needed areas, such as mental health, treatment research and an increase in hospital capacity and staffing. The vast debts accrued during 2020 will also need to be paid off, a fact that seems to be worryingly absent from economic recovery plans.

Contents

Covid policies and harms to children

Professor Ellen Townsend, HART Mental Health Lead
Dr Karen Neil, Specialist Pharmacist & Mindfulness Teacher

In all actions concerning children, the best interests of the child should be a primary consideration (Article 3 UN Convention on the Rights of the Child).[4] We should put children first in all that we do.

Children and young people are the future of any society.

A recent BMJ editorial published on 23 February 2021 states that '***Closing schools is not evidence based and harms children***'[5], going on to say that '***keeping schools open should be the UK's top priority***'. This is the most critical message to convey here and it is an indisputable one.

Frontline clinicians and experts are alerting policy makers to an impending mental health catastrophe in children and young people.

Government actions in response to the pandemic have created a 'perfect storm' for the emergence and exacerbation of mental health problems in addition to creating significant barriers to effective treatment.

The following evidence outlines the myriad reasons why **schools should never again close to mitigate the spread of COVID-19.**

- Children are at extremely low risk from COVID-19, with not a single death of a previously healthy child.[6]
- They are also much less likely than adults to transmit the virus, indeed living or working with young children reduces the risk of severe disease.[7,8]
- The impact of the harms of public health measures and school closures is thus disproportionate to any benefits to children themselves or to wider society.[9,10]
- Children and young people are facing an unprecedented mental health crisis, the scale of which is yet unknown.[11,12]
- Half of young people aged 16-25 reported deteriorating mental health, with 1 in 4 feeling 'unable to cope'.[13]
- Self-harm, eating disorders and suicidal ideation have all increased.[14,15] Eating disorder units have reported a 3-fold increase in referrals.[16] More young children, as young as 10 years old, are self-harming.[17]

- The pandemic has taken a 'devastating toll' on the mental health of the young which will impact on their lives for years to come.[18]
- Services were not able to meet pre-pandemic needs.[19,20] They are most certainly not equipped to meet the needs of children and young people post-COVID-19.
- Throughout extended lockdowns, at-risk children engaging in self-harm and other harmful behaviours (e.g. skin picking and OCD rituals) are less able to escape difficult situations and to engage in protective interests and behaviours.
- Face-to-face therapy has been restricted to only the most at risk young people. Since March 2020, most children that access therapy do so virtually. Many questions remain about the efficacy and desirability of existing digital interventions for children's mental health problems, especially at a time in which children are socially isolated.[21,22,23,24]
- Issues around availability of electronic devices to children in crisis, privacy whilst taking part in therapy sessions as well as individual clinical issues and preference for face-to-face appointments may restrict access to therapy by children, especially for the most vulnerable. Where face-to-face interventions are offered, PPE is worn and a 'COVID-safe' environment diminishes the therapeutic 'space'. The impact of PPE and other measures including strict social distancing on therapy engagement and outcomes is not known.[25]
- Government messaging and public response has created an overarching climate of anxiety in society,[26] which is detrimental to the mental health of the young, and which contributes to the development and maintenance of mental health problems.
- Other damage from restrictions includes increased child poverty, hunger and homelessness,[27] delayed cancer diagnoses and treatments,[28] loss of sport and music, deteriorating physical health[29] and eyesight problems including myopia resulting from increased screen time and loss of outdoor activity.[30,31]
- The pandemic and resulting policies have put families under enormous strain.[32,33,34] Family members' anxiety and response to Government messaging may be detrimental to children's mental health and prolong their difficulties.[35] Families will require psychological support too, in order to help their children.
- Child abuse has risen. NSPCC child abuse referrals have risen by 43%.[36] For many children, school is a place of safety and it is often teachers who identify abuse.[37] School closures have removed this vital safe-guarding access.

Educational Concerns

PHE has acknowledged the huge mental health and educational impacts of lockdowns and school closures and also that schools play only a small part in viral transmission.[38] It is thus imperative that schools stay open. Professor Russell Viner, President, Royal College of Paediatrics and member of SAGE said: *"When we close schools we close their lives - not to benefit them but to benefit the rest of society."*

There has been an emphasis by the DfE on academic 'catch-up,' now 'recovery,' and 'lost learning,' with little mention of mental health recovery.[39,40] It is vital that any 'recovery' strategy takes account of trauma suffered by young people, with trauma-informed policy provided to teachers alongside adequate pastoral time equipping them to support their students.[41]

Learning will not happen without good mental health and recognition of ongoing multi-cause anxiety for some young people. Transitioning back to school, exams, masks, testing, social distancing and family stress will continue to impact wellbeing and the ability to learn.

Those with special educational needs will face additional challenges which should be considered. Anxiety will commonly be expressed through challenging behaviour, or withdrawal, and the underlying causes need to be addressed and supported.[42]

The Institute for Health Promotion and Education recommend a 'settings-based' approach to well-being, including schools, and there needs to be a move towards a trauma-informed approach across these community settings, with the input of expert psychologists.[43,44]

Given the minimal transmission of SARS-CoV-2 outdoors, and the essential role of sunlight and outdoor activity for well-being, outdoor activity and a return of amateur sport is an integral part of mental health and well-being recovery.[45] There needs to be balanced access to creative arts, alongside academic learning, as a vital component of mental health recovery.[46]

As leading Developmental Neuroscientist Professor Uta Frith writing for 'Researchers in Education and Adolescent Child Health and Wellbeing'[47] put it in July 2020, "*Children and young people need to know that the state cares about them.*"[48]

COVID-19 vaccination in children - major ethical concerns

Dr Ros Jones, retired Consultant Paediatrician

Known potential, late-onset effects from vaccines that have not yet been ruled out could take months or years to become apparent.

The development of new vaccines against SARS-CoV-2 to the point of temporary approval[49] has been the main tool promoted by the Government in the management of COVID-19.[50] Clinical trials are ongoing and published follow-up is currently only a median of 2 months from the second dose.[51]

The vaccine rollout from the Joint Committee on Vaccination and Immunisation (JCVI)[52] prioritised people in nine categories according to risk, commencing with care home residents over the age of 80 and working down through the age groups and those either professionally or clinically vulnerable. At the time of writing, roughly 23 million people have had at least one dose.

It is estimated that 99% of those at risk of death from COVID-19 will have been vaccinated when these nine groups have been completed. Trial data claims that there will be good protection (~90%) against serious illness and death.[53,54] A new Scottish study suggests transmission might be reduced by immunisation.[55] Given that the vast majority of those at risk will be protected against severe disease and death, transmission becomes much less relevant. This is in addition to the added population protection of the acquired immunity provided by those members of the public who have already had and recovered from COVID-19. It is puzzling why this cohort has not been factored into publicised calculations of population immunity.

COVID-19 vaccines are not licensed for use in children. The JCVI advises that only those children at very high risk of exposure and serious outcomes, such as older children with severe neuro-disabilities that require residential care, should be offered vaccination, with clear explanation to parents on the paucity of safety data.[56]

Given the rapid completion of vaccination of all high-risk groups, it is extremely concerning to hear of a possible rollout to children later this year. In so doing, we are entering into very questionable ethical terrain. The main concerns are as follows:

- All the vaccine trials have specifically excluded children. Effects of the vaccine on children are therefore completely unknown.
- The vaccines being rolled out have only limited short-term safety data and no long-term safety data available.

- Known, potential, late-onset effects from vaccines that have not yet been ruled out include adverse immune response to infection,[57] neurological disorders,[58] autoimmune disease[59] and pregnancy related problems[60] which could take months or years to become apparent.
- Pfizer-BioNtech and Moderna vaccines involve completely new mRNA vaccine technology which has never previously been given to a large population.
- AstraZeneca, while involving a standard delivery method, still involves presenting DNA fragments to the host cell which will then be taken up by the host to programme for spike protein production rather than the more traditional whole virus or viral protein technologies.[61] The recent suspension of this vaccine in over a dozen countries over blood clot fears is cause for concern.[62]
- Children are at extremely low risk from COVID-19 and no previously healthy child under 15 has died.[63] In context, COVID-19 accounted for 0.54% of all childhood deaths in the UK and 6 other countries over the last 12 months.[64] Around 30-50% of children remain asymptomatic and admissions to hospital or intensive care are uncommon.
- A small number of children have been reported with Paediatric Inflammatory Multiorgan Syndrome but the vast majority have made a full recovery.[65]
- It has been suggested that a very small number of children may develop 'Long Covid', however given the unknown risks of adverse events from vaccination, this is not a reason to proceed.[66]
- Children are also much less likely than adults to transmit the virus,[67] indeed living or working with young children reduces the risk of severe disease.[68] Therefore the argument of 'protecting others' is not applicable.
- Limited UK trials on children are designed to look at the immune response with only 300 participants. This trial cannot assure long term safety.

For all of the reasons cited above, it would be highly unethical to vaccinate children who are at such low risk from COVID-19. Any potentially long-term negative outcomes from vaccination are especially important for children, for whom so many more years lie ahead and whose immune and neurological systems are still developing.

Commencing research in children, in advance of published adult long-term safety data, could be in breach of the Nuremberg Code.[69] We need not look far back into history to remember the devastating harms a rushed-to-market vaccination can have. Over 1,000 children were permanently disabled with narcolepsy caused by the Pandemrix Swine Flu vaccine. Rapid rollout of a new vaccine for Dengue fever resulted in the deaths of 10 children in the Philippines, not at the time of the vaccination but months later when they next encountered the Dengue virus. To repeat any such mistakes here would be unforgivable. The immune system is phenomenally complex and still poorly understood. Experimenting on young children for a disease that carries vanishingly small risks is a road no ethical scientist should walk down. It is a clear departure from the precautionary principle and the scientific experts at HART strongly advise against it.

Vaccine certification - an ethical minefield

Dr Malcolm Kendrick - General Practitioner, NHS

We have grave concerns regarding the proposal of any sort of vaccine certification as a 'way out' of repeated lockdowns, or as a condition of foreign travel.

The UK has a strong record of public health measures by consent and vaccination has never been mandatory. According to Article 6 of UNESCO's Universal Declaration on Bioethics and Human Rights (2005),[70] of which the UK is a signatory:

'Any preventive, diagnostic and therapeutic medical intervention is only to be carried out with the prior, free and informed consent of the person concerned, based on adequate information. The consent should, where appropriate, be express and may be withdrawn by the person concerned at any time and for any reason without disadvantage or prejudice.'

The proposal of vaccine certification is highly coercive, threatening the loss of livelihood and the loss of freedom of movement. That is in no sense 'free' consent. It is considerable duress. With regards to foreign travel, being coerced into vaccination in order to be 'allowed' to go on holiday is to belittle the seriousness of the issues at hand, which are critical for any free society, concerning important, enshrined freedoms. A vaccine passport would contain confidential medical information that should only be demanded in extreme circumstances. Yet it is proposed that we should have a medical 'identity card' that could, for example, be required to enter a restaurant. When it comes to identity cards, which this would be, Boris Johnson once said

"I will in no circumstances carry one and even were I compelled to do so, I would take it out and destroy it on the spot were I ever asked to produce it."[71]

Any coercion is especially inappropriate given these vaccines are still under temporary licence pending publication of long-term safety data. We should not be advocating for vaccinating the entire population with experimental interventions whose long term safety is unknown and cannot be assumed. At the time of writing, more than a dozen countries have suspended the use of the AstraZeneca vaccine over blood clot fears.[72,73] Indeed an open letter to the European Medicines Agency was published on 28 February 2021 outlining many legitimate safety concerns that need to be thoroughly investigated.[74]

Another issue that has not been discussed is the existence of acquired immunity in those who have already had COVID-19. Infection by an active agent is almost certain to create strong, and potentially lifelong immunity (unless the virus mutates significantly). It represents an unnecessary risk to vaccinate those who have already encountered the virus and recovered from it. They already have superior immunity to that which any vaccine can provide, as their

immune systems have encountered all components of the virus. It has been estimated that 25-30% of the population fall into this category,[75] added to the fact that a significant percentage of the population seem to have existing prior immunity.[76] All of this makes it extremely unlikely that 80% of the population must be vaccinated, as the NHS are now aiming for.[77]

Furthermore, there are no safety data available as to whether individuals with acquired immunity may have increased susceptibility to vaccine adverse events. This is a potentially serious problem that needs to be reviewed on a regular basis. This amplifies the issue that there is no point in vaccinating those who are not at notable risk. They are exposing themselves to potential problems for no reason.

The notion of bodily autonomy is not one to be given up lightly. This is certainly true for a now endemic respiratory virus with an extremely low overall mortality rate for the majority of the population, when all of the vulnerable groups have already been vaccinated. In addition if, as has been suggested, vaccination confers a ~90% reduction in serious illness/hospitalisation, then COVID-19 will shortly represent a disease burden equivalent to that of seasonal influenza. It has never been suggested that vaccine passports are required for influenza.

Vaccination certification/passports would effectively create a two-tier society, in which those who remain unvaccinated for whatever reason are deprived of their basic freedoms of travel, association and employment. We have already seen this happening in Israel where it is causing serious divisions in society.[78]

From a practical perspective, there is no guarantee that certain vaccines will not become obsolete within a year due to viral mutation. Some countries have already rejected specific vaccines for particular age groups. The diversity of licensed vaccines could lead to the requirement to have further vaccinations according to the destination. Who knows what the risks of multiple vaccination could be?

It should be noted that the WHO does not currently support the notion of vaccine certification. The argument that people accept a Yellow Fever certificate is spurious. Yellow Fever certificates are usually required only if you arrive *from* one of the endemic countries. In addition, Yellow Fever carries around a 30% mortality and has a well-established vaccine that gives lifelong protection. The COVID-19 vaccines and indeed the disease are not comparable in any way.

A better analogy, in disease terms, is the 'flu, the vaccine for which is offered to high risk members of society, or is taken up voluntarily, but never with any restrictions imposed on those who are unvaccinated. Given that COVID-19 is now endemic, the vaccination programme should follow this previously well-established protocol.

Asymptomatic spread: who can really spread COVID-19?

Dr John Lee, retired Professor of Pathology

A respiratory virus needs associated symptoms in order to be clinically relevant. One year ago, this belief would have been universally accepted by the wider medical community.

The Health Secretary, addressing the nation on television on 20 December 2020 stated that *'If you act like you have the virus, then that will stop it from spreading to others.'* This messaging is clear in the many adverts and public health announcements currently circulating.

The response to COVID-19 has been predicated on the assumption that asymptomatic PCR positive individuals can spread disease. This assumption was simply accepted as fact and, thus far, has never been adequately demonstrated in the available scientific evidence.

This single assumption is driving most of the restrictions. It is being repeated on radio and other advertisements and is causing the populace great fear and distress. It cannot be left unscrutinised any longer. If there are flaws in PCR testing regimes that have perpetuated this idea, we must now bring them to light.

