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CHANGE

Living With Covid

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Overview

The pressure facing the NHS this winter cannot be overstated. Neither can the efforts of its workforce who have managed to stem a rising tide of hospital admissions, ensuring our health-care system doesn't crumble. Once we get through this – and it looks likely that we will – the end of the pandemic really is in sight.

Omicron is less severe than other variants and signals that the virus will reach endemicity in the UK. There will be outbreaks throughout the year, especially in winter when it will emerge alongside the flu and common colds. But if we follow the recommendations in this paper, we can further break the link between cases and hospital admissions by administering fourth doses to the immunosuppressed and ensuring antivirals reach those most at risk as soon as they test positive, retaining testing infrastructure to identify and quash outbreaks as they emerge. We will also remain vigilant against new variants by regularly testing and sampling a proportion of positive cases. And, as we have set out in previous reports, no country will be safe from Covid until the whole world is safe. Until then, we need to support other countries in their vaccination drives and find the right strategy to be able to live alongside the virus at home.

The reward is an open society where livelihoods are restored and lives are protected. This includes the 5.5 million unvaccinated, particularly the 550,000 unvaccinated over-50s, who remain a huge risk not only to themselves but also to the NHS. We have dedicated a section of this paper to understanding who they are, why they still refuse the vital protection available to them and what can be done about it.

Our groundbreaking research¹ has involved 750 interactions with the unvaccinated and has focused on people over 50. We have learned that vaccine mandates could be ineffective and that, instead, 20 per cent of the unvaccinated over-50s – roughly 110,000 people – simply need logistical and practical support to get their vaccine. This should be provided as a matter of course through mobile vaccine centres and administrative assistance to book appointments. Among the remaining 80 per cent, it is clear that a campaign of reassurance is needed and that a helpline for friends and family – the only net trusted source of information in the lives of the unvaccinated – will be effective. Only 17 per cent of the unvaccinated said that friends and family encouraging them to get the vaccine would not increase the likelihood of them getting vaccinated. A total of 31 per cent said that it would encourage them to do so and 52 per cent were undecided on whether it would be effective. Clearly, friends and family are the most persuasive advocates and the safety and efficacy of the vaccine remain key points of persuasion. Given their real risk of hospitalisation, the unvaccinated should be a priority and a taskforce that reports to the highest levels of government should be charged with reaching this group, with a clear target to

vaccinate 154,000 people (those who our polling indicates are more susceptible to persuasion) by the end of January 2022 and the remaining 396,000 unvaccinated over-50s by the end of February.

Over time, the UK should embrace a new form of pandemic management through its test-and-trace system. Those most at risk from Covid would be provided with lateral-flow tests (LFTs) to use whenever Covid-related symptoms develop. If they were to test positive, they would quickly receive antivirals, which are incredibly effective – regardless of strain – at preventing a virus from multiplying and therefore at reducing hospitalisations. Mixing and matching these antivirals will reduce the risk of resistance to antivirals developing. At the same time, the significant PCR testing infrastructure that the UK has built up would focus on other diseases and be kept at the ready for future outbreaks of Covid, while regular sampling of tests around the country would identify new variants or strains.

All of this requires immediate investment in antivirals and the technology that would sit behind such a system. It is the right way forward and one that offers genuine progress for the UK as well as a blueprint for other countries to live safely and freely with Covid.

A Strategy to Live Alongside Covid

To reach the position where the country can live alongside Covid, we need to put in place the right strategy. Below we set out in brief exactly what that should entail.

Break the Link Between Covid Cases and Hospitalisations by:

Vaccinating the Unvaccinated With an Evidence-Based Strategy Delivered Through a High-Level Taskforce

1. **Recognise that most are vaccine hesitant, not vaccine hostile:** Many unvaccinated people are theoretically open to getting jabbed if safety and logistical concerns are addressed.
2. **Remove logistical barriers:** More than 20 per cent of unvaccinated people say that ease of access is preventing them from getting jabbed. Use mobile vaccination and door-to-door communications to encourage uptake.
3. **Clarify messaging on natural immunity:** Better messaging is needed to make clear that prior infection is not enough to protect against severe illness and death.
4. **Depoliticise vaccination:** Politicians are not a trusted source of vaccine information. Focus on health professionals and personal networks to encourage vaccinations.
5. **Avoid coercion:** Only 20 per cent of those currently unvaccinated say a vaccine mandate would make them get jabbed. Any compulsory measures need to be balanced with stronger incentives and logistical support.

Administering Fourth Doses to the Immunosuppressed and Those at Risk of Hospitalisation

1. **Protect those most at risk:** Administer fourth doses to people aged 70 and older, as well as immunosuppressed individuals.
2. **Maintain vaccine infrastructure:** Ensure that a vaccine infrastructure that can be mobilised within 48 hours is kept in reserve.

Implementing an Antivirals Strategy That Will Work Alongside Covid-19 Vaccines

1. **Stay on top of the data:** Keep close tabs on levels of resistance to antivirals, the potential impact of antivirals on vaccine and booster uptake, and any emerging combination therapies.
2. **Prioritise those most at risk:** Antivirals are not suitable for unrestricted use, so even when supplies increase, doses must still be directed to those who the science shows will benefit most.
3. **Embed access to antivirals in the test-and-trace system:** Clinically vulnerable patients should be

able to request antivirals or enrol in a clinical trial at the click of a button. Where possible, information on accessing and safely using at-home treatments should be integrated into existing systems like test-and-trace.

4. **Ensure future supplies:** Our 5 million courses should be sufficient for now, but we must continue to monitor emerging evidence and other countries' strategies to ensure we stay ahead of the game.
5. **Develop safe and accessible distribution networks:** All GP surgeries should be able to distribute antiviral pills, and we should explore the possibility of more convenient local pharmacy distribution if safety concerns can be managed.

