

COVID-19 FACTSHEET FOR PATIENTS, RELATIVES AND CARERS

ACCESSING HEALTH AND SOCIAL CARE *

April 2023

SUMMARY

- The **prevalence of SARS-CoV-2** remains high throughout the UK. We had five waves of the Omicron variant last year, and the baseline between waves remains very high, at over a million people. This is reflected in high levels of hospital admission.
- The **consequences of SARS-CoV-2 infection** have been severe for many people. Organ damage is common as is long Covid; evidence also indicates that subsequent infections cause cumulative damage. People with a wide array of underlying health conditions are at significantly higher risk of adverse outcomes than the majority of the population, including hospitalisation, death and long Covid. Infections matter, and transmission must be addressed.
- **Covid-19 is primarily an airborne disease**, international scientific consensus on this is very clear. Covid can be spread by droplets but is mainly spread by inhaling virus-containing aerosols in indoor air. This is particularly true for superspreading events that are an important driver of the pandemic. Crowded, poorly ventilated indoor spaces or public transport are a particular threat.
- **Airborne spread is accepted elsewhere but not in health and social care**
Infection control authorities still maintain that “droplet spread” predominates, despite a lack of evidence for this. IPC also refuse to implement **the precautionary principle** in relation to airborne spread, contrary to WHO guidance, which says precautions should be taken against all modes of spread in a pandemic. Unmitigated airborne spread of Covid-19 in our hospitals and care homes has been allowed to occur since the start of the pandemic.
- **Droplet-only precautions have failed to protect patients and staff in health and social care from Covid-19.** Large numbers of people have been infected in hospitals and care homes, leading to many deaths, and many people suffering long-term disability.
- **UK Infection control guidance is not fit for purpose** - it is not based upon evidence and has been criticised by many professional organisations including the BMA and the RCN. It urgently requires major revisions, with indoor air quality as a central focus.

** This factsheet was prepared to assist patients access safer health and social care. It is supported by the following organisations: Covid Safety Pledge, Clinically Vulnerable Families, Doctors in Unite, Hazards Campaign, Independent SAGE*

1. Prevalence of Covid-19

Current Covid-19 infection rates in the UK community remain very high; recent ONS figures from 24 March ¹ show that 1:40 people in England, Wales and Scotland, and 1:70 in Northern Ireland, are currently infected with the virus; this is around 1.7 million people. Covid hospital admissions have increased again recently to almost 1000 patients per day,² and the current average hospital acquired infection (HAI) rate remains high; 30% of those in hospital who have contracted Covid, acquired the infection in hospital.

2. Consequences of Covid infection

The [John Snow Project](#) summarises this well: It says that people of all ages can develop debilitating Long COVID following SARS-CoV-2 infection, even after vaccination. Current evidence suggests infected adults and children are at greater risk of new onset diabetes, adults are at increased risk of cardiac problems, and the long-term impact on children's cardio-vascular health is uncertain. In addition, people can experience kidney injury, liver damage, erectile dysfunction, hearing loss, immune dysregulation, brain and memory dysfunction, ocular damage, and dermatological complications. In fact, there are few tissues that SARS-CoV-2 cannot harm, largely because COVID-19 is predominantly a vascular disease, causing clotting disorders and vasculitis, with both virus- and immune-mediated severity impacting upon multiple organs. ⁴

There is also still significant risk of hospitalisation and death: More than 33,000 people died with Covid-19 on the death certificate during 2022 in the UK, and hundreds of thousands were admitted to hospital.⁵