The proportion of people who test positive but have no symptoms ranges from 4%[79] to 76%.[80] This is, in large part, a function of how testing has been carried out. If 'asymptomatic COVID-19' was a type of presentation of a disease, like a cough, then you would expect it to occur in the same percentage of the patients no matter where or when you measured it. The large range here demonstrates that it is not measuring a phenomenon related to the disease itself.

These are the three situations where someone can be 'PCR positive' but asymptomatic:

1. **Pre-symptomatic -** people who are in the incubation period of real disease and who go on shortly to develop symptomatic illness. For one to two days these people can transmit the virus to others and account for a maximum of 7% of spread[81].

2. **False Positive test results** – people who test positive but are not really infected, the rate of which is unknown, but is estimated to be between 0.8% and 4% of all tests carried out.[82] The number increases as Ct cycles are increased. Anything above 25 Ct is now considered 'uninfectious'. When carrying out hundreds of thousands of tests, and including results up to Ct 30 as is the case in the Government surveys, we are going to inevitably have an enormous amount of false positives.

3. **Immunity** – people who have the virus 'on board' (detectable) but never develop symptoms. This category used to be referred to as "immunity" or "healthy people". This occurs where, even if a virus is inhaled and present in the respiratory tract, the person is oblivious and remains completely well, as their immune system deals with the infection and they never develop symptoms. The evidence these individuals are a transmission risk is minimal.

Positive PCR is not evidence of infectiousness. Finding people who test positive but show no symptoms during an outbreak is often evidence of immunity, not evidence of transmission. Unfortunately, this has been largely overlooked in the current set of assumptions driving policy.

Evidence of transmission requires that an individual can be shown to be the source of infection for another person who then developed symptoms of a disease/illness.

Infectiousness or transmission of a virus requires active infection resulting in high levels of viral replication and shedding. Symptoms, such as coughing, are the real drivers of spread.

When the viral replication process is blocked by a healthy immune system, the virus is neutralised, preventing significant viral replication and shedding. This happens in approximately half the people exposed to the virus. Their immune system's defences effectively ward off COVID-19 before it can take hold and cause symptomatic disease. It stops it dead in its tracks.

A review of all the published meta-analyses on asymptomatic transmission reveals that the same few studies have been recycled repeatedly by respectable institutions.[83] On deeper inspection of the published studies we find that the evidence is of very poor quality. Robust evidence of asymptomatic spread is lacking and runs counter to all previous understanding of how respiratory viruses transmit.

The case studies cited as evidence of asymptomatic transmission amount to just 6 individuals who were alleged to have spread COVID-19 to 7 other people. The studies outlined below are the totality of the worldwide evidence for asymptomatic spread.

- Two of these case studies, originating from China, may well have been one patient,[84] with the story repeated in separate publications.[85] This was a situation where neither person involved in transmission had any symptoms. It therefore fails as evidence of disease spread, which requires the presence of symptoms.

- Two further cases of possible asymptomatic transmission were from Vo in Italy,[86] where the whole town was tested. 1% of the tests were positive in the absence of symptoms. The Government's own estimates for the percentage of tests that give a false positive result is between 0.8-4.0%[87] and as this was a new test, a rate of 1% would have been very respectable. The alleged result of transmission was again claimed to cause 'cases' with no symptoms. These were likely false positive PCR test

results, and assuming chains of transmission based on the degree of positivity of a test result is bad science.

- The final two examples were both from studies in Brunei.[88] The evidence is weakened by a poor case definition (any symptom of any severity was considered real symptomatic COVID-19) and a high probability of false positive results. The first case was a father who remained asymptomatic but whose wife briefly had a runny nose and whose baby had a mild cough for one day. In the second case, a 13 yr old girl with no symptoms was alleged to have spread COVID-19 to a middle aged woman who had "a mild cough on one day".[89]

It is therefore arguable that the asymptomatic diagnoses last spring were all due to false positive test results. No testing system is perfect.

Failure to acknowledge this and misinterpretation of positive results in patients with no symptoms has been hugely damaging.

It would not be unreasonable to state that the current extreme interventions are entirely based on the assumption of asymptomatic spread of disease, because otherwise simply requiring the symptomatic and their contacts to isolate would be sufficient.

Given that asymptomatic spread assumptions drive all of the other non-clinical interventions (mass-testing of healthy people, mandatory wearing of masks, social distancing and lockdowns), the evidence here must urgently be re-evaluated by policymakers.

Economic impacts - the true cost of lockdown

Professor Marilyn James, Professor of Health Economics
Professor David Paton, Professor of Industrial Economics

To be young in my generation was to feel that your future had been mortgaged out from under you, and that's a tragic mistake we must never allow our leaders to make again. *(Ronald Reagan[90])*

Devastating economic impacts from COVID-19 restrictions are now manifest, with unemployment rising to a 4-year high of over 5% in January 2021,[91] with the under 25s being the worst hit.[92] GDP in 2020 fell by almost 10%,[93] the biggest recorded drop in history.

Sweden by comparison with similar infections but few restrictions experienced a reduction in GDP of just 2.6%, lower than the EU average of 4.8%.[94]

While pandemic and lockdown impact is difficult to disentangle, the evidence would point to the economic restrictions being untenable going forwards. It is widely accepted that poverty and health outcomes are inextricably linked.[95,96,97] Rising debt, poor growth and a smaller economy (lower GDP) will jeopardise the country's ability to care for its residents in the future, with fewer financial resources available.

It seems likely that the restrictions will result in large parts of the hospitality, travel, tourism, events and arts sectors no longer being viable. Hospitality alone was responsible for over 3 million jobs in the UK before the pandemic.[98] In 2020, sales in the sector were down by 54%, equivalent to £72 billion.[99] Tourism-dependent coastal communities and hospitality-dependent cities such as Manchester, Liverpool, Glasgow and large parts of London are likely to be most exposed to the short term economic impact of COVID-19.[100]

In the Small and Medium Enterprise (SME) sector, an estimated 234,000 SMEs have already permanently ceased trading. Government support was used by just 56% of small business owners with 53% struggling to access Government support due to eligibility criteria. Over a third (35%) have borrowed money from friends and family.

As well as the real-time stresses of trying to keep businesses afloat during this time, the strain of the ever-moving goalposts and the fear of future restrictions have caused enormous anxiety, with 41% of business owners fearing their business is at risk of permanently closing and 62% feeling less confident about the long-term prospects of their business.[101] It is unlikely that potential business owners would feel confident starting a new enterprise in this climate, which will mean a much slower economic recovery.

The link between economic downturn and the ability of the NHS to cope going forward cannot be ignored. The 10% drop in GDP comes amidst a period where the percentage of

GDP spent on the NHS has been the lowest since the first decade of the NHS and where growth in real terms has steadily declined.[102] Health spending is a proportion of GDP spending with the NHS budget consuming some 7.2% of GDP.[103] Lower GDP means fewer available funds to support the NHS going forward: 7% of a large cake is considerably more than 7% of a cupcake. The healthcare bottleneck created by restrictions during the past year will likely exacerbate this situation. Whilst the 'stay at home' message persists the economic situation is not likely to improve, underlined by the rapid rise in unemployment.

There needs to be a permanent shift away from relying on lockdowns and legal restrictions and a move towards balanced public health guidance, good local information and targeted action to assist hospitals which are under pressure and allow the economy to flourish.

Mutant variants and the futility of border closures

Dr Gerry Quinn, Post-doctoral Researcher in Microbiology and Immunology

Mutant variants, emerging overseas or domestically, are an inevitable biological reality once a virus is in the population.

On 9 February 2021, Health Secretary Matt Hancock announced that travellers from 'hotspot countries' will be expected to pay £1,750 to stay in one of 16 hotels signed up for mandatory quarantine. A maximum 10-year jail term for lying about recent travel history has been defended by the Government. It follows concerns that existing vaccines being rolled out in the UK may struggle to control 'new virus variants' identified around the world.[104] These fears are not supported by any robust scientific evidence.

SARS-CoV-2 is a large virus (approx 30,000 RNA bases, 10,000 amino acids[105]). Currently the greatest difference between any 'mutant variant' and the original Wuhan sequence is limited to only 17 point mutations.[106] The genomic diversity of SARS-CoV-2 in circulation in different continents is fairly uniform.[107]

We know that the mutation rate in SARS-CoV-2 is slower than other RNA viruses because it benefits from a proofreading enzyme which limits potentially lethal copying errors.[108] These mutations have caused changes in less than 0.2% of the entire virus sequence. All variants are therefore currently 99.8% similar to the original Wuhan viral sequence. Our immune system recognises many different parts of the virus including membrane proteins, capsules, small envelope proteins and the spike protein. It is the overall shapes of these viral proteins (epitopes) that are recognised by our immune system. The spike protein tends to receive more attention purely because it attaches to the ACE receptors that allow entry into cells.

Natural immunity to SARS-CoV-2 is acquired by the immune system 'cutting up' the virus into hundreds of pieces.[109] Many of these pieces are then used to develop a suitably diverse immune response to the virus. Specialised immune cells will launch an immune response if exposed to the same 'learned' viral fragments in the future. Prior immunity gained from the original SARS-CoV-2 should work perfectly well against any new 'mutant variant', given high levels of sequence similarity. It is important to also note that in the highly unlikely event that a variant did manage to escape a person's acquired immune response, this would represent a threat to an individual rather than a community.

There has, to date been no robust scientific evidence provided that any variant so far identified is more transmissible or deadly than the original.[110] By definition, variants are clinically identical. Once there is a clinical difference then a new "strain" of virus has

emerged. Prior knowledge of viral mutation shows they usually evolve to become less deadly and more transmissible.[111,112] This optimises their chance of spreading as dead hosts tend not to spread virus and very ill hosts reduce their contact with others.[113] There is also the possibility that lockdowns have somehow interrupted 'competitive' viral natural selection. However, this is a separate issue and border closures will not prevent such a phenomenon in any case.[114]

Sir Patrick Vallance said at the press conference on 10 February 2021: "*We are seeing the same variants popping up all over the world and that is what you would expect.*"[115] It is worth noting that many of these new variants emerged in countries that had already conducted vaccine trials, i.e. South Africa, Brazil and the UK. Given the reported clusters of sudden outbreaks of COVID-19 in care home residents and staff in the days following the vaccination programme, this observation justifies immediate investigation.[116]

Naturally acquired cross-immunity almost certainly applies to vaccine-acquired immunity, although to a lesser extent. This is because the mRNA vaccines mimic the spike protein, instead of a combination of several parts of the original SARS-CoV-2.[117] It should be noted that the spike protein has over 1,200 amino acids.[118] It is highly unlikely that a variant with minor changes in the sequence will evade the acquired immune response.

Closing international borders to keep out 'foreign mutants' of an already endemic virus is neither useful nor possible. Mutant variants from abroad pose no extra threat to the citizens compared with homegrown variants and may even have very similar sequences. In addition, once a virus is established in a population, as is the case in the UK, it will mutate slowly over time, irrespective of borders. That particular horse has already bolted and is a biological reality we must all learn to live with.

There are however some positive points to be drawn from the available evidence. The virus will eventually run out of viable hosts due to rising population immunity. In addition, many different studies have shown that infection with one of the other seasonal human coronaviruses (shCoVs) responsible for the common cold confers a cross-reactive T-cell immune response to SARS-CoV-2. At least six studies have reported T-cell reactivity against SARS-CoV-2 in between 20% to 50% of people with no known exposure to the virus.[119] An education drive explaining the concept of pre-existing immunity could be extremely helpful to alleviate fear in the general public.

It is a fallacy to assume that because the genome of a virus has been sequenced for the first time in a particular country, it must have originated in that country. Correlation does not equal causation. On the contrary, successful mutations with regard to natural selection will crop up anywhere. It is sometimes referred to as convergent evolution. This is one reason the so-called 'UK variant' has already been found in over 46 countries. International borders have nothing to do with the emergence of viral mutations. To convey this idea to the public, given the enormous economic implications of shutting international borders, would be a costly mistake.

‘Zero Covid’ - an impossible dream

Professor David Livermore - Professor of Medical Microbiology, University of East Anglia

It is not realistic to eliminate a respiratory virus like SARS-CoV-2, any more than it is to eliminate the ‘flu or the common cold.

Zero Covid is the public health strategy that seeks to eliminate COVID-19. It has influential backers,[120] notably Nicola Sturgeon,[121] Devi Sridhar,[122] Independent Sage,[123] British trade unions, Labour MPs such as Jeremy Corbyn and Diane Abbott as well as Jeremy Hunt from the Tory side. They advocate a strategy of “*zero infections and elimination of the disease*” and routinely refer to “*the Asian model*”.[124]

The Zero Covid campaign group, to which at least 18 organisations (mostly trade unions) are affiliated, defines the approach as follows:[125]

1. A full UK-wide lockdown until new cases in the community have been reduced close to zero;
2. An effective find, test, trace, isolate and support (FTTIS) system, run locally in the public sector, to quickly squash any further outbreaks.
3. COVID-19 screening, and where necessary quarantine, at all ports of entry to the UK.
4. Guarantee the livelihood of everyone who loses money because of the pandemic.

“Close to zero” is usually defined as something like fewer than 10 cases per 100,000 people.[126] Proponents cite Australia, New Zealand, Taiwan, Vietnam, China and South Korea as examples of countries which have successfully adopted this approach.

It is true that these countries have had low infection and deaths rates from COVID-19. However, it is wrong to claim that they have successfully ‘defeated’ the virus. They have simply isolated themselves by closing borders, but now find themselves in a world where the virus is endemic and will remain so for the foreseeable future.

In the short term, some, notably Taiwan, have benefitted from their isolation, avoiding lockdowns and suffering no damage to GDP.[127] They have the further luxury of observing other countries’ treatment strategies and vaccination outcomes before finalising their future course of action. Others, notably Australia, have suffered prolonged city and state lockdowns at considerable cost to both the economy (AU$100m per day for 3 months) and to the fabric of civil society.[128] Each of these ‘sequestered countries’ must shortly choose whether to remain in indefinite isolation or to re-open to the world and trust the efficacy of vaccination and treatment options.

Their experience is, however, of little immediate relevance to the UK. Any chance of isolating ourselves from the virus evaporated a year ago (not that this would have been a sensible course of action). Nowadays, we are a country where SARS-CoV-2 is endemic and where approaching half the adult population has detectable antibodies from being infected or receiving at least one dose of a vaccine. This is in addition to those with acquired immunity from exposure to the virus itself.