Contain Future Outbreaks and Identify Potential Variants by:

Revamping Testing Infrastructure That Utilises LFTs, PCR Tests and Genomic Surveillance

1. **Drop PCR testing for routine Covid testing:** Use PCR testing for focused purposes only, such as sampling LFT results, travel testing and for frontline health-care and key workers.
2. **Make the most of lateral-flow testing:** Fully and solely utilise lateral-flow testing for population-level testing and ensure those most at risk have access to the tests.
3. **Administer antivirals:** Provide antivirals immediately to those at risk who test positive.
4. **Rethink UK testing capacity:** Progress the development of the UK testing industry and scale UK-based suppliers, moving from a reliance on China for our testing capability. There remains a range of UK testing providers who could scale with greater support.
5. **Invest in new and emerging testing technology:** Explore all new testing technology, particularly saliva testing.
6. **Put in place best-in-class genomic sequencing:** Ensure the UK is alert and prepared in identifying and responding to new variants of Covid, as well as future viruses of concern.

Set Up a Covid Pass That Can Be Turned On and Off as Required if a New, Deadlier, More Transmissible Variant Arises

1. **Communicate with businesses on Covid Passes:** Work with business to put in place the right infrastructure to deploy a Covid Pass if one is needed in key public settings in future.
2. **Review Covid Pass technology:** Ensure the right technology is being used and is available to display a Covid Pass that aligns full vaccination with a recent negative Covid test.
3. **Set out clear benchmarks for Covid Passes:** Provide guidance for what level of infection would justify how a Covid Pass would be used, with step-by-step guidance for how its use would be expanded and drawn down as needed.

Vaccinating the Unvaccinated

Vaccination is still our best line of defence – but 5.5 million remain unvaccinated.

The fact that Omicron can evade two shots of many common vaccines doesn't mean we should reduce our efforts on vaccination. If anything, it means we need to double down. As Figure 1 shows, the risk of hospitalisation and death for the unvaccinated has risen dramatically as Omicron has emerged, compared to the risk for the fully vaccinated which has flatlined. This is especially true for the over-50s who aren't vaccinated (Figure 2).

Breakthrough cases, where fully vaccinated people still contract Covid, are more common with Omicron, but the real worry is if these cases translate into hospitalisations. Since Omicron arrived in the UK, the risk of hospitalisation and death for the unvaccinated has increased, while for the vaccinated it has flatlined.

The good news is that even a single shot can substantially lower the risk of hospitalisation. The UK Health Security Agency (UKHSA) found that a single dose was 52 per cent effective at preventing hospitalisation from Omicron. This rose to 72 per cent from a second dose and 88 per cent from a third. This means that vaccinating the estimated 5.5 million unvaccinated people in the UK – especially the 550,000 over-50s – should be our priority. This is not just protecting individuals – it is protecting the NHS.

Figure 1 – England hospital admissions (1a) and death (1b) rates per 100,000, split between the unvaccinated and fully vaccinated

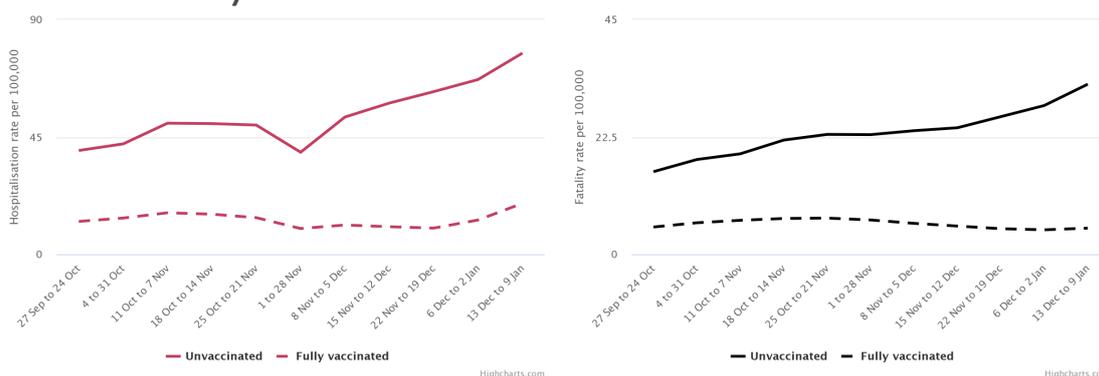
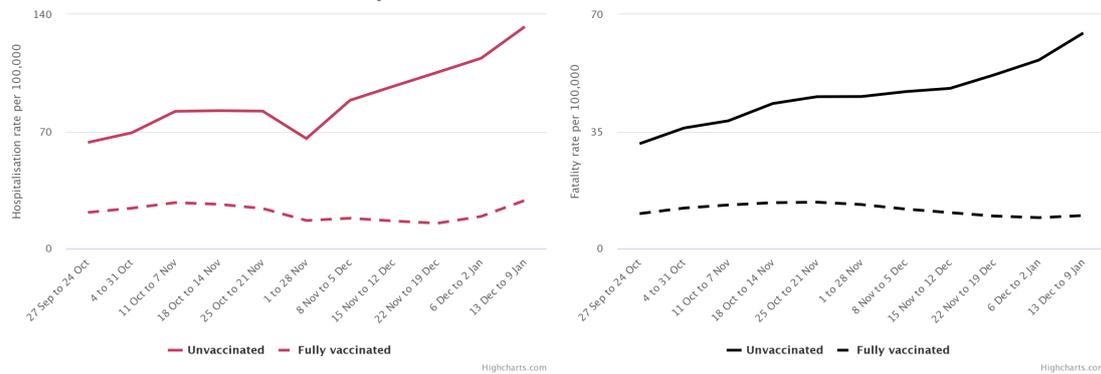


Figure 2 – Over-50s in England, hospital admissions (2a) and death (2b) rates per 100,000, split between the unvaccinated and fully vaccinated



Note on figures: Covid hospital admissions and fatality rates by vaccination status are calculated from the UKHSA’s [weekly Covid surveillance reports](#). Unadjusted incidence rates in each reported age band are combined into entire adult-population and over-50s averages using an age-standardising method described by the [Office of National Statistics](#). Age standardisation is useful when aggregating crude incidence rates in order to reduce the risk that varying vaccine effects in different age groups bias results when comparing across populations and over time. Using the ONS’s latest England actual population weights as an alternative yields very similar results. Results are reported as rolling four-week averages. Full vaccination refers to either two- or three-dose vaccination, while the unvaccinated comprise those with no record of Covid vaccination, in line with how UKHSA reports incidence rates.

