



BMA Covid Review 1

How well protected was the medical profession from COVID-19?

Executive summary

How well was the UK's medical profession protected from COVID-19 during the pandemic? In late 2021, the BMA conducted a call for evidence survey to set out the experience of the medical profession during the pandemic and to learn lessons for future pandemics. We found that doctors were not sufficiently protected during the pandemic:

- During the first wave of the pandemic in particular, medical professionals were often without the recommended level of PPE (Personal Protective Equipment), and without widespread access to testing or risk assessments. 81% of our 2,484 respondents reported that they did not feel fully protected during the first wave.
- Chronic underinvestment in the health services and public health systems across the UK meant that the UK was not as well prepared as it could have been as it entered the pandemic. Key findings from exercises on pandemic preparedness were not fully acted upon.
- There were real shortages of PPE at the start of the pandemic, shortages that could have been alleviated by prompter action and better management of the stockpile.
- UK-wide guidance did not respond quickly enough to the changing evidence base on PPE and testing, leaving many medical professionals exposed to an airborne virus without proper RPE (Respiratory Protective Equipment).
- Some doctors were particularly poorly protected. Female doctors often struggled with poorly fitting PPE that left them exposed. Doctors from ethnic minority backgrounds disproportionately reported that they felt risk assessments were less effective, compared to their white colleagues.
- There has been a significant level of distrust caused by the pandemic and the UK Government's response among the medical profession.
- The vaccination campaign is regarded as one of the few successes of the response to the pandemic. The speedy rollout helped protect medical professionals, and fostered pride in doctors due to their integral role in delivering vaccinations and protecting their communities.

Table of Contents

Acknowledgments	2
Foreword	3
The BMA’s COVID-19 review and research included in this report	5
Introduction	6
The UK was not adequately prepared for a pandemic	7
The wider health and public health systems were under-resourced.....	7
Recommendations.....	7
Key lessons from pandemic planning exercises were ignored.....	8
Recommendations.....	8
Questions for the inquiries to answer.....	8
Health and Safety Law.....	9
Recommendations.....	9
Protection was lacking during the COVID-19 pandemic, especially in the first wave	10
Infection prevention and control was inadequate.....	11
Recommendations.....	13
Questions for the inquiries to answer.....	13
The changing evidence base was and is not reflected in updated guidance.....	13
Recommendations.....	15
Questions for the inquiries to answer.....	15
Testing capacity was insufficient at the beginning of the pandemic.....	15
Recommendations.....	16
Questions for the inquiries to answer.....	16
Personal protective equipment supplies were insufficient, and processes for training and ensuring safe fit were inadequate.....	16
Recommendations.....	20
Questions for the inquiries to answer.....	20
Risk assessments weren’t consistently carried out or implemented.....	20
Recommendations.....	24
Ventilation in NHS buildings is too often not good enough.....	25
Recommendations.....	25
The vaccination programme was a success overall, with a few issues around early rollout.....	25
Recommendations.....	26
Questions for the inquiries to answer.....	26
Conclusion	27
Appendix A	28
References	29

Acknowledgments

We would like to thank everybody who responded to our survey detailing their experiences of the pandemic. The BMA understands the immense sacrifice that continues to be made by medical professionals. If you do not see any of the text from your response included in our reports, please do know that every response was read and used to inform our conclusions. We are very grateful indeed.

Our first COVID review report is the work of Nathan Trotter, Claire Chivers, Margot Kuylen, Duncan Bland, Lena Levy, Alex Gay, and the BMA Wales, Scotland, and Northern Ireland teams. Contributions have come from BMA elected members and chief officers. The team of people in our Communications and Policy Directorate and staff across the BMA have made publication and promotion possible, including our strategic communications, media, public affairs and content and audience teams.

Foreword



Pandemic planning is a key responsibility of any government whose first duty is to protect and safeguard the lives of its citizens. Yet when COVID-19 swept across our shores and through our nations it swiftly became clear that as a country we were woefully ill prepared for what was to come and that the lessons from Exercise Cygnus four years prior had not been fully followed.