The four numbered components of the Zero Covid approach (above) make little sense against this background. To address them each in turn:

1. The notion that strict lockdowns reduce established COVID-19 to minimal levels is refuted by many countries retaining persistently high rates despite prolonged lockdowns[129] and by the expansion, in SE England, of the Kentish B.1.1.7 variant during the UK's second lockdown. In the Spring of 2020 COVID-19 rates reduced similarly in France (strict lockdown), the UK (moderate lockdown) and Sweden (no lockdown). These similar trajectories[130] support the notion that declines in infections were largely contingent on seasonality, not lockdowns. The only convincing demonstration of lockdown promoting 'Zero Covid' is in Melbourne/Victoria, where the time and cost were far higher than anticipated and where the starting point was a few hundred cases.[131] Some 'Zero Covid' supporters believe that Wuhan "eliminated the virus",[132] but China is a country with a long and questionable history of state propaganda. It would be extremely naive of anyone to take as 'fact' the claims made by the CCP regarding disease epidemiology.
2. The usefulness of FTTIS[133] is dubious once a country has a vaccinated population. Will the vaccinated be asked to isolate if identified as case contacts? If so, why? There are claims that vaccination prevents infection as well as disease, which, it is hoped, will turn out to be proven.[134] Chasing unlikely-to-be-infected (and very-unlikely-to-become-severely-ill) contacts, in a vaccinated population, is a poor use of resources. This must be added to (i) the considerable deficiencies of the UK's £22bn FTTIS system for COVID-19, described by Sir Nicholas Macpherson (former Permanent Secretary to the Treasury) as '*the most wasteful and inept public spending programme of all time*',[135] and (ii) the fact that a hundred years of (local public sector) contact tracing has still not eradicated STDs.
3. The occasional infected traveller will, no doubt, introduce infection, but will do so to a population with considerable acquired immunity, meaning that the hazard of serious consequences is slight. This is completely different to the situation in countries that have excluded COVID-19 and which retain unvaccinated and unexposed populations.
4. The notion that COVID-19 losses should be made good indefinitely by the taxpayer is naive. As with the 'Bounce-Back Loan' scheme,[136] it will create perverse incentives for failing and fraudulent businesses. Simultaneously, the fear of arbitrary closure will discourage legitimate new businesses.

Proponents of the 'Zero Covid' strategy support going "*hard and early in introducing new lockdowns and measures to tackle any new outbreaks*". They claim: "*Overreaction is the most effective response when it comes to stopping exponential growth*." They further assert that a focus on achieving 'Zero Covid' through swift and strict measures "*would be mentally good for the population*".[137] Some proponents seemingly do not believe vaccines are the solution, arguing that they are not perfect, will take many months to roll out and take effect, and may be vulnerable to mutations. In the meantime they claim that the "cruel" restrictions must continue to avoid mass deaths, and the 'Zero Covid' approach will allow them to be lifted sooner. They argue travel will eventually resume between "Covid-free jurisdictions" and "any suspension due to an outbreak would be short".[138]

Again, these points disregard current reality. Vaccines have been rolled out remarkably swiftly. Approaching half the UK adult population, including the most vulnerable, are protected by them or by antibodies from prior infection; more will be protected by other aspects of the immune system such as T cells. Exponential viral expansion consequently is implausible. The notion that "*any suspension [of liberties] due to an outbreak would be short*" is not supported by the experience of e.g. Melbourne and the approach disregards the devastating effects of social isolation and long-term school closures on the physical and mental health of populations, especially the young. To assert that strict measures "*would be mentally good for the population*" ignores overwhelming evidence to the contrary.[139]

The most fundamental problem with 'Zero Covid' as a strategy is that fundamentally it is not realistic to eliminate a respiratory virus such as SARS-CoV-2, any more than it is to eliminate the 'flu or the common cold.

Matt Hancock[140] and Chris Whitty[141] both acknowledge this, saying that we will need to live with Covid just as we do with influenza, which causes 10,000-30,000 deaths in a typical winter. Jacinda Ardern, Prime Minister of New Zealand, likewise gets the point, even in a country that has largely excluded COVID-19, saying that she intends to make this shift:

> *"Our goal has to be though, to get the management of COVID-19 to a similar place as we do seasonally, with the 'flu. It won't be a disease that we will see simply disappear after one round of vaccine across our population."*[142]

Proponents of Zero Covid spurn this realism, saying that measles, polio and smallpox have been eliminated. In fact only smallpox has been truly eradicated and this took decades of mass vaccination and increased herd immunity to achieve.

Professor Donald Henderson, who directed the international campaign against smallpox set out three ways in which eradication of disease fails :[143]

1. An inability to accurately diagnose every case;
2. Interventions to prevent transmission are not 100% effective;
3. The pathogen can replicate in the environment or in another animal host.

All of these caveats are pertinent to COVID-19. Vaccines are expected to reduce the risks of disease to a manageable level but not, as with smallpox, to be completely protective. Next, although there is growing evidence that vaccines prevent transmission, they may leave a 'tail' of sub-clinical cases, and these will be especially difficult to trace even with a far more sophisticated (and intrusive) FFTIS than at present. Furthermore, vaccines against SARS-CoV-2 are potentially vulnerable to mutated variants, whereas the measles and smallpox viruses are not so mutable. Last, SARS-CoV-2 has been shown to cross into mink, with the selection of new variants, illustrating the potential for non-human reservoirs.[144]

No respiratory virus has ever been eliminated and influenza vaccines that target an even more mutable virus than SARS-CoV-2 need repeated reformulation to combat new variants. This may well be the future with SARS-CoV-2 as well.

'Zero Covid' has loud advocates, but that doesn't make it any more realistic or less harmful as an approach. It means living indefinitely with tightly sealed borders and a continual threat of sudden lockdown. Who will open a new bar, hotel, or restaurant with that constant threat above their head? It means accepting a 'new normal' of mass testing and the requirement to self-isolate for contacts who, with vaccination, are unlikely to experience infection let alone disease. It means giving up on living a normal life to pursue the unreachable dream of eliminating an increasingly manageable seasonal respiratory virus.

It is perplexing how this notion has managed to gain traction in sensible scientific or media circles. It flies in the face of the known tenets of biology and reflects a world where risk perception has been heavily distorted. Even prior to vaccine deployment, the experience of countries and states that adopted a light touch approach, such as Sweden and Florida, showed that COVID-19 epidemics are self-limiting and manageable without draconian restrictions.[145,146] Exponential rises are brief and stall as population immunity builds. Vaccine deployment will now dramatically reduce disease (and infection) incidence and impact. Pursuing Zero Covid against this changed background is a misplaced goal, imposing immense and unjustifiable societal and economic costs.

Masks - do benefits outweigh the harms?

Dr Gary Sidley, Retired Clinical Psychologist

Whilst masks are a successful psychological tool to remind the public to remain alert, they are not effective in preventing the community spread of disease.

In the summer of 2020, mandates were introduced to compel healthy people to wear masks in the community, purportedly to reduce the spread of COVID-19. Prior to this time, the World Health Organisation (WHO) and UK politicians alike did not support face coverings for the healthy but U-turned, apparently in response to political lobbying.[147]

In the early stages of the novel coronavirus in the United Kingdom, public health advice remained that masks for the general public were of little benefit, and could even be harmful.[148] There is emerging evidence that cloth masks can amplify the spread of COVID-19 particles by acting as a 'microniser', transforming large droplets, which would ordinarily fall swiftly to the ground close to the person, into smaller, truly airborne & respirable droplets.[149]

As has been established in the preceding article on asymptomatic spread, for a person to be 'clinically relevant' in public health terms, they must have symptoms. The mandating of mask-wearing for the majority of the population who are perfectly healthy is not an effective public health measure to contain the spread of COVID-19. Prior to 2020 this was not a controversial position. Whilst masks have undoubtedly been a successful psychological tool to remind the public to remain alert, they have not achieved their primary objective, that is, to act as a safe and effective measure to curb the spread of disease.

Masks don't reduce community transmission

Contrary to the Government message that it 'follows the science', the sudden change in advice by the WHO was not based on any new, high-quality scientific studies. By summer 2020, there was substantial evidence that non-medical masks for the general public did not reduce the transmission of respiratory viruses. A review of 14 controlled studies had concluded that masks did not significantly lessen the spread of seasonal 'flu in the community.[150] A Norwegian Institute for Public Health review found that non-medical masks achieve no benefit for healthy individuals, particularly when viral prevalence is low.[151] From a common sense angle, scientists had argued that cloth masks contain perforations that are far too big to act as a viral barrier and therefore 'offer zero protection against COVID-19'.[152]

Inevitably, the public often wear masks incorrectly, or improperly handle them when putting them on, or removing them, constituting an additional infection hazard. There has been recognition of this contamination risk in the scientific literature[153] and other researchers have cautioned against the use of cloth face coverings.[154] Potential harms to the wearer include exhaustion, headaches, fatigue and dehydration.[155] Some doctors have suggested an increased risk of pneumonia.[156] Furthermore, the widely varying physical characteristics of the face coverings used by people in the community, that are not standardised for material, fit, length of wearing, changes after washing and drying, and disposal, means that laboratory research on mask efficacy cannot be generalised to real-world situations.

With particular reference to COVID-19, the only large randomised controlled trial exploring the benefits of adopting face coverings in the community found that masks (even the surgical variety) did not result in a significant reduction in infection risk for the wearer.[157] A detailed analysis[158] of all research investigations, including those purported to suggest that masks might achieve some benefits, led to the view that there is 'little to no evidence' that cloth masks in the general population are effective.

Masks cause psychological harm

Masks impair verbal communication, render lip-reading impossible for the deaf, and stymie emotional expression, the latter effect potentially constituting a gross impediment to children's social development. Acting as a crude, highly visible reminder that danger is all around, face coverings are fuelling widespread, irrational fear.

Wearing a mask will heighten the distress of many people with existing mental health problems and may trigger 'flashbacks' for those historically traumatised by physical and/or sexual abuse. Sadly, going without a mask (even as a means of avoiding psychological distress) can often attract harassment and further victimisation. In response to this, 'exemption lanyards' have been developed, which further stigmatise those who cannot wear face coverings due to health conditions or previous trauma.

Mandates in schools

Beginning March 8, 2021, secondary-school pupils are now required to wear masks in indoor areas for the entire day. In addition to the lack of demonstrable benefits as described above, it is most concerning that no comprehensive risk assessment of potential harms has been carried out before making these demands. Prior to imposing this requirement for masks, a full assessment should have been conducted, incorporating the following areas:

- Assessment of oxygen levels in mask wearer at the beginning and end of the day;[159]
- Assessment of impairments to concentration and ability to learn;[160]
- Assessment of impairment to children with hearing difficulties and special educational needs;[161,162,163,164]

- Assessment of impairment to psychological wellbeing;[165]
- Assessment of possible damages from inhalation of micro-fibres;[166]
- Assessment of potential harms of repeated use of dirty cloth masks;[167,168]
- Assessment of impairment to non-verbal communication.[169]

Many of the potential harms may only become apparent in the long-term, thereby casting yet more doubt on the assumption that, for children, the benefits outweigh the risks. What is even more puzzling is that the masking requirement has been introduced at the time of year when there is almost no circulating COVID-19 in the community due to its seasonality. There is no justification for this move from the Department for Education. It should be rapidly retracted for the safety and well-being of all children.

Conclusion

Wearing a mask is not a benign intervention. Making masks mandatory would only be justified if science had shown they achieved a marked reduction in viral transmission. The evidence is simply not there. On the contrary, it is clear that face coverings for healthy people do more harm than good. Additionally, evidence demonstrating that asymptomatic, healthy members of society are unlikely to spread the virus strengthens the conclusion that mask mandates are unnecessary.

Psychological impact of the Government's communication style and restrictive measures

Dr Damian Wilde, (Chartered) Highly Specialist Clinical Psychologist

HART believes that the most effective step to meaningfully reduce the widespread mental health crisis would be a relaxation of all COVID-19 restrictions, with the assurance that they will not return.

A year of COVID-19 restrictions and a relentless media campaign to enhance compliance has led to unprecedented levels of loneliness, fear and anxiety.[170] It is widely being reported that we are seeing a 'mental health crisis' across the nation.[171,172] This paper examines some of the problems and potential solutions moving forward.

Fear rhetoric

The Government's Behavioural Insight Team (BIT) recommended many psychological techniques in order to change people's behaviour.[173] The communication style used throughout this crisis has employed several covert psychological strategies ('nudges') that act upon us subconsciously, below the level of awareness. Psychological manipulation of this kind is not new, but we have grave concerns that it may cause enormous long-term psychological harm.

Fear is a powerful motivator. The decision to scare us into submission was a strategic one. The SAGE minutes of the 22 March 2020[174] state, 'The perceived level of personal threat needs to be increased … …using hard-hitting emotional messaging'. BIT has inflicted a prolonged scare campaign upon the British public, the primary aim of which has been to inflate levels of fear and thereby achieve compliance.

The Government has spent well over £100M on advertising COVID-19-related messaging. It has resulted in many people not daring to leave their house at all for extended periods.[175] Research shows that suicidal thoughts have dramatically increased during lockdowns.[176,177]

A change in the Government's communication style is now urgent. The approach used has been a fear rhetoric, with no balance or compassion and has led to increased prevalence of anxiety, depression, obsessions and compulsions.[178,179] The constant communications centred around being tested for COVID-19 (even if healthy), staying away from other people and the need for copious amounts of hand washing and use of hand sanitiser has created a deeply unhealthy psychological state across the entire nation. Use of such tactics activates our threat systems leading to distorted risk perception and aggression and blame towards those seen as not rigidly complying to COVID-19 rules'.[180,181]

A communication style which is more balanced and truthful, communicated in a more compassionate way may help contain the public's anxiety more effectively. It would not only decrease internal stressors, but would also lessen the conflicts witnessed between people,[182] which further exacerbate the public's level of confusion and distress.[183]

Social Restrictions

Humans are social animals. To deny them this right for long and undefined periods causes enormous harms. There is a huge body of research demonstrating the wide range of damaging effects.[184,185,186,187,188,189].

These include:

- Immune system deficits;
- Stress;
- Fatigue;
- Sleep disorders;
- Neurocognitive changes;
- Lower mental and physical wellbeing;
- Depression;
- Despair;
- Anxiety;
- Aggression;
- Feelings of unreality & paranoia;
- Difficulty thinking and speaking.

Prolonged loneliness is likely to have evoked mental defeat in elderly people with dementia, often resulting in premature death.[190] Further evidence of the mental health costs of restrictions is emerging weekly, with reports of significantly increased anxiety and depression in postnatal mothers[191] and a rise in disabling tic disorders in children.[192]
Restrictions not only create mental health problems in previously healthy people, but exacerbate difficulties in those already struggling.[193]

No comprehensive risk assessment was carried out to measure the harms caused during the first lockdown. We are three months into a third national lockdown and still no risk-assessment has been forthcoming from the Government. Working on the widely accepted principle of 'first do no harm' alongside the clear comparative evidence emerging from countries and states who did not impose lockdowns,[194] it is becoming increasingly difficult to justify these repeated restrictions.[195,196]

Stripping away self-care

Observations in practice have been that the restrictive measures are devastating for many, and in particular those with pre-existing mental health conditions. To ensure good health and wellbeing, people have their own personalised, individual self-care plans, which may seem 'trivial' to some, but are absolutely essential in maintaining stable mental health.