Vaccinations and Boosters Are the Key to Curbing Omicron, Not New Restrictions

The success of our vaccines in preventing hospitalisations means that, as we move towards an endemic rather than a pandemic state, our priority must be to reach out to those who remain unvaccinated.

New restrictions, like those seen as part of the UK’s “Plan B” and across much of Europe, can be a useful short-term fix to keep hospitalisations manageable, but in the long term the key to returning to something approaching life as normal will be an almost fully vaccinated population.

Key Steps to Vaccinating the Unvaccinated

Understanding Who the Unvaccinated Are

We estimate that there are at least 5.5 million unvaccinated individuals in the UK, at least 550,000 of whom are in one of the JCVI’s priority groups. But we can’t treat the unvaccinated as a homogenous group. Instead, our polling ² shines a light on exactly who has yet to get their jabs, their diverse reasons for holding out and what it would take to encourage as many of them as possible to come forward.

We polled a nationally representative audience of 750 adults and a sample of 750 unvaccinated adults. Both samples were subject to age quotas and then the vaccinated sample was weighted back to reflect UK figures using ONS and census data. Our sample was collected using an online panel with 15-minute interviews conducted with our participants.

Rethink the Narrative: Recognise That Most Are Hesitant Rather Than Hostile

Voices from the antivax community might be the loudest, but they're not representative. Our polling found that unvaccinated people are far more receptive than is often believed. Generally, they are not hostile towards the principle of vaccination and nor do they seek to convince others that they should avoid the vaccine. We found that 80 per cent of the unvaccinated have never told anyone – including family, friends or people online – that they should not get the vaccine. Similarly, 75 per cent reported that they had never been warned against getting the vaccine.

Instead, their hesitancy is often the result of genuine concern about vaccine safety and efficacy. The top reasons cited for not getting the vaccine included 40 per cent believing there were too many unknowns about vaccines, 35 per cent being worried about the side effects and 34 per cent wanting to see more research first. Although the data on vaccine efficacy is clear, these people are more likely than their vaccinated peers to be surrounded by friends and family who are also unvaccinated, and they often report little trust in politicians and scientists. We found that 32 per cent avoided vaccination because they do not trust the government, while 27 per cent do not trust vaccine manufacturers. In the absence of evidence that they trust, recognising the impact of vaccination and its relationship with the virus becomes assumptive. A total of 25 per cent of unvaccinated individuals do not believe the vaccine would protect them and 15 per cent regard prior Covid infection as making the need for a vaccine redundant.

While this can be a difficult group to reach and convince, they're not a lost cause. Recognising that many are theoretically open to vaccination, how do we convince them of efficacy and safety in a novel way?

Go to Them: Remove the Logistical Barriers to Vaccination

Approximately one in five unvaccinated respondents – which would equate to approximately 1.1 million of the currently unvaccinated nationally – stated that they would be willing to get the vaccine if the process were easier.

For this million, the primary barriers are logistical rather than ideological. Respondents cited practical issues such as transportation or getting time off work as the main reason for remaining unvaccinated. A total of 22 per cent of the unvaccinated said they would get the vaccine if the process were easier.

This could be an easy win. Reaching this group requires relatively straightforward strategies, such as pop-up or mobile vaccination sites or providing them with the time to get the vaccine and recover from the side effects, with 18 per cent saying that paid time off work would make it more likely for them to get their vaccine.

Get the Story Straight: Ensure Messaging Is Clear on Natural vs. Vaccine-Induced Immunity

A total of 15 per cent of respondents cited a previous Covid infection as their reason for not getting the jab. This could equate to as many as 820,000 people at a national level. The problem is, while recovering from a Covid-19 infection does provide a certain level of natural immunity, this immunity wanes over time and can't be counted on to hold up against new strains.

This means that vaccine-induced immunity is still essential, especially when new, highly transmissible variants emerge. With clearer messaging, this could prove to be another easy win in our efforts to vaccinate the unvaccinated. Health authorities must provide clear, accessible evidence that prior infection is not enough to protect against severe illness and death.

Use Trusted Sources: Find the Right Messengers and Depoliticise Vaccination

Our vaccination drive should not be spearheaded by politicians. Our polling found significant net distrust of politicians' vaccine messaging among the unvaccinated (in fact, even among vaccinated respondents, net trust was at only 2 per cent). And it's not only that exhortations from politicians have no effect, they can even be actively harmful: 56 per cent of unvaccinated respondents said warnings from politicians made them *less* likely to get vaccinated, compared with just 7 per cent who said they would be more likely to get a jab.

Vaccination strategies must focus on using trusted sources of information. This won't necessarily be easy – our polling found that the unvaccinated only have net trust in friends and family. This might require shifting to a more individual, community-based approach in which individuals are equipped with techniques to persuade unvaccinated friends and family members to have the jab. But vaccination efforts also require a public face, and although we found low levels of net distrust in the NHS and medical professionals, this was substantially lower than distrust in politicians and the media. This means that at a national level, it should be doctors and nurses rather than politicians who are the public face of any vaccination drive.