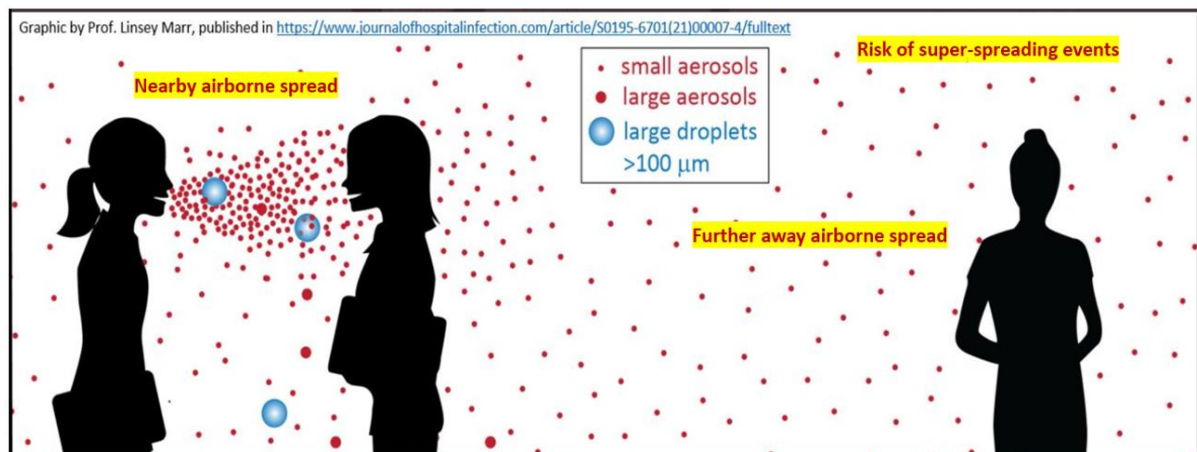
Compared with the majority of the population, ONS data shows that people with an array of underlying health conditions have an 8.5 times increased risk of death ⁶ and for those whose activity is severely limited by pre-existing health conditions, there is a 5.4 times increased risk of getting Long Covid. ⁷

3. Transmission: international consensus is clear - Covid-19 is predominantly airborne.

Scientific understanding of the role and mechanisms of airborne infection transmission was well advanced before the pandemic.⁸ There have been very many further scientific studies and research on airborne transmission since the start of the pandemic and there is now overwhelming international consensus that SARS-CoV2 is primarily an airborne virus. In a recent multinational Delphi consensus statement published in Nature in November 2022, all 386 academic, health, non-governmental organization, government and other experts from 112 countries agreed that “SARS-CoV-2 is an airborne virus that presents the highest risk of transmission in indoor areas with poor ventilation.”⁹

Another highly cited paper in the Lancet *Ten scientific reasons in support of airborne transmission of SARS-CoV-2*, clearly sets out the evidence and arguments supporting airborne spread.¹⁰

This diagram from Professor Linsey Marr, one of the world’s foremost aerosol scientists, is very helpful in understanding how SARS-CoV-2 spreads. (yellow labels have been added). It shows how airborne spread can occur both when close to other people and further away



It is possible people can get Covid from droplets when close to others and from surfaces. So, cleaning surfaces and hand hygiene makes good overall sense and can dramatically reduce other infections. However, it is certainly not enough on its own to prevent the spread of SARS-CoV-2, so the priority must be on stopping airborne spread.

4. Superspreading events drive the pandemic.

Superspreading events, where a much greater number of individuals become infected from one index case, than would be expected from the reproductive number (R_t) of the virus, are a hallmark of airborne transmission and play a central role in driving the pandemic.¹¹ Superspreading events are known to have occurred in healthcare facilities with other Coronaviruses, i.e. during both SARS-CoV and MERS epidemics.^{12, 13} In the MERS outbreak in South Korea in 2015, one patient infected 82 others in the hospital emergency room over a 2 day period. Overcrowding and poor ventilation were identified as important factors in the outbreak. Because of SARS-CoV-2's much greater infectivity superspreading events have been widespread in the current pandemic.¹⁴

5. Airborne spread is accepted elsewhere but not in UK health and social care.

Airborne transmission is widely recognised here in the UK, outside of health and social care. In 2021 the Department for Education instituted a nationwide program of CO₂ monitoring and installation of air filtering units in our schools to reduce airborne transmission.¹⁵ The Department of Health and Social Care itself launched a national public information campaign in November 2020, which showed how Covid-19 spreads through the air, encouraging people to ventilate their homes and indoor spaces.¹⁶ The Chief Medical Officer, Professor Chris Whitty, said in a speech to a Confederation of British Industry conference in January 2022, "*We have realised the extraordinary importance of improving the ventilation of workplaces – not just for Covid, but also for many other respiratory infections.*"¹⁷

Airborne transmission of viruses is well accepted in veterinary medicine including for some Coronaviruses, influenza viruses, and foot and mouth disease virus, sometimes over distances of many kilometers.¹⁸

It is simply not tenable therefore to maintain that airborne transmission happens in all these other places, but somehow does not occur in our hospital waiting rooms, wards and clinics, or in our care homes. Yet this is the position of Infection Prevention and Control (IPC) in the great majority of our health and care facilities.