Such self-care aspects have been stripped away from people and whilst these have impacted everyone, those with pre-existing mental health issues are at immense risk of falling into crisis, leaving people dealing with constant high levels of distress.

Lack of access to care

Throughout lockdown many mental health services have denied people vital face-to-face therapy due to the restrictions. Although other forms of therapeutic care have been made available, such as telephone or video-based therapy, some find this impractical and stressful, particularly people who have experienced multiple traumas who need that separate safe space away from their place of living. To deny people in extreme distress something which helps soothe them and improve their quality of life, particularly when it can be carried out safely using basic common sense, seems highly unethical.

With the rapidly falling cases and hospitalisations, and bearing in mind COVID-19 is a seasonal virus, we need a rapid change in policies around face-to-face psychotherapy. Additionally, it would be appropriate to see the removal of masks in the therapeutic space. They are inhibitive to the therapeutic relationship, signal 'danger', and are particularly distressing for the 1/6th of the population with hearing impairments and deafness. The therapy environment should be a calm, safe space for the individual and is a model we must return to as quickly as is practical.[197]

Conclusions

The Government's communication style and restrictive measures have clearly had a significant social and psychological impact upon the public, especially for those already experiencing emotional health problems. People now need hope and a degree of certainty about the future. We are no longer in the middle of an emergency. It is time to allow people to rebuild the delicate fabric of their world to incorporate joy, social interaction, music, travel and the many other things that make a life worth living.

Lockdowns - do they work?

Professor Marilyn James, Professor of Health Economics

When an intervention has never been tried before, it is particularly important to carefully assess the potential harm it may inflict.

Lockdowns have never previously been used in response to a pandemic. They have significant and serious consequences for health (including mental health), livelihoods and the economy. Around 21,000 excess deaths during the first UK lockdown alone were not COVID-19 deaths.[198] These are people who would have lived had there not been a lockdown.

Millions will be impacted by reduced screening and assessment services across health conditions with many premature, avoidable deaths.[199,200] Businesses have closed, never to reopen and livelihoods have been lost.[201] Whilst the focus continues to stay primarily on COVID-19, the health of our nation is beleaguered by the collateral damage of this approach. In mental health, in elective surgeries cancelled and in the delicate structure of society.

The average age of death for COVID-19 is 82.4, higher than the average age of death from other causes (81.5).[202] In the majority of the population COVID-19 is not a death warrant. One of the key lifestyle choices highlighted by BUPA for robbing the population of years of life is smoking. As such the risk of premature death from smoking is greater than that of COVID-19. Whilst we are told to 'stay at home' for fear of contracting COVID-19, cigarettes are freely available.[203]

There are genuine undeniable concerns about overcrowding in UK hospitals during winter peaks. However, this issue is complex and multifactorial. There is a grave danger in conflating causation with correlation. As we receive the international data of countries who did not impose severe mandatory lockdowns, the evidence is mounting that lockdowns cause immeasurable harm whilst not appearing to have a positive effect on reducing mortality.[204,205]

Viral transmission is a complex issue, affected by host susceptibilities, seasonal changes and many other factors. The full story is far from being fully understood by scientists.[206] Indeed there is evidence emerging that, by not allowing it to spread through the less susceptible more quickly, we may inadvertently be increasing the risks to the more vulnerable population as they are not offered protection by the younger population in the shortest time-frame possible.[207] There is also concern that lockdowns may in fact be contributing to the viruses mutating into more deadly or transmissible variants, by removing the normal competitive advantage of the more transmissible variants.[208]

As we did not have all the facts about the disease picture last Spring, being cautious was prudent. However, a great deal more is now known and there is the need to revisit some of the earlier assumptions and change direction as a result.

There is a growing concern among many that we may now be committing the error of repeating the same experiment and expecting different results. There is mounting academic evidence that calls into question the efficacy of lockdowns and therefore we must in turn question whether the significant costs outweigh the purported benefits.[209,210] According to recent Government estimates, 220,000 will be the true death toll of the pandemic, with nearly half lost to non-Covid causes such as cancelled operations.[211]

Lockdowns work on the assumption that healthy people can spread disease. Before last year, this concept would have seemed unlikely to anyone with an understanding of the spread of respiratory viruses. The evidence for the existence of asymptomatic spread is very thin.[212,213,214] We need to find the humility and courage to re-evaluate this assertion, even if this means admitting that mistakes may have been made. We might also then be more able to critically question the logic of continued widespread lockdowns.

Physical contact is essential for human beings. We are social animals. To deny people this for long and undefined periods causes enormous psychological and physical harm which we are clearly witnessing throughout the nation, in every corner of society.[215] [216] This is alongside the economic and societal implications, not to mention the long-term effects of lost educational years on our young people.[217]

What needs to be done?

There is an urgent need for a full risk-assessment of lockdowns. This should include:

- Examination of the relationship between lockdowns and mortality;
- Assessment of whether lockdowns reduce NHS pressure;
- Economic costs;
- Mental health implications;
- The impact on children;
- The impact on the elderly;
- Reduced access to healthcare, increased burden of disease with increasing waits for elective surgery and screening and future mortality implications;
- Potential delay in achieving natural immunity;
- Disruption to communities;
- Impact on constitutional and democratic rights.

What can we agree on?

The COVID-19 crisis must have been incredibly stressful for those making policy decisions. We must open our minds to the possibility that some errors in judgement may have understandably occurred. The time has come to carefully reexamine the basic assumptions on which these current policies rest. The ongoing cost to our society is too great not to.

When an intervention has never been tried before, it is particularly important to carefully assess the potential harm it may inflict.

Looking closely at the mortality data in comparison to the timing of lockdowns and also in comparison to other countries, we start to observe that there is little robust evidence that they have had a significant impact on UK mortality. This is consistent with the global academic literature on the subject so far.[218]

The mortality rates per million population seem to be entirely determined by the demographics of populations, such as age and comorbidities,[219,220] in combination with geographical differences such as climate[221] and the capacity of national healthcare systems.[222]

Notions of 'Zero Covid' are just not realistic. We coexist with many respiratory viruses and we will have to accept COVID-19 into that list. We should be heartened by the incredibly high survival rate (>99%)[223] and some very encouraging new treatment options coming to the fore, which have a proven safety record and seem to be highly effective (e.g. Ivermectin[224] and inhaled steroids[225]).

As COVID-19 becomes endemic in the population, a more pragmatic approach is needed. The virus is just one of multiple risks we encounter in our daily lives and we must together try to move towards a more balanced assessment of the disease in the context of our lives as a whole.

There is an urgent need for a clear and final exit strategy and the restoration of the normal democratic processes that are so fundamental to our national identity here in the United Kingdom.

Mortality data & COVID-19

Joel Smalley - Quantitative Data Analyst

Modelling can accurately predict excess mortality associated with COVID-19 outbreaks. Policies can therefore be tailored to minimise collateral harms and maximise benefits.

Mortality data can help us unravel the 2020 COVID-19 outbreak and the effects of associated interventions. When we try a new experiment such as lockdowns on the entire nation, it is our duty as scientists to forensically assess its effectiveness. If not, we risk making the same mistakes again in future scenarios.

A full-length analysis is available for download from our website. This briefing looks at two main questions.

1. Were lockdowns successful in preventing deaths?
2. What effects did the vaccine roll-out have on mortality?

Observations from the data: what is the real COVID-19 mortality picture?

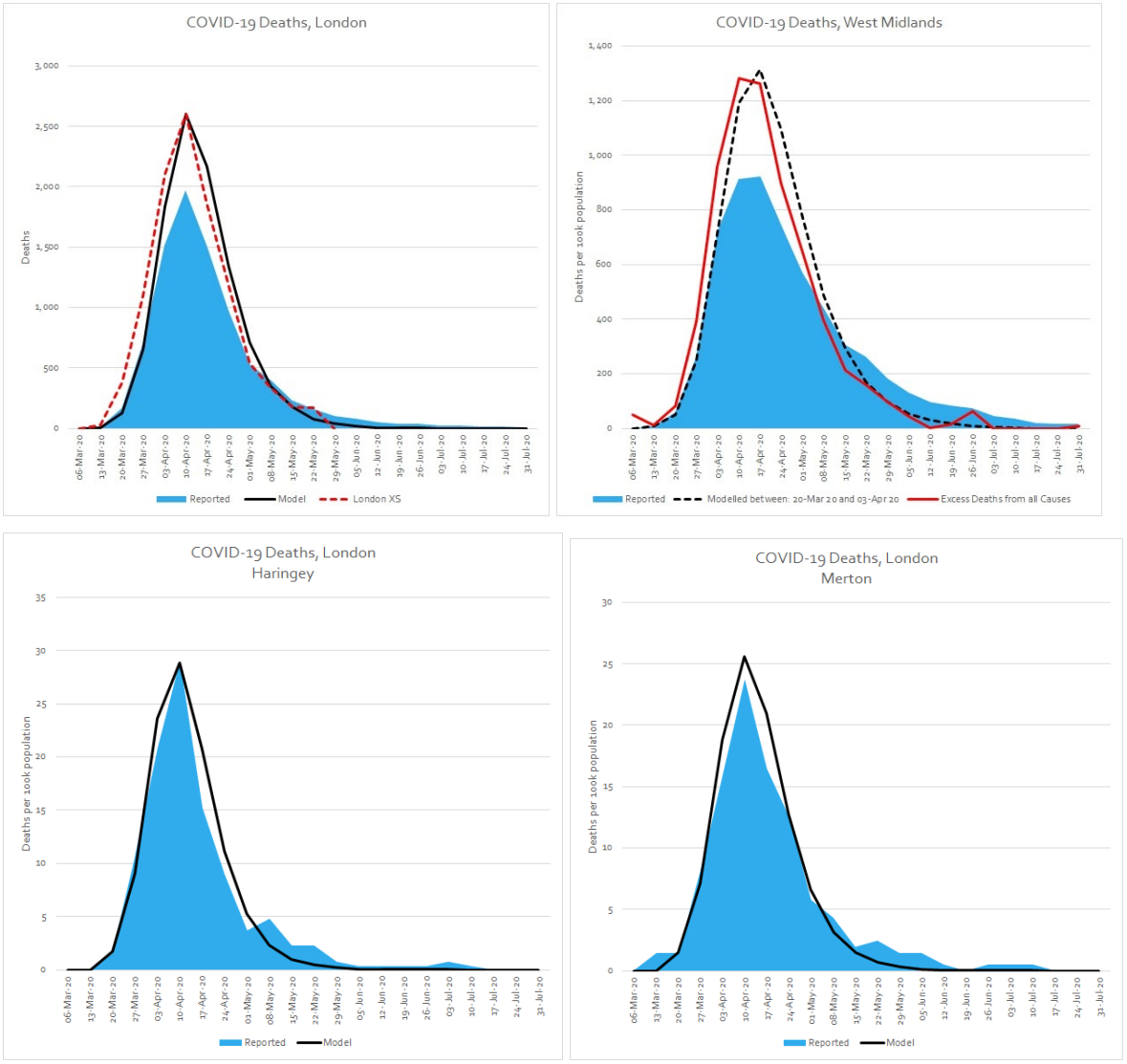
Viruses tend to follow a predictable and self-limiting path. The growth rate has defining characteristics that have been analysed and published numerous times, creating a characteristic curve.[226] This is because (a) herd immunity increases over time and (b) there are fewer susceptible individuals available as the most vulnerable succumb early on in the outbreak. In addition, viruses are known to mutate to become less virulent over time, hence increasing their own chances of survival and replication by not killing their host.[227] This reduces human mortality over time whilst increasing the herd immunity effect as it passes successfully through the population without the associated deaths. It should be noted that:

- Not everyone can catch COVID-19;
- Many have pre-existing immunity so would never be a viable ‘host’;
- Studies show this is about 50% of the population.

It became clear from the data that COVID-19 outbreaks were regional, and followed a particular pattern in each area.

By analysing all of the data, it was possible to accurately model the expected mortality of each distinct outbreak with consistent accuracy, region-by-region and even London borough-by-borough.

Figure 1: Examples of modelled regional outbreaks (black line) and the reported cases (blue)



Applying this model with confidence, to future outbreaks, could help policies to be accurately tailored to minimise the collateral harms and maximise benefits. This would help reduce panic and help hospitals accurately prepare.

According to the data, there is a new mortality baseline

After the initial Spring epidemic peak, there was never a return to the baseline average weekly deaths. We work out this baseline from the previous years' data. The 'new' baseline after Spring 2020 works out at around 400 extra deaths per week. Following the 'Occam's Razor' principle, the most likely explanation for this is that these excess deaths were due to reduced access to healthcare as a result of Government policies. This is both in practical terms, where lots of services were suspended (e.g. cancer treatments, missed operations etc.) but also due to the overly effective 'stay at home' messaging, which encouraged people not to seek healthcare unless 'urgent'. Applying this modelling, it is

possible to calculate that there has been just over 20,000 more deaths than expected since April 2020 as a result of this increase in the underlying baseline.

Do lockdowns work, from a data point of view?

Looking at the epidemic period in England during Spring 2020, modelling shows that in spite of the restrictions (or perhaps in part because of them) there were in fact roughly 1,000 more excess deaths than would have been expected from the COVID-19 outbreak alone, had no interventions been implemented. Analysing the data, it is possible to see that the large amount of non-COVID excess deaths occurring in care homes is the most significant factor in this. From a data point of view, it would seem that the lockdowns did not have the desired effect of saving lives overall during this period. The analysis also shows that the Ferguson/Imperial College model was out by a factor of 8 times.

A recent study of COVID-19 mortality in Scotland found that outside of care homes, COVID-19 was substantially acquired in the hospital setting.[228] It is likely that the situation is comparable in England. National lockdowns would have had zero impact on stopping these nosocomial (caught in hospital) infections.

When considering the effect of lockdowns and other interventions on mortality (social distancing, mask-wearing etc.), comparisons with similar places that did not lock down are also instructive. There are 2 main outliers that provide this comparison:

(a) Sweden, which is comparable to England in many ways but did not impose lockdowns;

(b) North and South Dakota in the US, which are very similar neighbouring states, one who imposed restrictions (North Dakota) and one that did not (South Dakota).

The graphs on the following page show how Sweden actually fared better than England, and there was very little to choose between the Dakotas. These are compelling pieces of evidence that are often overlooked in the ongoing debate as to whether lockdowns are effective. It is understandable, due to the immense harms that lockdowns have inflicted, societally, economically, psychologically, that there is a desire for it not to have been all for nothing. Unfortunately, this just doesn't show up in the data. We may have to accept this inconvenient truth, particularly if it saves us from employing the same erroneous logic in the future.