Mandates Alone Won't Work

Only 20 per cent of respondents said a vaccine mandate would make them more likely to get a vaccine. This is not insignificant, but it is outweighed by the 32 per cent who said they want more reassurance on safety. In fact, a total of 47 per cent stated they were less likely to get the vaccine if legally compelled to do so, compared to just 20 per cent who would be more likely. It is clear, therefore, that a solely coercive approach to the unvaccinated is unlikely to work. Instead, a persuasive approach built around informing, reassuring and building confidence is our best bet in swaying those who remain hesitant, not hostile, before exploring any more compulsory measures.

Vaccinating Hard-to-Reach Communities

Our polling shines a light on some of the key drivers of vaccine hesitancy, but it's important to recognise that it might not catch everyone who remains unvaccinated. Vaccinating the unvaccinated will also mean tailoring outreach to hard-to-reach communities, such as non-English speaking groups, traveller communities and people experiencing street homelessness.

The first step will be identifying these groups. At a national level, this means using sources such as the Vaccine Equalities Mapping Tool or data from previous public-health or vaccination campaigns to identify communities that are most likely to be hesitant. As the numbers of unvaccinated shrink, these macro-level efforts will need to be matched with outreach at the community level. This means taking full advantage of community expertise: local charities and night shelters, for example, might be able to help determine the size of the homeless population in each area. Where possible, outreach like this should always be accompanied by consultations with members of hard-to-reach groups to better understand what's driving hesitancy and inform future strategies.

This will allow for tailored, culturally sensitive outreach. Distinguishing between safety concerns, complacency and logistical access issues should be at the heart of these strategies. Our polling shows that friends and family are the most trusted source of information on vaccination, and this is likely to be even more true for hard-to-reach communities. This means that for groups with concerns over the safety of vaccines, efforts should be centred on mobilising community networks to disseminate accurate and accessible information that encourages uptake.

Where ease of access prevents vaccine uptake, pop-up vaccination sites in high footfall areas or community hubs remove a layer of logistical difficulty. For even smaller populations, mobile vaccination units – with translators provided where needed – can help plug the gap.

Again, these community-level efforts should be accompanied by coordination at the national level. Local health authorities should make full use of the National Resource Bank, which can collate and share translated, Braille and audio versions of key materials. A centralised platform could make it easier to share best practice and success stories from across the country.

Most of all, flexibility and agility must underpin all vaccine outreach. If there's one thing our polling shows, it's that a one-size-fits-all approach to increasing uptake will never successfully address the diverse concerns that drive vaccine hesitancy. This is all the truer for hard-to-reach communities. A heavy-handed approach – in particular vaccine mandates – risks compounding the exclusion of already marginalised groups if not accompanied by a firm commitment to develop bottom-up strategies that start from understanding the needs of different communities.

A Way Forward

Reaching out to all those who remain unvaccinated will require immediate, centrally coordinated action.

We recommend:

- Urgently establishing a Cabinet Office taskforce that includes anthropologists and sociologists to focus on the unvaccinated population, particularly the over-50s.
- Urgently organising a nationwide drive to reach the estimated 550,000 unvaccinated people (aged 50+) and approximately 130,000 clinically vulnerable who are at the highest risk with individual communication, in-person visits and mobile vaccination clinics.
- In the medium term, coordinating with the Department for Levelling Up, Housing and Communities to develop a place-based, differentiated approach to reaching the several million unvaccinated Britons under the age of 50.

Vaccinating the World

As we work to reach the last of the UK's unvaccinated, we also can't forget the bigger global picture. We've been lucky that, for most, Omicron is milder than other strains. But until the whole world is vaccinated, we can't rule out the very real possibility of other more serious variants emerging, some potentially able to evade vaccine-induced immunity.

Billions worldwide are yet to receive even a single jab. Less than 10 per cent of Africa is fully vaccinated, including just one in four health-care workers. In the Democratic Republic of Congo (DRC) – a country of nearly 90 million – only 0.1 per cent are fully vaccinated. Without proper protection, new variants are inevitable.

But this isn't just a question of more vaccines. As global production ramps up, countries are increasingly facing problems of demand, not supply. Last year South Africa, where Omicron was first detected, had to turn down 191,000 doses of AstraZeneca, while the DRC returned 1.3 million COVAX doses. As we set out in an [earlier paper](#), new strategies are needed to develop infrastructure capable of delivering vaccines at scale, as well as to tackle hesitancy and counter disinformation.

The UK has a key role to play in this. Sharing our world-leading expertise in genomic sequencing and ensuring funding goes to building health-care capacity for Covid-19 and beyond isn't just a moral imperative, it's in our own long-term interest too. We should also use our convening power to ensure this is a global effort and advocate for the creation of a G7 or G20 taskforce dedicated to helping developing countries boost their capacity to distribute vaccines. Even as the UK, according to the latest data, appears to have passed the peak of Omicron infections, we can't take our eye off the ball elsewhere; without global action, our hard-won progress could quickly be unravelled.

Preparing for the Rollout of Fourth Doses

As we have seen, vaccination has been and will continue to be one of our strongest lines of defence against Covid-19. The highly transmissible Omicron variant means we can't afford to be complacent, and a further booster jab may soon be necessary.

Already we've begun to see indications that immunity starts to wane a few months after the third jab, and some countries are exploring the role that a fourth jab could play in protecting the most at risk. Israel, for example, has recommended fourth doses be given to adults over the age of 60, as well as to health-care workers.

The UK should act quickly and follow suit, administering fourth doses to the immunocompromised as well as those over the age of 70. This would mean an additional dose for the estimated 9.1 million people aged 70 and over as well as more than half a million people with a compromised or suppressed immune system.³

We must also continue to monitor the data around how vaccine effectiveness wanes over time and how it holds up against any potential future strains of the virus. The potential for new variants also means, as we have set out previously, that the UK must be prepared to rapidly reactivate the infrastructure necessary to administer jabs at speed. As we try to move to an endemic state, we need safety mechanisms in place to ensure we're not left on the back foot again, and this means maintaining a system that stands ready to administer jabs both at speed and at scale.