6. Aerosol Generating Procedures (AGPs)

It is worth mentioning AGPs because this is the only time that risk of airborne transmission is consistently acknowledged within infection control guidance. It is claimed that there is significant additional risk of airborne spread from these procedures, which are performed on a small number of patients, and may involve instrumentation of the mouth, nose or upper airway and use of high flow air or oxygen. But here again evidence is lacking - according to the WHO¹⁹ this is based on “*a limited number of very low-quality studies*”, and evidence that AGPs do not pose an additional risk is ignored.

High-quality evidence from more recent studies is unequivocal: AGPs pose no additional risk and produce far fewer aerosols than common respiratory activities such as speaking or coughing.²⁰ So poor is the evidence for AGP risk, a review article in the Lancet in July 2021 called for the term “AGP” to be abandoned, “*as it is neither accurate implies aerosol emission is only from specific procedures (rather than being generated during normal respiratory events), (and) potentially misidentifies the source of infection risk...*”²¹ Despite this AGPs remain in in current IPC guidance.

7. WHO says apply the precautionary principle.

The main guidance document on the management of pandemics from the World Health Organisation published in 2014,¹⁹ states that in a pandemic due to a new virus like SARS-CoV-2, protections should be taken against all forms of spread, including airborne precautions, until there is certainty about the exact modes of transmission. This vital principle was included in UK IPC guidance in place just before the start of the Covid-19 pandemic in early 2020,²² but was abandoned in practice soon afterwards along with all airborne protections, and never re-instated.

8. Droplet-only precautions in hospitals and care homes have failed to protect us.

The rejection of airborne mitigations and the abandonment of the precautionary principle by IPC have had profoundly damaging consequences. Over 2,100 health and social care workers died from Covid-19 in the UK during the first two years of the pandemic²³, while almost 200,000 NHS workers currently have long Covid.²⁴ Nearly 40,000 residents of care homes died from Covid-19 in the first year of the pandemic,²⁵ while over 14,000 patients have died of Covid-19 they caught in hospital, and at least 70,000 people have

been infected in hospital.²⁶ Hospital acquired infection (HAI) rates for Covid-19 have been high for much of the pandemic; currently, 30% of those in hospital with Covid got infected in hospital.²⁷ Moreover, patients who get Covid while in hospital have a 30% increased mortality compared to patients who acquire Covid in the community.²⁸

In November 2021 an NHS spokesperson said in response to a Daily Telegraph report about high numbers of deaths from hospital acquired Covid-19, that staff had “*rigorously followed UK Health Security Agency infection prevention control guidance*”.²⁹ No doubt this is true, but the inescapable conclusion therefore is that the guidance is failing to protect patients and staff.

The current huge pressures on our hospitals, including overcrowding in A&E departments make infection control much more difficult, but as long as the principal mode of spread is not addressed there is little prospect of things changing for the better.

9. **UK IPC guidance is not fit for purpose**

In addition to the points discussed above, there is no clear statement anywhere in current IPC guidance (the “IPC Manual”),³⁰ on how Covid-19 spreads; it advises people to check “pathogen specific guidance” from UKHSA. “COVID-19: epidemiology, virology and clinical features” guidance produced by UKHSA³¹ says:

“When someone with COVID-19 breathes, speaks, coughs or sneezes, they release droplet and aerosol particles containing SARS-CoV-2 virus. SARS-CoV-2 is primarily transmitted between people through these infectious respiratory particles (droplet and aerosol) when they are inhaled, or come into contact with the eyes, nose or mouth.”

There is insufficient emphasis here on aerosol spread, but nevertheless this clearly says airborne transmission is an important route of spread, and clearly can occur anywhere where people share the same indoor air. Why then is this ignored in practice by IPC? The IPC Manual states that for routine care of patients considered infectious with SARS-CoV-2, FRSM (surgical) masks are required and respirator masks are only required for AGPs. (Please see later note about masks)

Even if IPC believe that droplet spread predominates (the evidence clearly indicates the opposite, i.e. airborne spread predominates), instead of applying the precautionary

principle in practice, airborne transmission is ruled out and only droplet precautions are implemented. Current practice therefore flies in the face of official information from UKHSA, as well as WHO guidance.