Figure 2: Sweden versus England, mortality curves

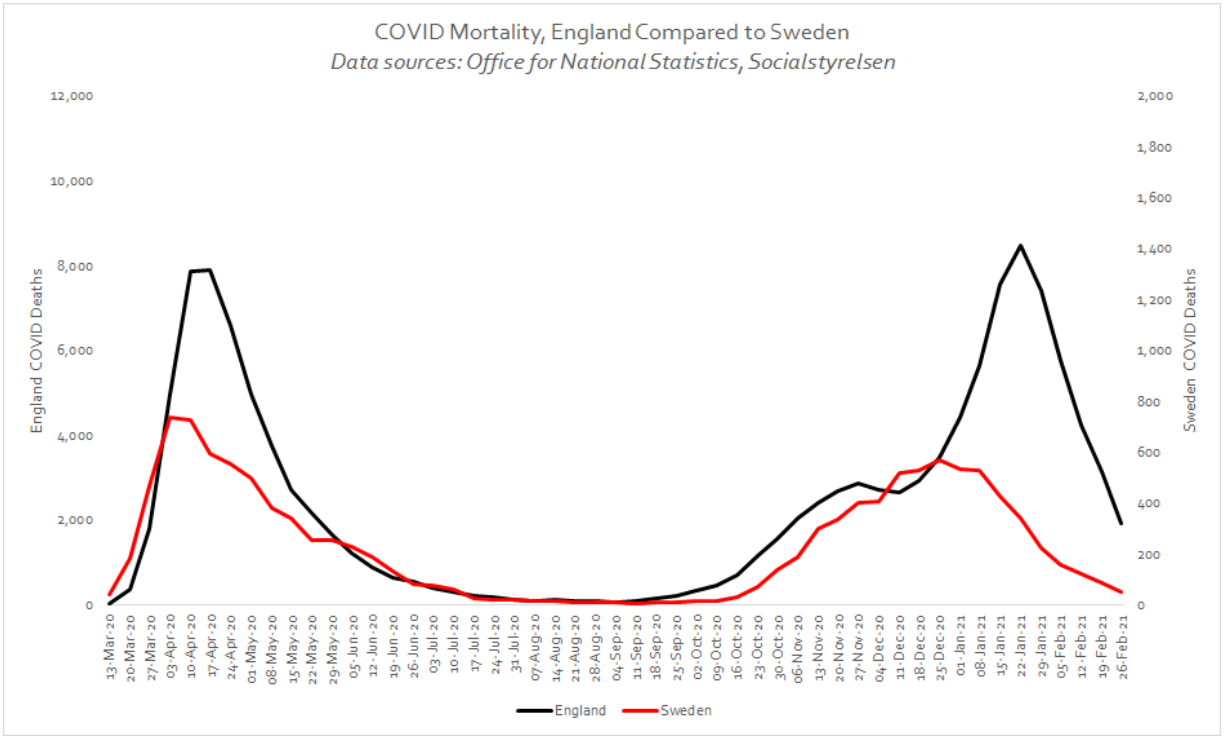
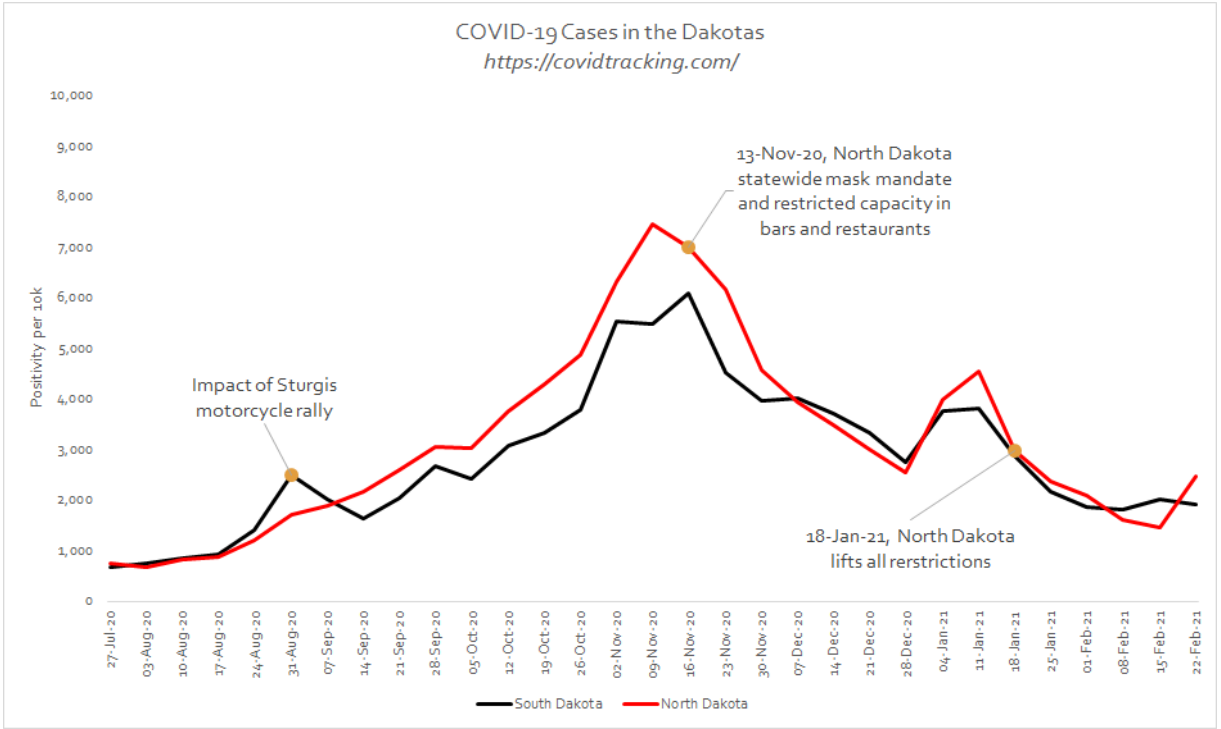


Figure 3: North Dakota Versus South Dakota, mortality curves

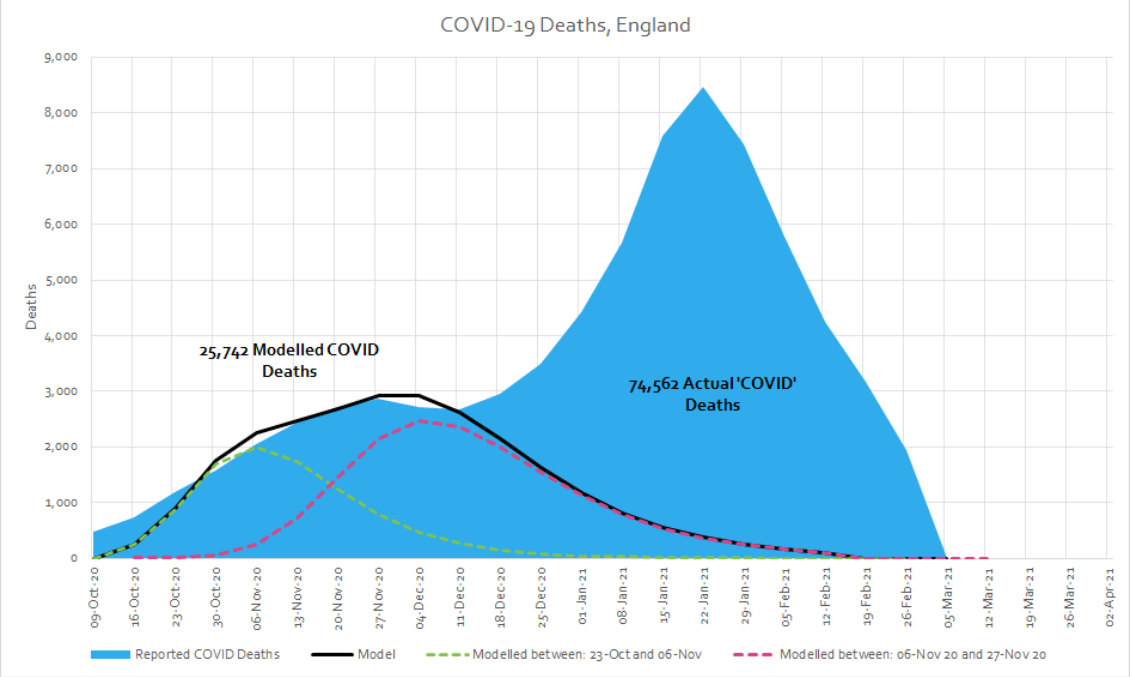


Mortality data during the vaccine roll-out period

In autumn 2020, residual outbreaks started, as one would expect with viral seasonality, mostly in areas of the country that COVID-19 did not saturate in Spring due to a combination of lockdowns and more remote geography. These areas were predictably hit harder in autumn/early winter 2020.

Using the modelling, region-by-region, the total expected COVID-19 excess deaths for England from October to Feb was 25,742. We see 2 distinct regional 'outbreaks' below, in the North East and the North West (red dotted line, green dotted line) that follow a predictable course.

Figure 4: Deaths, all locations in England from October to March



Around the second week of December a new 'mortality series' begins which does not fit with the pattern seen in Spring or Autumn. In the period from December to February, there were a total of 48,821 excess deaths (74,562 in total minus 25,742 'expected' COVID-19 deaths) whose distribution is characteristically very different to Spring. We would expect it to follow a similar pattern if COVID-19 was the underlying cause of this excess.

The population, demographics and the model did not change. Something new must have exerted this effect. When something in data is this unusual, we have to ask questions, no matter how uncomfortable they may be. It is an undeniable fact that this peak in deaths coincided with the mass roll-out of a novel mRNA vaccine, on an extremely vulnerable population. If you compare the week ending 11 December 2020 with the week ending 29

January 2021, there was a 62% increase in total deaths and a 170% increase in COVID-19 labelled deaths in care homes.

Broken down by the separate vaccination cohort (by age group, and then taking care homes as a separate unit), the correlation between vaccination and COVID-19 deaths is even more apparent and this time the model *is* able to accommodate the data with significantly more ease.

This relationship is not limited to England. It is apparent in many countries around the world, regardless of location, season, interventions and extent of prior COVID-19 activity. If we include Scotland in the analysis, if winter COVID-19 excess deaths were a natural phenomenon, we would have to explain how and why it emerged first in the over 80s in England then a few weeks later in the care home homes in Scotland before then jumping suddenly back to the care homes in England, before landing finally in the over 80s in Scotland.

We would also have to explain why there is no associated rise in SARS-CoV-2 antibodies after the winter surge that would indicate the presence of the natural virus. Instead, the only seropositivity rise is witnessed in the assay that detects antibodies produced by the vaccine.

Whilst we cannot infer causation from correlation, the mRNA vaccine had not been tested on this cohort, who have many comorbidities, multiple drug interactions and fragilities compared to trial participants and were likely particularly fragile after a year of social isolation away from loved ones. It would be extremely unscientific and even negligent not to investigate whether the rise in deaths during this period is linked in some way to the vaccine roll-out.

From a data point of view we need to ask:

- Is there a link between vaccine roll-out and a rise in cases and deaths in care homes?
- Does country by country or region by region data support or refute this possible link?
- Is follow-up data of vaccine recipients being carefully recorded for further scrutiny?

Before 2020, these would have seemed like very reasonable questions. We have entered a dangerous time where science is being censored using harmful labels like ‘anti vaxxer’. This is incredibly worrying. It is our duty as ethical scientists, and indeed citizens, to insist that these questions are properly investigated by independent bodies free of financial conflicts of interest. Indeed to date, ten countries have suspended use of the AstraZeneca vaccine amid blood clot fears.[229] This recent open letter to the European Medicines Agency seems to concur that further investigation is required.[230]

The ONS Infection Survey: a re-evaluation of the data

Dr Paul Cuddon, Healthcare and Life Sciences Research Analyst & Dr Clare Craig, Diagnostic Pathologist

Are early warning signs from the UK's ONS Infection Survey a missed opportunity in predicting outbreaks?

Mass testing of a healthy population is another intervention explicitly not recommended in any pandemic planning for respiratory viral pathogens before 2020. HART's view is that a high degree of assurance that such a measure will be net-beneficial should be required before it is embarked upon and that this should be reviewed constantly.

Whatever the merits of performing such testing in 2020 in "the eye of the storm" (and even that is not agreed by all), HART's view is that mass testing of asymptomatic individuals is no longer delivering any benefits at all and is actually causing substantial societal harms. However, to the extent that any testing (e.g. for prevalence purposes) might be justified, it is surely incumbent upon the Government to maximise the utility of any data thereby obtained, and in this regard HART believes the Government has failed.

We have grave concerns that the ONS modelling used to drive policy decisions was fundamentally flawed. There is a pattern whereby raw data was modelled up before lockdowns and modelled down after lockdowns. Their own modelled figures have been retrospectively altered on many occasions, regionally and nationally. Even their data in one week can be contradictory, e.g. the data is falling in each age group but apparently rising overall (e.g. week ending 8 January, 2021).

Ability to predict outbreaks

One of the main uncertainties throughout the pandemic is where SARS-CoV-2 will strike next. We seem to be taken by surprise time and time again with alarms sounding only when ICUs are already overrun, despite billions invested in NHS Test and Trace, as well as copious and regular data made available from warning systems from lower cost symptom trackers (ZOE), and NHS 111/999 triage.

We propose a simple model, which emphasises infectiousness, and enables the ONS data to be used as an effective early warning system giving a three-week warning prior to rising hospital admissions.

Shortcomings of the ONS Infection Survey

The ONS Infection Survey was one of the most innovative means to identify regional outbreaks, but it has also been one of the most disappointing. It was intended to randomly screen a regular sample of the population across the entire UK to identify regional outbreaks early and prepare local health systems for the pressures they may be about to face.[231]

The ONS system has been failing to detect local outbreaks in good time ahead of hospitalisations, because of the significant time taken to model the data and because infectiousness as a key indicator for an "epidemiological early warning system" is being ignored. In our view, the interpretation of the survey failed the NHS ahead of both the autumn and winter surges, with the timing of alerts coinciding with already increasing hospital admissions. For instance, as of early to mid-September there were few warning signs of then imminent pressure on the NHS in the North West and North East, and as of Christmas Eve, no signs of the pressure in London, the East of England, or in the South East over Christmas and New Year.

The time lag issue

SAGE relies heavily on modelling to predict the course of the pandemic. The ONS Infection Survey is no different. The survey's results have been used as the main justification for the second and third national lockdowns.[232] Each week the survey reports the 'raw positivity' i.e. the number of positive tests as a proportion of the total number of tests performed. However, the ONS then spends several days analysing the data and only publishes the "modelled estimate of positivity" 6 days after the end of the week of testing. The time lag between samples being taken, tested and analysed is unknown, but given the reliance on the postal system to send and return tests there could be a significant delay between sampling and reporting.