Implementing an Antivirals Strategy

Vaccines are not the only weapon in our arsenal. At-home antivirals, which target the virus at an early stage, promise to become a crucial tool in our fight to keep hospitalisations at a manageable level. In late December, the UK significantly scaled up its commitment, securing an additional 4.25 million courses of the two most promising candidates. But stockpiling alone won't make antivirals a silver bullet – especially when it may still be months before mass production begins.

We will need a smart strategy that can publicise and distribute antivirals without undermining our messaging on vaccines, as well as ensuring that we stay on top of the data to avoid the emergence of a drug-resistant form of Covid. This strategy will position antivirals as a critical component of a mass-testing regime, where at-home antivirals are rapidly deployed to pre-identified groups following a positive test.

Our estimates identify there are 550,000 unvaccinated people over the age of 50 and up to 130,000 clinically vulnerable people who are unvaccinated: it is these groups that would benefit most from access to these antivirals. Making sure these groups are immediately able to access antivirals following a positive test will be key not only to protecting the most vulnerable, but also to ensuring our health-care systems are not overwhelmed.

What's the UK's Antivirals Strategy?

On 4 November 2021, the UK became the first country in the world to approve an at-home antiviral. Lagevrio, developed by the pharmaceutical company Merck, is shown to reduce the risk of hospitalisation or death in high-risk adults by 30 per cent.⁴ In late December, an even more promising candidate was approved: Pfizer's Paxlovid pills can reduce risk of hospitalisation or death by nearly 90 per cent. Both these pills work by preventing the virus from replicating properly, which reduces the viral load and can help reduce symptom severity.⁵

Relative to its population, the UK has ordered a world-leading number of antiviral courses. Two additional deals in late December took the UK up to a total of 4.98 million courses, 2.75 million of which are Pfizer's Paxlovid and 2.23 million of which are Merck's Lagevrio.⁶ This is welcome news, but orders don't equal accessibility – it will still be a few months before antivirals are widely available.

So far, Lagevrio has primarily been distributed through the national PANORAMIC clinical trials, run by the University of Oxford. In the last few weeks, a small-scale rollout has begun outside of trials, providing antivirals to cancer patients and severely immunocompromised people. Eventually the aim is for all

individuals in the highest risk groups to be contacted by the NHS if they are eligible for antiviral treatment.

The use of antivirals will represent an immense step forward in how we treat Covid, but it's unlikely to offer significant short-term respite against Omicron. Eddie Gray, chairman of the UK Antivirals Taskforce, has suggested that Paxlovid pills – by far the more effective of the two antivirals – will only start arriving towards the end of March 2022. This means that, for now, our priority should be getting the right structures in place to ensure that supplies, once they arrive, can be immediately directed to where they're needed most.

Figure 3 – Antivirals approved in the UK

Brand name	Active ingredients	Manufacturer	Effectiveness	Dosage	Approvals	Estimated global manufacturing capacity
Paxlovid	Nirmatrelvir (PF-073213320) and ritonavir	Pfizer	Reduces risk of hospitalisation or death by 89 per cent if given to high-risk adults within a few days of their first symptoms.	The course is administered as three capsules taken twice a day for five days.	EMA, FDA, <u>MHRA</u>	Pfizer raised its production projections from 80 million to 120 million courses of treatment by the end of 2022.
Lagevrio	Molnupiravir	Merck	Reduces risk of hospitalisation or death by	The course is administered as four capsules	EMA, FDA, MHRA	Merck said it aims to increase its own

30 per cent if given to high-risk adults within a few days of their first symptoms.	taken twice a day for five days.	production from 10 million courses to at least 20 million in 2022.
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Incorporating Antivirals Into the UK's Covid Defence

As we've set out, the focus of the UK's Covid strategy must be to reduce hospitalisations and deaths. This means not just vaccinating and boosting – our first line of defence – but also ensuring that we're prepared to deal with breakthrough cases. Ensuring that antivirals are readily available outside clinical trials and linked with the UK's testing system must be a priority.

Once someone who is over 50 or immunocompromised receives a positive lateral-flow test, they should be able to record this in the NHS app and then immediately be put in touch with their GP. The GP should be able to immediately approve a course of antivirals to be sent to be taken before the onset of more serious symptoms. This would help minimise risk of severe infection in at-risk groups, further reducing pressure on the NHS.

This means that regular testing, especially among priority groups, must continue to play a central role in our defence against the virus. Frequent lateral-flow testing, even for those without symptoms, should be encouraged: the earlier infections are caught, the more effective the antivirals.

Managing the Risk of Resistance to Antivirals

Antiviral pills should be available in every GP surgery nationwide to allow for quick and convenient distribution. But this should also be balanced with the right oversight to ensure that concerns over resistance are managed.

Antimicrobial resistance occurs when bacteria, viruses and parasites change over time and no longer respond to medicines being administered to treat the infection. This makes the infections harder to treat and increases the risk of disease spread, severe illness and death. ⁷

The emergence of a drug-resistant variant of Covid-19 is a real possibility if antiviral treatments are used incorrectly or too liberally. Making sure antivirals are properly prescribed and that patients finish their full course is particularly important for immunocompromised people.

Given that antivirals are inappropriate for indiscriminate use, our priority should not be procuring more doses, but making sure that those we've already secured make it into the right hands.

Recommendations

Initial results from the two approved antivirals may be promising, but we should resist the temptation to see these at-home antivirals as a silver bullet. The UK's Antivirals Taskforce must have the resources to continue researching other antiviral treatments, as well as exploring the potential for combination therapy if either Lagevrio or Paxlovid show signs of creating antiviral resistance.