10. Risk assessments

The IPC Manual does allow for risk assessments to be performed: “*Staff in primary care (GP surgeries and community health services), outpatient settings or care homes would not normally be required to wear an FFP3 respirator for routine care unless an AGP is being performed The decision to wear an FFP3 respirator/hood should be based on clinical risk assessment eg task being undertaken, the presenting symptoms, the infectious state of the patient, risk of acquisition and the availability of treatment.*”

For inpatients it says the same: staff should wear FRSM (surgical) masks for routine care and FFP3 masks are needed for AGPs. This is qualified however by a note which says “*A dynamic clinical risk assessment should be performed using the hierarchy of controls to inform the assessment and should include evaluation of the ventilation in the area, operational capacity, and prevalence of infection in the local area Current guidance is that an FFP3 respirator must be worn by staff when caring for patients with a suspected or confirmed infection spread by the airborne route, when performing AGPs and when deemed necessary after risk assessment.*”

So risk assessments should be done to see if Respiratory Protective Equipment (RPE) should be worn by staff seeing patients, in any setting. There is little evidence that risk assessments are being done however, and very few NHS Trusts are providing their staff with RPE.³² Patients may however be able to use this provision of the IPC guidelines to demand better protection. Given that there are high prevalence rates of Covid-19 in the community, and that over half of UK hospitals do not comply with even basic ventilation standards,³³ there is a very good case to be made for staff to be wearing RPE. This is however dependent on individual interpretation of risk as there is no further guidance on this, eg what thresholds should be used and who does the risk assessment.

Patients could carry a portable CO2 monitor to get an idea of the adequacy of ventilation during their visit to the hospital or clinic, but these are costly (£100-200) and may not be available.

11. Mask requirements weakened and undermined on 1st June 2022

The requirement for universal masking in health care was removed on 1st June last year in a letter from NHS England and NHS Improvement³⁴ for both staff and patients in public places in hospitals, allowing policies to be set locally. The letter has details on current masking requirements for staff, patients and visitors. It is difficult to see how this can be justified given what we know about the epidemiology and transmission of Covid-19, including official UKHSA guidance on how SARS-CoV2 spreads. Not surprisingly, this has caused great anxiety for many, particularly for people who are at increased clinical risk. In a survey of its members, the Clinically Vulnerable Families group found that 91% said they had or would delay or cancel medical appointments due to high Covid risks.³⁵ This is extremely concerning – many of these people have severe or some life-threatening conditions and cannot afford to delay or go without treatment.

This abandonment of centrally-determined policy is also leading to a postcode lottery of protections. Some NHS Trusts are removing mask requirements in “public areas” in their hospitals, while others a few miles away are retaining them and instituting airborne protections like HEPA filters. This is the same virus, with the same transmission properties; it does not care what different people choose to do. The right protections are needed everywhere, i.e. against all modes of spread, especially airborne spread.

Information on current masking requirements will be on individual NHS Trust websites.

12. Which respirator mask?

FRSM (“surgical”) masks provide poor protection against airborne pathogens, they are for splash/spray protection against body fluids. They fit poorly around the face and are not designed for airborne protection. Current Omicron variants are highly infectious and require respirator masks to protect the wearer and those around her/him. Filtering face piece masks (FFP2 and FFP3) are respiratory masks; N95 and N99 are equivalents outside the UK.

FFP3 masks provide slightly better protection than FFP2 masks (99% vs 95%) but they require a fit test, which is a time-consuming process, and they can be uncomfortable to wear over long periods. Staff should therefore wear a minimum of FFP2 masks, and patients should also wear FFP2 masks.

There are other non-disposable respirator masks, like elastomeric masks which provide good respiratory protection, but they can be expensive.

13. Improved Indoor Air Quality (IAQ) – the key to combatting future pandemics and reducing health impacts of air pollution

Better ventilation and air filtration will dramatically improve indoor air quality (IAQ), and reduce transmission of a range of other potentially airborne pathogens. There is evidence for airborne transmission of influenza A virus (another disease of pandemic potential), as well as rhinovirus, adenovirus, and RSV, as well as some data for enteroviruses, and filoviruses (which include Marburg and Ebola virus).¹⁸

Air filtration will also remove harmful pollutants including PM2.5, PM10 and other harmful particulates which are well known causes of a range of serious health problems including ischaemic heart disease, asthma, COPD and other lung diseases.³⁶ Both patients and staff will therefore benefit from improved IAQ in our hospitals and care homes.

The case for airborne protections and improving indoor air quality could not be more compelling. We just need to get on and do it, and stop the needless damage to the lives and health of so many staff and patients within health and social care.

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