Accurately detecting infectiousness

There has long been a debate over the usefulness of PCR testing to detect infectious patients. The debate centres on the viral load in patients and related ability to transmit virus. The level of viral load detected by PCR testing correlates to the number of PCR cycles required to reach a positive result (each cycle represents a doubling of viral material). This is known as the cycle threshold (Ct). The lower the Ct threshold required to reach a positive result, the higher the viral load detected. The ONS has itself shown, in its household transmissions studies, that results with Ct above 25 are unlikely to represent any infectiousness.[233] This tallies with prior reports which found that it was challenging to culture live virus above Ct 24.[234] On the ONS Infection Survey around 80% of current positives are Ct above 25, and so the prevalence of infectious subjects is being overstated 4-fold.[235]

Solution

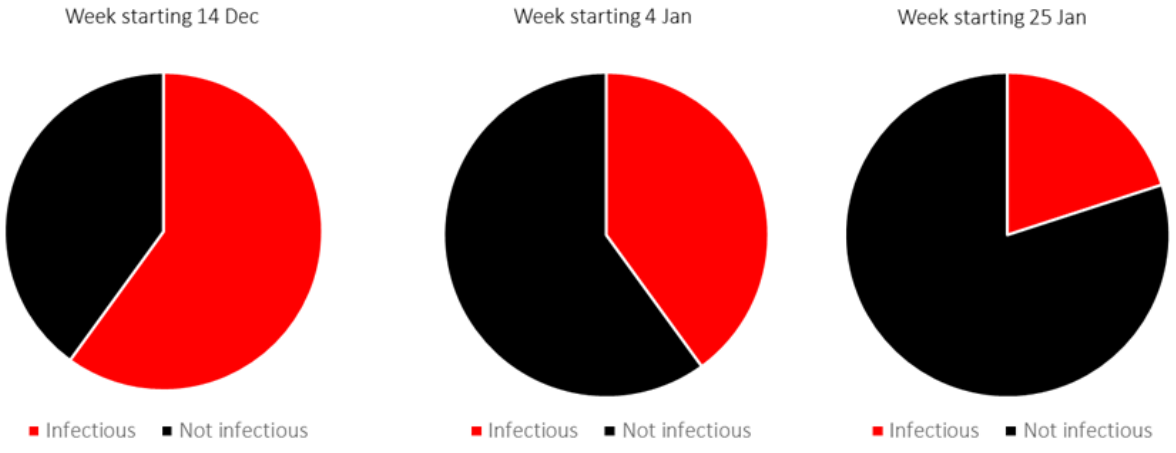
In practice there is a very simple way to improve the ability of the ONS Infection Survey to serve as an early-warning system, by shifting focus to infectious cases. The ONS itself proposed such a system in October.[236] We would urge far greater focus on the number of PCR cycles (each a doubling of viral material) required to reach a positive result.

The good news is that since the New Year the ONS Infection Survey has included regional Ct values in each week's update. This allows the use of a simple Ct model to predict outbreaks which would not rely on the analysis and modelling of the raw data now employed and so would reduce the time-lag that entails. Given the outbreaks in Spring 2020 there is an argument for caution as we head into Spring 2021. We would urge increasing vigilance on regional average Ct values from the ONS Infection Survey.

It should be noted that false positives can be reduced by testing for more genes. However, the ONS results indicate that they consider single gene positives as if they were definite positives[237] even though this is deviating from WHO recommendations to follow the manufacturer's instructions. The ONS itself has said that single gene positives in people without symptoms almost invariably are weak PCR positives with Ct values above 30, levels at which it is incredibly hard to culture viable, infectious viral particles. Put another way, these are most likely false positives and moving forward, these should not be included in the data set.

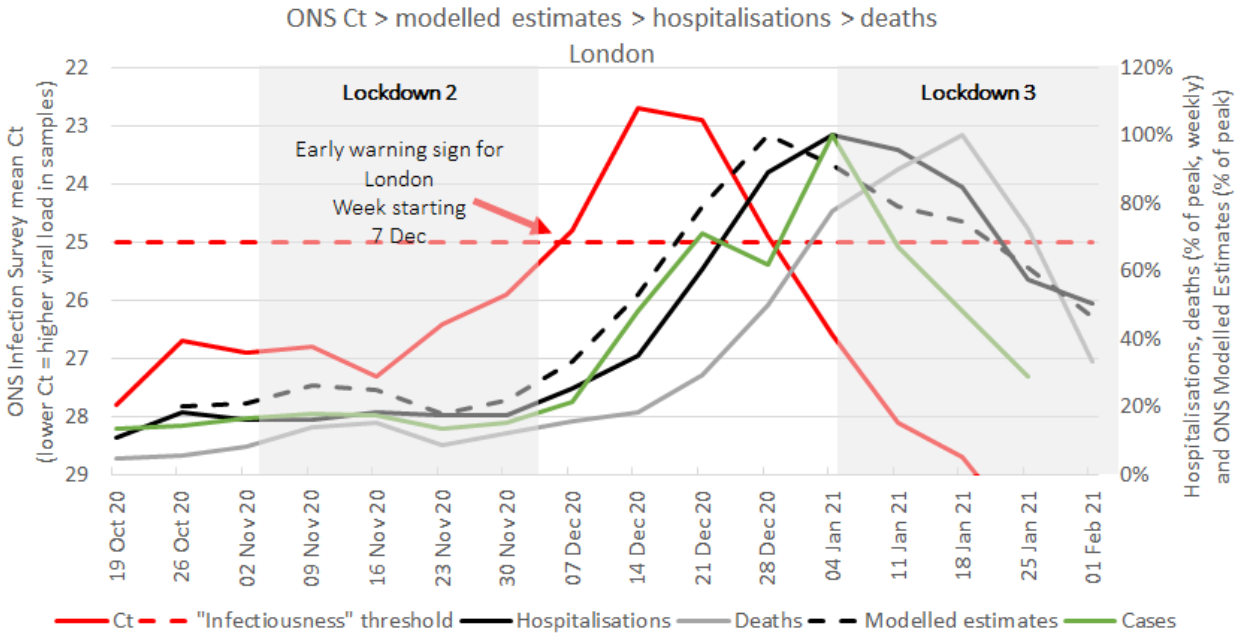
Monitoring community infectiousness in London

When we apply the infectiousness threshold (Ct less than 25) to the ONS Ct data for London, we note that around two thirds of positives were "infectious" on week starting 14 December, falling to 40% by the time the third national lockdown was announced and declining to less than 25% from week starting 25 January.



Practical application of mean Ct values in London

Here we show a time course of the mean Ct value for ONS positives in London (red) peaks weeks before cases (green), hospitalisations (black), ONS Modelled Estimates of Positivity (dashed) and deaths (grey). The average ONS positive falls below the ONS Infectiousness threshold (red dashed line) from week starting 7 December and peaks weeks ahead of all other data used on the Government's coronavirus dashboard. We propose this is the time the NHS should have been warned of imminent pressure in specific regions.



What else can be addressed using longitudinal Ct values by region?

We also believe the Ct data in the ONS Infection survey can help address several important issues:

1. We can investigate the effectiveness of various non-pharmaceutical interventions using Ct/infectious patients since Ct is independent of case numbers and changes in testing volumes;
2. Ct can help advance the discussion on how PCR screening and lateral flow tests can be used most effectively together in a cost-effective, targeted manner;
3. ONS Ct may be the more objective, data-backed basis for regional "alert" levels rather than "R" calculations that are incredibly wide and often too late to inform responses.

Promising treatment options

Dr Ros Jones, Retired Consultant Paediatrician,
Dr Edmund Fordham, Fellow of the Institute of Physics


Many promising treatment options have emerged over the past year. We must ensure access to these is facilitated, in order to optimise COVID-19 outcomes.

Disclaimer: This is not medical advice. It is information for policymakers, or to take to your own doctor. HART advocates treatment only by a qualified medical practitioner in partnership with the patient. This is not an invitation to self-medication.

The idea that "there is no treatment for COVID-19" is false. In particular, treatments by GPs in outpatient settings could have a major impact on reducing hospital admissions.[238,239] Various options are being tried in other countries, some sophisticated (e.g. monoclonal antibodies), and others cheap and readily available (e.g. ivermectin, vitamin D).

In March 2020 the emphasis was on hospital care with mechanical ventilation. The policy now should shift to prompt home treatment by GPs, with the objective of preventing progression to hospitalisation in as many cases as possible.

Outpatient treatment strategies have demonstrated success, particularly where multidrug therapies have been judiciously chosen, typically involving two antiviral medicines together with other low-cost adjuncts such as vitamins and antibiotics. A rural Texas practice recently reported nearly 98% of high-risk confirmed cases treated at home, with only 2% hospitalised and only a single death in 320 high-risk cases.[240]

For hospitalised patients, treatment protocols such as the "MATH+" protocol[241] from the FLCCC group of US intensivists[242] appear almost unknown in the UK, even though their survival rates for severely ill patients are superior to those elsewhere.[243]

Many novel and existing drugs have been the subject of clinical trials for COVID-19. The advantage of "drug repurposing" is that with existing medications the safety profile and any contraindications are already very well-known. In many cases, the medicine is already licensed by regulators. Moreover, they are available immediately, being in routine production in at least some locations. Generic (out of patent) drugs in particular, are in regular manufacture and almost all are very cheap.

As vaccination programmes advance,[244] ignoring the need for other treatments would be a mistake. There remains a clear need for effective treatments to be made available:

- for those cases that still occur;
- for SARS-CoV-2 variants against which vaccines may be ineffective;
- for those for whom vaccination is medically contraindicated or declined;
- for other future winter viruses.

We look here at some of the simple treatment and prevention options.

The most obvious starting point is Vitamin D. It is well known that Vitamin D deficiency is common in the northern hemisphere in winter months, especially in the elderly, in those with obesity and also in the BAME population. These groups are all known to be at increased risk from COVID-19.[245,246] Vitamin D is important for T-cell function and hence a healthy immune system.[247] Back in March 2020, studies of hospital patients with COVID-19 found that patients with low Vitamin D blood levels were at increased risk of intensive care admission and of death.[248,249] Small controlled trials followed[250] and over the ensuing months a large body of evidence has accumulated to support Vitamin D both in terms of prophylaxis and of treatment.[251] High dose vitamin D prophylaxis should be widely recommended, especially to care home residents.

Other micronutrients are also vital to our immune system, such as Vitamin C and Zinc.[252,253,254] Some common antibiotics also have some antiviral properties, such as Azithromycin and Doxycycline[255] and may be beneficial when used in combination with the above micronutrients.

Another promising development comes from the observation that asthmatics were not overrepresented in mortality, which seemed counterintuitive in a disease affecting the lungs. It was hypothesised that inhaled steroids common in asthma treatment perhaps offered an explanation. A trial released in February is very encouraging in this regard and offers a cheap preventative that could potentially save many lives.[256,257]

The literature on hydroxychloroquine became confused after a fraudulent paper[258] was published in The Lancet in May, 2020. The paper has since been withdrawn but had a lasting impact on regulators. The near-simultaneous failure of the Oxford RECOVERY trial[259] added to this negative impression, though this has been criticised for the very high (almost toxic) dosage used[260] and was confined to hospitalised patients with late stage illness. Hydroxychloroquine has been shown to be beneficial in outpatients if given in low doses early in the infection.[261] It is used as a component of "sequential multi-drug therapy" (SMDT), advocated by a large panel of experienced clinicians,[262] the antivirals of choice being hydroxychloroquine, ivermectin and favipiravir. The Texas clinic cited[263] used hydroxychloroquine and ivermectin together.

Perhaps the most promising pharmaceutical agent is ivermectin, a drug little known in the UK, but widely used in the developing world.[264,265] Originally developed against certain parasitic infections, and recognised with the 2015 Nobel Prize for its success in controlling

onchocerciasis (river blindness) in the tropics, it also has broad-spectrum antiviral action against many RNA viruses including coronaviruses.[266] There is now trial evidence showing an 89% reduction in the risk of COVID-19 when used as a prophylaxis e.g. for health care workers or exposed household members and a 79% risk reduction (for symptoms, hospitalisation or death) when used as an early treatment for community use and as an effective adjunct to in-patient treatment.[267,268]

A recent systematic review and meta-analysis by Dr Tess Lawrie and colleagues at the Evidence Based Medicine Consultancy[269] has been endorsed in a meeting of international experts.[270,271] There is compelling data from countries that are using it widely, and have had significantly lower COVID-19 mortality rates than elsewhere.[272] Clinical experience using ivermectin for prolonged symptoms ("long Covid") is encouraging.[273] Serendipitous findings of apparent prophylaxis against COVID-19 in a French care home were reported, after an entire establishment was treated with ivermectin to control scabies (for which it is an established treatment).[274] These have been corroborated by a letter from a Virginia geriatrician to NIH in the US, covering nearly 300 care home patients[275]. Although only observational studies, it certainly suggests potential for preventing care home outbreaks.

Many of the drugs above have been recommended but most of the many randomised trials have come from resource-poor countries who worked quickly early in 2020 to find medications which might prove useful. Knowing that if faced with a major pandemic their healthcare systems would be overwhelmed even more readily than in affluent countries, there was also the awareness that expensive "designer" drugs would be unaffordable. In times of emergency, a full randomised trial is not always feasible. It is noteworthy that national bodies have been willing to grant temporary approval for vaccines ahead of the standard long-term safety data, yet they appear reluctant to permit use of cheap readily available drugs, capable of saving lives, whose safety profiles are already extremely well-known.

HART urges the MHRA to consider granting approval for ivermectin, such that any qualified medical practitioner may prescribe it at their clinical discretion. Hospital treatment guidelines[276] should be updated, in the light of protocols such as "MATH+" from the FLCCC group[277]. Community treatment algorithms are also needed as a matter of urgency,[278,279] and a randomised controlled trial of ivermectin for treatment of the neglected "Long Covid" patients should be supported.

Care homes - we must do better for the most vulnerable in society

Dr Ali Haggett - Former lecturer in mental health;
now community mental health practitioner – older people

Blanket visiting bans are contrary to the rights of residents and their families under the European Convention on Human Rights (Article 8).

Blanket bans on care home visiting: legislation required as a priority

The Joint Committee on Human Rights wrote a letter on 3 February 2021, calling for urgent legislation to prevent blanket bans on family visits to care homes,[280] and provided a draft legislative model for consideration. However, the Government's guidance on visitations, issued on 5 March 2021, remains 'guidance' only.[281] Consequently, many providers' interpretation is that visits from 8 March 2021 are still premature and should only take place if the resident is deemed 'end of life', and otherwise not until residents and relatives have been vaccinated twice. This could be several months away. Given that the average life expectancy in UK care homes is 24 months for care homes without nursing and 12 months for care homes with nursing, this seems particularly inhumane.[282]

Psychological and physiological deterioration of dementia residents

Many residents have not seen relatives for one year. Those with dementia have fared particularly badly. With advancing cognitive decline, many residents become hearing and/or sight impaired. As sensory systems begin to fail, touch becomes essential for survival. 'Touch deprivation' has been scientifically proven to increase stress, depression and anxiety, triggering a cascade of negative physiological effects.[283] Conversely, physical contact and touch have been proven as central to the health and wellbeing of older people in care.[284,285] Telephone or video calls to families can be stressful and often even counterproductive. Equally, window and 'pod' visits – and those behind screens, are disorienting and confusing. Relatives report widespread distress and agitation in residents who have been denied meaningful visits with families. Concurrently, relatives report serious physiological decline in residents, primarily from weight loss and malnutrition, but also from the removal of ancillary services (for example, audiology, physiotherapy and chiropody), which has led to some minor medical conditions becoming serious.