As antivirals are rolled out more widely, more effective public messaging is needed to encourage greater participation in clinical trials, while still making it clear that antiviral treatment is no substitute for vaccines and boosters. As antiviral production ramps up, we recommend:

1. **Stay on top of the data:** Keep close tabs on levels of antiviral resistance, the potential impact of antivirals on vaccine and booster uptake, and any emerging combination therapies.
2. **Prioritise those most at risk:** Antivirals are not suitable for unrestricted use, so even when supplies increase, doses must still be directed to those who, according to the science, will benefit most.
3. **Embed access to antivirals in the test-and-trace system:** Clinically vulnerable patients should be able to request antivirals or enrol in a clinical trial at the click of a button. Where possible, information on accessing and safely using at-home treatments should be integrated into existing systems like test-and-trace.
4. **Ensure future supplies:** Our 5 million courses should be sufficient for now, but we must continue to monitor emerging evidence and other countries' strategies to ensure we stay ahead of the game.
5. **Develop safe and accessible distribution networks:** All GP surgeries should be able to distribute antiviral pills, and we should explore the possibility of even more convenient local pharmacy distribution if safety concerns can be managed.

Revamping Testing Infrastructure and Implementing the Right Strategy on Covid Passes

Testing Strategy

The State of UK Testing

The testing regime in the UK falls short of what should be possible two years into this pandemic and is reliant on a fragmented and inefficient testing system that cannot scale to meet demand, is frequently slow, and does not make best use of the limited resources available.

We have the tools to control the virus in a targeted way, but they need to be applied strategically to safeguard the uninterrupted operation of services critical to society and national security.

As we can see overseas, the core component of this is to put highly sensitive, early-detection testing in place at key points across the country: hospitals, airport arrivals and departures, and critical infrastructure like power generation and military facilities. This testing should all be supported by an end-to-end data system connected to the national public-health system. Concrete steps need to be made now to take this forward.

Refine the Use of PCR Testing and Deploy LFTs More Widely

The confusion that occurred over Christmas has shown that an alternative strategy needs to be put in place if the UK is to rely on testing to safely live alongside Covid-19. The lack of available PCR testing, as well as the delays caused by the high volume of tests being analysed, meant that thousands of key health-service workers were unable to return to work, placing unnecessary strain on the NHS.

While the government's decision to remove PCR tests for asymptomatic cases will undoubtedly reduce the likelihood of future shortages, the vast majority of PCR tests should be saved for frontline key workers, with analysis of tests conducted as soon as possible in order to allow as many as possible to return to work.

Lateral-flow tests should be provided to the general public to quickly determine whether or not individuals are infectious at the time of the test. This relies on the large-scale production of lateral-flow tests that is primed to cope with peaks in demand such as those seen during December's Omicron outbreak.

But while LFTs work well for regular use, it is important to recognise they cannot be used for genomic sequencing. In order to successfully identify new variants – a key protection mechanism as we move to an endemic state – PCR tests should still occasionally be delivered to those who test positive.

We suggest the PCR testing, and subsequent genomic sequencing, of one in every 100 positive lateral-flow tests, and one in every five positive people having recently travelled from abroad. This would enable us to maintain the capacity to identify new variants, while not creating a congestion of PCR tests that need to be analysed. This would mean that key workers would get their test results sooner, reducing the time spent off work, and ultimately limiting staff pressures in sectors crucial to being able to return to life as normal.

Reaching the Right Balance on the Cost of Testing

Recent estimates indicate that the UK government has so far spent more than £6 billion on lateral-flow tests for population-level surveillance testing. This figure, coupled with extensive use of lateral-flow tests during the Omicron wave, has led to calls for the public to be charged for their use. This is an understandable suggestion, but it must be balanced alongside the ongoing testing strategy the UK needs to put in place.

As the Omicron wave passes, so too will the significant demand for lateral-flow tests. The most appropriate long-term role for lateral-flow tests is that they be used by the population for periodic surveillance testing, with the capacity to surge this in outbreak areas. As we move to a period of lower demand, with LFTs increasingly serving a general surveillance purpose, we would suggest the government does not move to charging for testing right now.

Instead, a careful and ongoing analysis should be undertaken by government on the cost of lateral-flow testing. Through polling and focus groups, the impact that charging for LFTs would have on their usage – both for symptomatic individuals and for general surveillance purposes – should be weighed against the cost of free testing. It may be that if a future wave of Covid emerges, with lateral-flow testing needed again on large scale, and with the result linked to a Covid Pass, some type of charge may be needed, but that should be worked out carefully based on the evidence.

Build Up UK Testing Capacity

For the UK to build up world-class testing capacity, we also need to ensure we have the best-in-class tests that technology can offer, that we streamline the end-to-end testing process and harness new technology as it emerges.

Additionally, as we saw in the lead-up to Christmas, the UK's supply of lateral-flow tests has not always been able to match demand. The recent surge in demand for lateral-flow tests has shown how vital they

are to the UK's defence against Covid. To maintain this role, they must be widely available and used correctly, with the ability to link results to a Covid Pass.

The government has relied on Chinese-made rapid tests to supply the millions of lateral-flow tests provided to households around the UK. It took until mid-January 2022, two years into the pandemic, for a British-made rapid test to be approved and distributed for use in this capacity.⁸

While most NHS home antigen tests are two brands imported from China, most British-made tests are being sold abroad due to delays with certification and specific standards to meet Coronavirus Test Device Approvals (CTDA) regulations.⁹

that UK-based Omega Diagnostics was said to be ready to produce two million lateral-flow tests a week and signed a contract with the NHS in March that would have been worth £374 million. However, no order was ever placed.¹⁰

Ultimately, a successful testing strategy is a diversified one. Reliance on one form of testing is not sufficient to meet demand when the virus surges, and different types of testing such as nasal swabs, saliva, breath testing and lateral-flow tests can complement each other to fulfil this demand.

Invest in New Testing Technologies

Saliva testing, which bypasses the need for invasive sample collection, should also be deployed to complement our existing testing technology. Self-sample collection reduces the need for health-care professionals to be involved in the process and facilitates more regular testing. It can also detect the virus earlier in the infection cycle than a nasal swab.

The United States has been deploying strategic saliva testing in universities across the country in an effort to minimise disruption to education. An example is the University of Illinois, which uses their covidSHIELD saliva test to test students two to three times a week. All results are logged into a secure electronic health record and then reported to the State Department of Public Health, which then contacts individuals who test positive. This end-to-end system, complete with guidance on isolation upon a positive test, enables students who test positive to immediately isolate, thereby stamping out on-campus outbreaks in their infancy.

One of the best uses of rapid saliva-testing technology in the UK would be to deploy it at key points across the country so that highly sensitive testing is widely available, and samples are collected in a decentralised manner. This should be supported by automated technology to enable high throughput processing. The high testing volumes would reduce the price, and results from the tests, unlike LFTs or rapid antigen tests, would be logged in public-health data systems immediately for more granular and more responsive public-health strategies and operations. In the United States, private companies are

actively testing in thousands of schools nationwide, and are supported by the US Centres for Disease Control and Prevention (US CDC).

Working towards a comprehensive and strategic testing programme like this would be a significant investment in future preparedness, enabling the UK to take a confident step towards living safely with Covid-19.

Adopt Best Practice in Genomic Sequencing

Throughout the pandemic the UK has been a world leader in genomic sequencing. In October 2020, the UK surpassed one million SARS-CoV-2 genome sequences uploaded to the Global Initiative on Sharing Avian Influenza Data (GISAID) database, meaning that the UK provided 24 per cent of all samples uploaded during the pandemic to that point.

As the UK moves from pandemic to endemic, and from PCRs to LFTs, we must not lose sight of the importance of genomic sequencing. Genomic sequencing allows researchers and public-health bodies to more accurately track the spread of Covid-19 and improve their understanding of the pandemic. Until the whole world is vaccinated, new variants – potentially with the ability to evade our vaccines – remain a very real risk. Maintaining our genomic-sequencing capacity and helping other countries bolster theirs is essential if we hope to remove restrictions for good.

Recommendations

1. Drop PCR testing for routine Covid testing and use it for focused purposes only: sampling LFT results, travel testing and for frontline health-care and key workers.
2. Fully and solely utilise lateral-flow testing for population-level testing and ensure those most at risk have access to them.
3. Immediately administer antivirals to those at risk who test positive.
4. Progress developing the UK testing industry and scale UK-based suppliers, moving from a reliance on China for our testing capability. There remains a range of UK testing providers who could scale with greater support.
5. Invest in new and emerging testing technology, particularly saliva testing.
6. Put in place best-in-class genomic sequencing to ensure the UK is alert and prepared in identifying and responding to new variants of Covid, as well as future viruses of concern.

Covid Passes

The Current Position on Covid Passes

As we learn to live alongside Covid, we need to make sure the right infrastructure is in place to handle any future outbreaks. Covid Passes are currently required for all those over 18 years old at large venues throughout England. Your pass must reflect that you are double-vaccinated with an approved vaccine, have completed a negative PCR or lateral-flow test within the last 48 hours, or are exempt from both vaccination and testing based on a medical exemption or exemption due to clinical trials.

Other countries, such as France and Israel, have made Covid Passes compulsory for all venues, regardless of size, for some time and with success. The implementation of proof-of-vaccine status policy in France, for example, drove vaccination rates up dramatically and has helped them close the gap on their unvaccinated vs. vaccinated population. Adoption of a similar policy in the UK currently maintains strong public support, with roughly six out of ten people in favour.¹¹

Why the Country Needs the Right Strategy on Covid Passes

As the world moves from pandemic to endemic status, Covid Passes remain the best option for managing individual and collective risk as the Covid situation evolves, potentially helping to avoid future unnecessary and costly lockdowns. It is essential that businesses and venues can distinguish between who is likely to have the virus and who doesn't in a way that is accessible, trusted, and easy to use for both patrons and operators. Other than allowing the virus to run freely within the country, passes are the only way to differentiate between the contagious and the healthy. These should not be permanent fixtures, but rather an essential tool as we make the transition to endemic.

Data examining the effects of various lockdowns in the UK and abroad over the past two years have revealed huge impacts on the economic wellbeing and health of those under these restrictions and limitations. From missed cancer screenings to fallout effects of losing critical income streams, lockdowns should be avoided at all costs moving forward.

Putting in Place the Strategy to Protect Britain Through a Covid Pass

In order to maintain public support for a Covid Pass, it would be helpful to have detailed criteria that would outline when and for what a pass is needed. For example, if case rates reach a certain number within a given time frame, the pass would be mandatory for entrance to all venues. By ensuring everyone has the pass downloaded (or possesses a physical version) the government could easily adapt the recommendations based on the current status of Covid spread within the country.

The infrastructure required to institute this type of Covid Pass system already exists. NHSX has developed the app for smartphones and the subsequent systems required for venues to authenticate.

However, more could be done to ensure that businesses and venues that are required to use these passes have all the resources they need. Outreach by the government, dedicated support lines and staff should be made available to help accelerate the adaptation.

Recommendations

1. Work with business to enable key settings to put in place the right infrastructure to deploy a Covid Pass if one is needed in public settings in future.
2. Ensure the right technology is being used and is available to display a Covid Pass that aligns full vaccination with a recent negative Covid test.
3. Set out clear benchmarks for what level of infection would justify what use of a Covid Pass, with step-by-step guidance for how its use would be expanded and drawn down as needed.

Conclusion and Recommendations

The rapid spread of the Omicron variant has ushered in a new – and hopefully final – stage of the pandemic. But to be able to live freely alongside the virus, we'll need to put several important measures in place.

Severing the link between cases and hospitalisations remains crucial. This won't only be achieved through vaccines – whether that's fourth shots for the most at risk or first shots for the 5.5 million unvaccinated – but also through antivirals, which must be able to quickly reach the most vulnerable. Underpinning all this must be a commitment to retaining our gold-standard testing and vaccination regimens, making sure we stand ready to reactivate key infrastructure as outbreaks or new variants emerge.