Safeguarding and communication with relatives

An important layer of quality control has been largely absent during lockdown periods. Although some routine CQC inspections have been reinstated, families remain concerned that there are safeguarding risks associated with visiting bans, because regular contact allows them to observe general levels of safety, cleanliness and nutrition. There is a real danger that elder abuse or neglect might not be detected or reported when families have no access to their relatives. Furthermore, while they appreciate the challenges faced by care staff, many families report poor communication from managers, with irregular updates and lack of response to serious concerns.

Broad failure to protect the elderly

Blanket visiting bans are contrary to the rights of residents and their families under the European Convention on Human Rights (Article 8). The current situation jeopardises progress made over several decades towards safe, dignified, humane, personalised care. The Department of Health's 'Voice, Choice and Control' (2015)[286] states clearly that residents should live without fear of harm and abuse and that the maintenance of family relationships is essential. With dynamic risk assessments and testing, some independent homes have successfully maintained visiting throughout the pandemic. We urge the Government to amend legislation in accordance with recent recommendations from the Joint Committee on Human Rights and ensure that this situation is never repeated.

Ethical considerations of the COVID-19 response

Professor David Seedhouse - Professor of Deliberative Practice,
Aston University, Birmingham

There has been a stark lack of ethical reflection used in the COVID-19 response. There is an urgent need to restore balance in decision-making and to ensure this can never happen again.

Public health is a branch of medicine mostly run by doctors with medical degrees. Whilst it deals with populations rather than individual patients, public health investigations and interventions can have a huge impact on individuals, as the COVID-19 response has shown. Other medically based decision-making is expected to adhere to strict ethical standards, however in the field of public health, this practice is often lacking.

Any robust analysis of a personal or social problem requires the consideration of a range of ideas, however in the arena of public health, policies are drawn up according to a single imperative. It seems ethical advice was not sought by Government committees charged with decision-making around the COVID-19 outbreak. Had they done so, the narrow focus to 'saving lives' would have been required to change.

As soon as you start to think beyond the fear of infection to considering the bigger picture, there is a flood of ethical issues.

- Is it ethical to force businesses to close their doors?
- Is it ethical to cause so many people to lose their livelihoods?
- How is it acceptable to override basic human rights with so little public involvement?
- Is it ethical to close schools, particularly when the evidence that this will help control the spread of the virus is simply unclear?
- Does restrictions heighten social inequalities (it is easier to self-isolate in a comfortable home, it is easier to cope if you have a pleasant garden, it is easier to weather financial uncertainty if you have a secure career and savings)?
- Given that Governments have borrowed many billions to weather the crisis, and this debt will have to be repaid, is it ethical to cause hardship and suffering to future generations in the interest of existing generations?

There are many other measurable harms that needed to be considered and 'minimising death' was only one of many possible rationales.

The human reaction to the virus by Governments and the public alike has been largely ad hoc, fearful and uncritical. There has been little official reflection about whether lockdowns and 'social distancing' are actually effective. Common sense says they should

be, but the emerging evidence seems to refute that. All restrictions were enforced and policed without public consultation. We are conducting mass experiments with no controls, little attempt at comparative analysis, and without any attempt to gain permission from us.

The virus seems to have distorted humanity's perception of what matters. Policing has replaced personal judgement, 'safety' has eroded civil liberties and propaganda has replaced balanced information. It is as if the world has been driven to distraction, mothlike, by a massive searchlight illuminating just one thing.

As we move forward, we desperately need to shift away from this monomaniacal obsession with one single respiratory virus and reclaim the vast array of choices that make up a worthwhile life.[287]

Endnotes

1. The psychology of sunk costs: Organizational Behavior and Human Decision Processes, 35, 124-140
2. COVID-19: Imperial researchers model likely impact of public health measures
3. Relation of severe COVID-19 in Scotland to transmission-related factors 2
4. Article 3 UN Convention on the Rights of the Child
5. Closing schools is not evidence based and harms children
6. Deaths registered weekly in England and Wales, provisional
7. Enhanced surveillance of COVID-19 in education settings: Overview of enhanced surveillance of COVID-19 in education settings
8. Coronavirus (COVID-19) related deaths by occupation, England and Wales: deaths registered between 9 March and 28 December 2020
9. Benefits of remaining in education: Evidence and considerations
10. Children in Lockdown: What Coronavirus means for UK Children
11. Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19 Loades et al, 2020.
12. Power, E., Hughes, S., Cotter, D., & Cannon, M. (2020). Youth mental health in the time of COVID-19. Irish Journal of Psychological Medicine, 37(4), pp 301-305.
13. Young people "unable to cope with life" since pandemic, warns Prince's Trust
14. Prof Ellen Townsend: The impact of lockdown on self-harm in young people
15. Rise in self-harming pupils, exclusions concern and heads 'firefighting' – Ofsted's latest 'visits' analysis
16. Paediatricians warn parents to be alert to signs of eating disorders over holidays
17. Dr Maria Loades: Lockdown loneliness in children and young people may continue to impact on mental health for years to come
18. The Prince's Trust Tesco Youth Index Report (January 2021)
19. Education Policy Institute (EPI) Report (2018). Access to Children and Young People's Mental Health Services.
20. Young Minds (2019). Impact Report 2018-2019.
21. Education Policy Institute (EPI) Report (2020). Access to Children and Young People's Mental Health Services.
22. Apolinário-Hagen J. et al. (2017) Public Acceptability of E-Mental Health Treatment Services for Psychological Problems: A Scoping Review. JMIR Mental Health 2017;4(2):e10
23. Hollis, C. et al. (2018). Identifying research priorities for digital technology in mental health care: results of the James Lind Alliance Priority Setting Partnership. The Lancet Psychiatry 5 (10). pp. 845-854
24. Inchausti F. et al., (2020). Psychological Intervention and COVID-19: What We Know So Far and What We Can Do. Journal of Contemporary Psychotherapy (2020) 50. pp. 243–250
25. Marler, H. & Ditton A. (2020). I'm smiling back at you": Exploring the impact of mask wearing on communication in healthcare. International Journal of Language and Communication Disorders, 56 (1). pp. 205-214.
26. Minutes from the UK's Government's Scientific Advisory Group for Emergencies (SAGE), 23nd March 2020
27. Poverty in the pandemic: The impact of coronavirus on low-income families and children
28. Lockdown measures reduced the risk of COVID-19, but had unintended consequences for children
29. Reopening of schools vital to boost children's activity levels
30. Lockdown screen time having negative effect on nation's eye health
31. Progression of Myopia in School-Aged Children After COVID-19 Home Confinement
32. Daly, M., Sutin, A., & Robinson, E. (2020). Longitudinal changes in mental health and the COVID-19 pandemic: Evidence from the UK Household Longitudinal Study. Psychological Medicine, 1-10.
33. Bradbury-Jones, C. & Isham, L. (2020). The pandemic paradox: The consequences of COVID-19 on domestic violence. Journal of Clinical Medicine, 29 (13-14), pp. 2047-2049.
34. Da Silva, J.A. &Testino G. (2020). Risks of alcohol abuse, alcoholism and stress-related drinking during the COVID-19 pandemic. Alcoholism and Drug Addiction, 33 (1), pp. 95-98

35. Spinelli M. et al (2020). Parents' Stress and Children's Psychological Problems in Families Facing the COVID-19 Outbreak in Italy. Frontiers in Psychology, 11, p. 1713.
36. Christmas warning as child abuse contacts to NSPCC helpline rises 43%
37. Toxic lockdown' sees huge rise in babies harmed or killed
38. Primaries 'safe' to open soon, say health experts
39. Covid: Gavin Williamson 'looking at' longer school day and shorter holidays
40. Education Secretary speech to FED National Education Summit
41. Trauma-informed approach in schools helps staff and benefits students, new report says
42. Behaviour is about relationships. The DfE ignores this
43. Children's mental health: the UK Government needs to be far more ambitious
44. The Role of Schools in Early Adolescents' Mental Health: Findings from the MYRIAD Study
45. Survey shows UK parents' concern over Covid effect on children's activity
46. What is the evidence on the role of the arts in improving health and well-being? A scoping review (2019)
47. Reachwell: Researchers in Education and Adolescent Child Health and Wellbeing
48. What can science say about the consequences for society of children missing out on schooling for 6 months?
49. Oxford University/AstraZeneca COVID-19 vaccine approved
50. Boris Johnson hails 15 million jabs as 'significant milestone' - YouTube
51. Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK
52. Joint Committee on Vaccination and Immunisation: advice on priority groups for COVID-19 vaccination, 30 December 2020 - GOV.UK (www.gov.uk)
53. Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK
54. Information for Healthcare Professionals on Pfizer/BioNTech COVID-19 vaccine
55. Effect of vaccination on transmission of COVID-19: an observational study in healthcare workers and their households
56. Greenbook chapter 14a_v6 (publishing.service.gov.uk)
57. Immunization with SARS coronavirus vaccines leads to pulmonary immunopathology on challenge with the SARS virus
58. AS03 adjuvanted AH1N1 vaccine associated with an abrupt increase in the incidence of childhood narcolepsy in Finland - PubMed (nih.gov)
59. Immune thrombocytopenic purpura (ITP) associated with vaccinations: a review of reported cases. https://pubmed.ncbi.nlm.nih.gov/25427992/
60. The risks of using allogeneic cell lines for vaccine production: The example of Bovine Neonatal Pancytopenia
61. Types of vaccines for COVID-19
62. EU countries pause AstraZeneca's covid-19 jab over safety fears
63. Deaths registered weekly in England and Wales, provisional
64. Clinical characteristics of children and young people admitted to hospital with COVID-19 in United Kingdom: prospective multicentre observational cohort study
65. Children and young people remain at low risk of COVID-19 mortality - The Lancet Child & Adolescent Health
66. Vaccinating children to prevent long covid? More caution is needed in interpreting current epidemiological data | The BMJ
67. Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools
68. Enhanced surveillance of COVID-19 in education settings
69. The Nuremberg Code (1947)
70. Universal Declaration on Bioethics and Human Rights
71. Boris Johnson on National I.D. Cards
72. European countries suspend use of AstraZeneca vaccine over blood clot death fears
73. AstraZeneca: Thailand delays vaccine rollout over blood clot fears

74. Urgent Open Letter from Doctors and Scientists to the European Medicines Agency regarding COVID-19 Vaccine Safety Concerns
75. Over 25% of the UK likely to have had COVID-19 already
76. Targets of T Cell Responses to SARS-CoV-2 Coronavirus in Humans with COVID-19 Disease and Unexposed Individuals
77. NHS England and NHS Improvement Behaviour Change Unit, in partnership with PHE and Warwick Business School Optimising Vaccination Roll Out, December 2020
78. Vaccine passports: A route to normality or the birth of a two-tier country?
79. Follow-up of asymptomatic patients with SARS-CoV-2 infection
80. Three Quarters of People with SARS-CoV-2 Infection are Asymptomatic: Analysis of English Household Survey Data
81. Presymptomatic Transmission of SARS-CoV-2 — Singapore, January 23–March 16, 2020
82. Impact of false-positives and false-negatives in the UK's COVID-19 RT-PCR testing programme
83. Covid: The woeful case for asymptomatic transmission
84. Secondary Transmission of Coronavirus Disease from Presymptomatic Persons, China
85. Modes of contact and risk of transmission in COVID-19 among close contacts
86. Suppression of a SARS-CoV-2 outbreak in the Italian municipality of Vo'
87. Impact of false-positives and false-negatives in the UK's COVID-19 RT-PCR testing programme
88. Analysis of SARS-CoV-2 Transmission in Different Settings, Brunei
89. Asymptomatic transmission of SARS-CoV-2 and implications for mass gatherings
90. Ronald Reagan's America
91. Labour market overview, UK: January 2021
92. Under-25s hit worst as unemployment rises again, BBC, 23 February 2021
93. GDP monthly estimate, UK: December 2020
94. Eurostat Newsrelease, Euroindicators, Preliminary flash estimate for the fourth quarter of 2020
95. Poverty and health, Murray (2006)
96. Poverty and Health: WHO DAC Guidelines and Reference Series
97. Poor Health: When Poverty Becomes Disease
98. The Economic Contribution of the UK Hospitality Industry (2018)
99. New GDP figures highlight damage to UK's hospitality sector and its potential to bounce back
100. Impact of COVID-19 and Brexit for the UK economy: Review of forecasts published between July-November 2020
101. The impact of COVID-19 on UK small business
102. The Nuffield Trust A Decade of Austerity.
103. Health spending as a share of GDP remains at lowest level in a decade
104. COVID-19: 10-year jail term for travel lies defended
105. SARS-CoV-2 (COVID-19) by the numbers
106. Genetic diversity and evolution of SARS-CoV-2
107. No evidence for increased transmissibility from recurrent mutations in SARS-CoV-2
108. No evidence for increased transmissibility from recurrent mutations in SARS-CoV-2
109. Immune responses to viruses
110. No evidence for increased transmissibility from recurrent mutations in SARS-CoV-2
111. We shouldn't worry when a virus mutates during disease outbreaks
112. Negligible impact of SARS-CoV-2 variants on CD4 + and CD8 + T cell reactivity in COVID-19 exposed donors and vaccinees
113. The Evolution and Emergence of RNA Viruses
114. Stresses and strains: the evolution of Covid is not random
115. Coronavirus press conference (10 February 2021)
116. UKMFA: Urgent warning re COVID-19 vaccine-related deaths in the elderly and Care Homes
117. Understanding mRNA COVID-19 Vaccines
118. Structural and functional properties of SARS-CoV-2 spike protein: potential anti-virus drug development for COVID-19