The recommendations below will help us move towards life as normal as soon as possible.

Vaccinating the Unvaccinated With an Evidence-Based Strategy Delivered Through a High-Level Taskforce

1. **Recognise that most are vaccine hesitant, not vaccine hostile:** Many unvaccinated people are theoretically open to getting jabbed if safety and logistical concerns are addressed.
2. **Remove logistical barriers:** More than 20 per cent of unvaccinated people say that ease of access is preventing them from getting jabbed. Use mobile vaccination and door-to-door communications to encourage uptake.
3. **Clarify messaging on natural immunity:** Better messaging is needed to make clear that prior infection is not enough to protect against severe illness and death.
4. **Depoliticise vaccination:** Politicians are not a trusted source of vaccine information. Focus on health professionals and personal networks to encourage vaccinations.
5. **Avoid coercion:** Only 20 per cent say a vaccine mandate would make them get jabbed. Any compulsory measures need to be balanced with stronger incentives and logistical support.

Administering Fourth Doses to the Immunosuppressed and Those at Risk of Hospitalisation

1. **Protect those most at risk:** Administer fourth doses to people aged 70 and older as well as immunosuppressed individuals.
2. **Maintain vaccine infrastructure:** Ensure that a vaccine infrastructure that can be mobilised within 48 hours is kept in reserve.

Implementing an Antivirals Strategy That Will Work Alongside Covid-19 Vaccines

1. **Stay on top of the data:** Keep close tabs on levels of resistance to antivirals, the potential impact of antivirals on vaccine and booster uptake, and any emerging combination therapies.
2. **Prioritise those most at risk:** Antivirals are not suitable for unrestricted use, so even when supplies increase, doses must still be directed to those who the science shows will benefit most.
3. **Embed access to antivirals in the test-and-trace system:** Clinically vulnerable patients should be able to request antivirals or enrol in a clinical trial at the click of a button. Where possible, information on accessing and safely using at-home treatments should be integrated into existing systems like test-and-trace.
4. **Ensure future supplies:** Our 5 million courses should be sufficient for now, but we must continue to monitor emerging evidence and other countries' strategies to ensure we stay ahead of the game.
5. **Develop safe and accessible distribution networks:** All GP surgeries should be able to distribute antiviral pills, and we should explore the possibility of more convenient local pharmacy distribution if safety concerns can be managed.

Revamping Testing Infrastructure That Utilises LFTs, PCR and Genomic Surveillance

1. **Drop PCR testing for routine Covid testing:** Use PCR testing for focused purposes only, such as sampling LFT results, travel testing and for frontline health-care and key workers.
2. **Make the most of lateral-flow testing:** Fully and solely utilise lateral-flow testing for population-level testing and ensure those most at risk have access to them.
3. **Administer antivirals:** Provide antivirals immediately to those at risk who test positive.
4. **Rethink UK testing capacity:** Progress developing the UK testing industry and scale UK-based suppliers, moving from a reliance on China for our testing capability. There remains a range of UK testing providers who could scale with greater support.
5. **Invest in new and emerging testing technology:** Explore all new testing technology, particularly saliva testing.
6. **Put in place best-in-class genomic sequencing:** Ensure the UK is alert and prepared in identifying and responding to new variants of Covid, as well as future viruses of concern.

Set Up a Covid Pass That Can Be Turned On and Off as Required if a New, Deadlier, More Transmissible Variant Arises

1. **Communicate with businesses on Covid Passes:** Work with business to put in place the right infrastructure to deploy a Covid Pass if one is needed in key public settings in future.
2. **Review Covid Pass technology:** Ensure the right technology is being used and is available to display a Covid Pass that aligns full vaccination with a recent negative Covid test.

3. **Set out clear benchmarks for Covid Passes:** Provide guidance for what level of infection would justify how a Covid Pass would be used, with step-by-step guidance for how its use would be expanded and drawn down as needed.

Read our report "Vaccinating the Unvaccinated" for detailed analysis on the exclusive polling we conducted with J.L. Partners

Charts created with Highcharts unless otherwise credited.

Footnotes

1. ^ Polling conducted by J.L. Partners, a British Polling Council accredited research firm ran by James Johnson and Tom Lubbock. Methodology note: Fieldwork dates of 27 December 2021 – 7 January 2022. Both samples were subject to age quotas and the vaccinated sample was then weighted back to be representative of GB figures using ONS and Census data. Sample collected using online panel. 15-minute interview duration. Margin of error: 3.58% for each sample.
 2. ^ Polling conducted by J.L. Partners, a British Polling Council accredited research firm ran by James Johnson and Tom Lubbock.
 3. ^ <https://covid.joinzoe.com/post/vaccines-and-the-immunosuppressed>
 4. ^ <https://www.gov.uk/government/news/first-oral-antiviral-for-covid-19-lagevrio-molnupiravir-approved-by-mhra>
 5. ^ <https://www.houstonmethodist.org/blog/articles/2021/dec/how-do-covid-19-antiviral-pills-work-who-is-eligible-to-receive-them/>
 6. ^ <https://www.gov.uk/government/news/uk-secures-millions-more-antivirals-to-help-fight-omicron>
 7. ^ <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>
 8. ^ <https://news.sky.com/story/covid-19-inside-the-uk-warehouse-with-tens-of-millions-of-lateral-flow-tests-ready-to-go-12513106>
 9. ^ <https://www.thetimes.co.uk/article/delays-in-approval-mean-uk-lateral-flow-kits-dont-pass-the-red-tape-test-kt57sxbzn>
 10. ^ <https://www.thetimes.co.uk/article/delays-in-approval-mean-uk-lateral-flow-kits-dont-pass-the-red-tape-test-kt57sxbzn>
 11. ^ <https://yougov.co.uk/topics/politics/articles-reports/2021/08/09/britons-still-broadly-support-covid-19-vaccine-pas>
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