119. COVID-19: Do many people have pre-existing immunity?
120. Inside the Zero Covid campaign
121. COVID-19: Should the UK be aiming for elimination?
122. The Zero Covid debate: can the disease be eliminated?
123. Martin McKee: Opinion Piece in the Guardian on 'Zero Covid'
124. Independent SAGE - 'Zero COVID UK' - YouTube
125. We could be living without the virus
126. We can be Zero! Time for a strategic change to combat virus variants?
127. UPDATE 1-Taiwan raises 2021 economic view as Q4 growth jumps
128. City Locked Down for Three Months Has Bleak Lessons for the World
129. Stay-at-home policy is a case of exception fallacy: an internet-based ecological study
130. http://worldometers.info/coronavirus
131. City Locked Down for Three Months Has Bleak Lessons for the World
132. Zero Covid: Frequently Asked Questions
133. The Independent SAGE Report 5: Final Integrated Find, Test, Trace, Isolate, Support (FTTIS) response to the Pandemic
134. Real-World Evidence Confirms High Effectiveness of Pfizer-BioNTech COVID-19 Vaccine and
135. Test and Trace most wasteful and inept public spending programme of all time, says former Treasury chief
136. Bounce Back Loan Scheme corrupted by fraud
137. We can be Zero! Time for a strategic change to combat virus variants?
138. Zero Covid: Frequently Asked Questions
139. Psychiatrists see alarming rise in patients needing urgent and emergency care and forecast a 'tsunami' of mental illness
140. Exclusive: We hope to live with Covid like flu by end of the year, says Matt Hancock
141. Coronavirus press conference (22 February 2021)
142. Jacinda Ardern declares 2021 'the year of the vaccine'
143. Lessons from the eradication of smallpox: an interview with D. A. Henderson
144. Preliminary report of an outbreak of SARS- CoV-2 in mink and mink farmers associated with community spread, Denmark, June to November 2020
145. Mortality in Norway and Sweden before and after the COVID-19 outbreak: a cohort study
146. Will the Truth on COVID Restrictions Really Prevail?
147. Daily Mail, Tuesday 14 July, 2020: Fines for not wearing masks
148. Face masks could increase risk of getting coronavirus, medical chief warns
149. Low-cost measurement of face mask efficacy for filtering expelled droplets during speech
150. Non pharmaceutical Measures for Pandemic Influenza in Non healthcare Settings—Personal Protective and Environmental Measures
151. Should individuals in the community without respiratory symptoms wear face masks to reduce the spread of COVID-19?
152. Cloth face masks offer zero shield against virus, a study shows
153. Advice on the use of masks1 in the community setting in Influenza A (H1N1) outbreaks
154. A cluster randomised trial of cloth masks compared with medical masks in healthcare workers
155. Physical interventions to interrupt or reduce the spread of respiratory viruses. Part 1 - Face masks, eye protection and person distancing: systematic review and meta-analysis
156. Medical Doctor Warns that "Bacterial Pneumonias Are on the Rise" from Mask Wearing
157. Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers: A Randomized Controlled Trial
158. Are Face Masks Effective? The Evidence.
159. Preliminary report on surgical mask induced deoxygenation during major surgery
160. Corona children studies "Co-Ki": First results of a Germany-wide registry on mouth and nose covering (mask) in children
161. The challenges of facemasks for people with hearing loss
162. Lip Reading, Facial Expressions: How Masks Make Life Harder for People with Hearing Difficulties

163. Face masks and communication - coronavirus info for families of deaf children
164. The Challenges of Face Masks: Organisation of Autism Research
165. Corona children studies "Co-Ki": First results of a Germany-wide registry on mouth and nose covering (mask) in children
166. Need for Assessing the Inhalation of Micro(nano)plastic Debris Shed from Masks, Respirators, and Home-Made Face Coverings During the COVID-19 Pandemic
167. Can You Get a Sore Throat From Wearing a Dirty Mask?
168. Face mask hygiene: how dirty is yours?
169. Masked education? The benefits and burdens of wearing face masks in schools during the current Corona pandemic
170. Mental health in the UK during the COVID-19 pandemic: cross-sectional analyses from a community cohort study
171. Children are facing a mental health crisis
172. Mental Health Emergency: We're living through a crisis that can't be ignored
173. Mindspace: Influencing behaviour through public policy
174. Options for increasing adherence to social distancing measures
175. Well done, Matt 'we're doomed!' Hancock – Covid fear is now a bigger threat than the virus itself
176. Suicide risk and prevention during the COVID-19 pandemic
177. COVID-19: Suicidal thoughts increased in young adults during lockdown, UK study finds
178. Britons were 'terrorised' by the Government's tough coronavirus message and 'lost sight' of the fact most people only have mild illness, says SAGE adviser
179. Government has 'terrorised' Britons into believing coronavirus will kill them, says adviser
180. The Biology of Fear, Adolfs (2014)
181. Amygdala Hijack and the Fight or Flight Response
182. "A Toxic Trend?": Generational Conflict and Connectivity in Twitter Discourse Under the #BoomerRemover Hashtag
183. Social, Psychological, and Philosophical Reflections on Pandemics and Beyond
184. Holt-Lunstad, J., Smith, T. B.,Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. Perspectives on Psychological Science, 10, 227-237
185. Social Relationships and Health: The Toxic Effects of Perceived Social Isolation, Cacioppo & Cacioppo, 2014
186. Effects of isolation and confinement on humans-implications for manned space explorations
187. Psychological Effects of Isolation and Confinement of a Winter-Over Group at McMurdo Station, Antarctica
188. Analysis of the stressful effects of hospitalisation and source isolation on coping and psychological constructs
189. Relationship Between Loneliness, Psychiatric Disorders and Physical Health ? A Review on the Psychological Aspects of Loneliness, Mushtaq, Shoib, Shah & Mushtaq, 2014
190. So Lonely I Could Die
191. Psychosocial experiences of postnatal women during the COVID-19 pandemic. A UK-wide study of prevalence rates and risk factors for clinically relevant depression and anxiety
192. Explosion' of children with tics and Tourette's from lockdown
193. Mental health and well-being during the COVID-19 pandemic: longitudinal analyses of adults in the UK COVID-19 Mental Health & Wellbeing study
194. Replying to Christopher Snowdon – Again!
195. Lockdowns Do Not Control the Coronavirus: The Evidence
196. WHO official urges world leaders to stop using lockdowns as primary virus control method
197. Where is the Space? Counsellor's Cafe Magazine
198. An Improved Measure of Deaths Due to COVID-19 in England and Wales
199. Millions in UK miss cancer screenings, tests and treatments due to COVID-19
200. The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study
201. List of shops that have collapsed into administration in 2020 as UK lockdown hits high street

202. Average age of coronavirus fatalities is 82
203. Effects of smoking: Expert reviewer, Angana Nankani, Bupa Clinics GP
204. Replying to Christopher Snowdon – Again!
205. Lockdowns Do Not Control the Coronavirus: The Evidence
206. Environmental factors affecting the transmission of respiratory viruses
207. Effects of non-pharmaceutical interventions on COVID-19: A Tale of Three Models
208. Stresses and strains: the evolution of Covid is not random
209. Effects of non-pharmaceutical interventions on COVID-19: A Tale of Three Models
210. Lockdowns Do Not Control the Coronavirus: The Evidence
211. Direct and Indirect Impacts of COVID-19 on Excess Deaths and Morbidity: November 2020 Update
212. Has the Evidence of Asymptomatic Spread of COVID-19 been Significantly Overstated?
213. Has the Evidence of Asymptomatic Spread of COVID-19 been Significantly Overstated?
214. In Report Affirming Nearly No Transmission In Schools, CDC Slips In Shocking Data About Asymptomatic Spread
215. Effects of isolation and confinement on humans-implications for manned space explorations
216. Social Relationships and Health: The Toxic Effects of Perceived Social Isolation
217. The Causal Effects of Education on Health Outcomes in the UK Biobank
218. Lockdowns Do Not Control the Coronavirus: The Evidence
219. Predictors of mortality in patients with COVID-19–a systematic review
220. COVID-19 Global Mortality: Comparing Actual and Modelled Patterns in Space and Time Using an Infection Fatality Rate (IFR) Model
221. Climate and COVID-19 pandemic: effect of heat and humidity on the incidence and mortality in world's top ten hottest and top ten coldest countries
222. A Closer Look Into Global Hospital Beds Capacity and Resource Shortages During the COVID-19 Pandemic
223. Infection fatality rate of COVID-19 inferred from seroprevalence data
224. Ivermectin reduces the risk of death from COVID-19 -a rapid review and meta-analysis in support of the recommendation of the Front Line COVID-19 Critical Care Alliance.
225. Inhaled steroids to be tested as a possible treatment for COVID-19 as part of PRINCIPLE trial
226. Comparison of Growth Patterns of COVID-19 Cases through the ARIMA and Gompertz Models. Case Studies: Austria, Switzerland, and Israel
227. We shouldn't worry when a virus mutates during disease outbreaks
228. Relation of severe COVID-19 in Scotland to transmission-related factors and risk conditions eligible for shielding support: REACT-SCOT case-control study
229. European countries suspend use of AstraZeneca vaccine over blood clot death fears
230. Urgent Open Letter from Doctors and Scientists to the European Medicines Agency regarding COVID-19 Vaccine Safety Concerns
231. COVID Infection Survey
232. Geographical spread of COVID-19 in England
233. Coronavirus (COVID-19) Infection Survey: cycle threshold and household transmission analysis
234. Predicting Infectious Severe Acute Respiratory Syndrome Coronavirus 2 From Diagnostic Samples
235. Coronavirus (COVID-19) Infection Survey, UK: 19 February 2021
236. Viral load in community SARS-CoV-2 cases varies widely and temporally
237. Positive results from UK single gene testing for SARS-COV-2 may be inconclusive, negative or detecting past infections
238. MASK+ Protocol – Downloads & Translations
239. McCullough, P. A. et 58 alia (2020). Multifaceted highly targeted sequential multidrug treatment of early ambulatory high-risk SARS-CoV-2 infection. Reviews in Cardiovascular Medicine, 21, 517.
240. Procter, B.C., Ross, C., Pickard, V., Smith, E., Hanson, C. & McCullough, P. A. (2020). Clinical outcomes after early ambulatory multidrug therapy for high-risk SARS-CoV-2 (COVID-19) infection. Reviews in Cardiovascular Medicine, 21, 611
241. MATH+ Protocol & Translations | FLCCC
242. Marik, P. E. et al. (2021). MATH+ protocol for the treatment of SARS-CoV-2 infection: the scientific rationale. Expert Review of Anti-infective Therapy, 19, 129

243. Kory, P. et al. (2020). Clinical and Scientific Rationale for the "MATH+" Hospital Treatment Protocol for COVID-19. Journal of Intensive Care Medicine, 088506662097358. See Table 2.
244. Boris Johnson hails 15 million jabs as 'significant milestone'
245. Why does COVID-19 disproportionately affect older people?
246. The impact of ethnicity on clinical outcomes in COVID-19: A systematic review
247. The role of vitamin D in increasing circulating T regulatory cell numbers and modulating T regulatory cell phenotypes in patients with inflammatory disease or in healthy volunteers: A systematic review
248. Analysis of vitamin D level among asymptomatic and critically ill COVID-19 patients and its correlation with inflammatory markers
249. Vitamin D Status in Hospitalized Patients with SARS-CoV-2 Infection
250. Clinical trial to investigate whether vitamin D protects against COVID-19
251. Sixty Seconds on Vitamin D - BMJ
252. Zinc, Vitamin D and Vitamin C: Perspectives for COVID-19 With a Focus on Physical Tissue Barrier Integrity
253. Zinc in Human Health: Effect of Zinc on Immune Cells
254. Intravenous high-dose vitamin C for the treatment of severe COVID-19: study protocol for a multicentre randomised controlled trial
255. Doxycycline as a potential partner of COVID-19 therapies
256. Inhaled budesonide in the treatment of early COVID-19 illness: a randomised controlled trial
257. Inhaled corticosteroids in virus pandemics: a treatment for COVID-19?
258. Mehra, M. R., Desai, S. S., Ruschitzka, F. & Patel, A. N. (2020). Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis. The Lancet, 22 May
259. Horby, P. et 28 alia (2020). Effect of Hydroxychloroquine in Hospitalized Patients with COVID-19. New England Journal of Medicine, 383, 2030
260. Lacout, A., Perronne, C. & Lounnas, V. (2021). Hydroxychloroquine in Hospitalized Patients with COVID-19. New England Journal of Medicine , 384, 881.
261. Scholz, M., Derwand, R. & Zelenko, V. (2020). COVID-19 Outpatients: Early Risk-Stratified Treatment with Zinc Plus Low Dose Hydroxychloroquine and Azithromycin: A Retrospective Case Series Study. Int. J. Antimicrobial Agents, 56, 106214.
262. McCullough, P. A. et 58 alia (2020). Multifaceted highly targeted sequential multidrug treatment of early ambulatory high-risk SARS-CoV-2 infection. Reviews in Cardiovascular Medicine, 21, 517.
263. Procter, B.C., Ross, C., Pickard, V., Smith, E., Hanson, C. & McCullough, P. A. (2020). Clinical outcomes after early ambulatory multidrug therapy for high-risk SARS-CoV-2 (COVID-19) infection. Reviews in Cardiovascular Medicine, 21, 611
264. White paper on Ivermectin as a potential therapy for COVID-19
265. Role of ivermectin in the prevention of SARS-CoV-2 infection among healthcare workers in India: A matched case-control study
266. The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 in vitro
267. Ivermectin is effective for COVID-19: real-time meta analysis of 44 studies
268. Kory P. et al. (2020). Review of the Emerging Evidence Supporting the Use of Ivermectin in the Prophylaxis and Treatment of COVID-19 - updated Jan 16,
269. Bryant, A. et al. (2021). Ivermectin for prevention and treatment of COVID-19 infection: a systematic review and meta-analysis. Preprint
270. Lawrie, T.A. et al. (2021). The BIRD Recommendation on the Use of Ivermectin for COVID-19. Panel report.
271. Lawrie, T.A. et al. (2021). The BIRD Recommendation on the Use of Ivermectin for COVID-19. Executive Summary.
272. Review the Emerging Evidence Supporting the Use of Ivermectin in the Prophylaxis and Treatment of COVID-19 - updated Jan 12,
273. (PDF) POST-ACUTE OR PROLONGED COVID-19: IVERMECTIN TREATMENT FOR PATIENTS WITH PERSISTENT SYMPTOMS OR ofPOST-ACUTE
274. Bernigaud, C. et al. (2021). Oral Ivermectin for a scabies outbreak in a long-term-care facility: Potential value in preventing COVID-19 and associated mortality? British Journal of Dermatology
275. David Chesler, MD. Letter to NIH 8 January
276. AdultCriticalCare-COVID-19-October2020.pdf (squarespace.com)

277. MATH+ Protocol & Translations | FLCCC
278. I-MASK+ Protocol Downloads & Translations | FLCCC
279. Coordination Santé Libre: proposition thérapeutique pour soigner la COVID-19 en phase précoce
280. Joint Committee on Human Rights - Care Homes
281. Department of Health and Social Care, 'Guidance: Visiting Care Homes During COVID-19', 16 January 2021.
282. End of Life Care in Frailty: Care homes
283. Touch starvation is a consequence of COVID-19's physical distancing
284. Loneliness and social isolation as risk factors for mortality: a meta-analytic review
285. The Power of Touch and What It Means for the Elderly
286. Department of Health, 'Voice, Choice and Control' (2015).
287. Excerpts taken from The Case for Democracy in the COVID-19 Pandemic, by David Seedhouse