The UK was forewarned of coronavirus as early as December 2019. When the first reports of a new and highly contagious infectious disease began to emerge from Wuhan, the health service was already buckling under the strain of existing demand and on the precipice of yet another winter crisis. By February 2020, the reality of the coronavirus had spread to Italy, with graphic images and accounts of its deadly toll filling the airwaves, putting the country on notice that it was only a matter weeks before the UK would also be affected.

Doctors rightly expected that the UK and devolved nations governments would see what was happening in other countries, and use this time to put together every possible plan to safeguard the nation's health and the health of those on the frontline protecting it. Indeed, ministers categorically assured us of the Government's adequate preparedness and supplies of PPE, that would be deployed to healthcare workers when required.

This report demonstrates that despite these initial assurances, the UK Government was severely unprepared for when the virus inevitably hit the UK. It describes the harrowing incongruity between the Government's words and the reality faced by doctors on the ground. Basic PPE such as masks, eye visors and gowns were not available routinely, while days and weeks went by with doctors and healthcare staff forced to care for patients exposed to a deadly virus with inadequate protection.

As schools produced PPE for local GP practices and doctors in hospitals used bin bags for gowns, ministers told the nation that the issue was not one of quantity, but the logistics of delivering PPE to an unprecedented number of hospitals and GP practices at short notice. We were assured that the army would be drafted in to get the PPE to where it was needed, but as days passed it became clear the problem wasn't just transportation, but a lack of a useable central stockpile of PPE from the outset. As a result the Government was on the back foot, desperately scrambling to procure PPE from around the globe at short notice, resulting in a delivery during Easter 2020 of unusable supplies from Turkey when in England some hospitals were on the verge of running out of all protective gowns.

The experiences of those who have contributed to our review are sometimes harrowing. The accounts of these days, weeks and months of inadequate support and protection are a reminder that while they worked to care for others, they were too often left at the mercy of COVID-19. We've heard from doctors who were told not to wear PPE they themselves had sourced as an alternative, or who were denied risk assessments which are mandatory by law because the government dragged its feet to implement them for all NHS staff. Sadly, many doctors became ill, and others tragically died. This further exposed the fault lines of race inequality that pervades our health service: the first 10 doctors who died from COVID-19 were all from an ethnic minority, and 95% of all doctors who lost their lives from the virus during April 2020 were from an ethnic minority.

The UK was equally unprepared and inadequate in its public health response to contain spread of the infection. In March 2020, as the World Health Organisation made clear testing, isolation and contact tracing should be the backbone of the global response, the UK Government ignored their mantra of "test, test, test". The complete abandonment of community testing because of those savage public health cuts in preceding years allowed the virus to rapidly spread unchecked, further exposing doctors in the community. As with PPE, the Government resorted to outsourcing responsibility for large parts of test and tracing to private sector providers, some who had neither the expertise or knowledge of doing so. This resulted in poor levels of contact tracing of about 60% of non-complex cases the target of 80% considered

necessary for an effective test and trace system, leading to failure to curb transmission of the virus and causing harm to thousands.

While a public inquiry is about to commence, we cannot wait for its outcomes to safeguard our health service and workforce – the lessons from this review need action now. COVID-19 is not yet over while new harmful variants remain a real possibility. The Government must give doctors and healthcare workers the assurance there will be adequate protective equipment with any infection surge in the future, as well as being able to work in secure infection control environments. The nation must know too that the Government will invest in public health infrastructure so that we have the ability to competently respond in an agile and timely way to contain spread of infection. These assurances cannot wait for tomorrow and need to be a reality today.

A handwritten signature in black ink, consisting of the name 'Chaand Nagpaul' written in a cursive, fluid style.

Chaand Nagpaul, BMA council chair

The BMA's COVID-19 review and research included in this report

Throughout the pandemic, the BMA has been critical of many elements of the UK governments' decisions and handling of the pandemic response for patients, the population's health, and healthcare workers. The handling of the pandemic was [described by a cross-party select committee](#) last October as 'one of the most important public health failures the United Kingdom has ever experienced', reflecting on inadequate supplies and procurement of PPE; a test and trace system that failed to deliver; and delays in implementing public infection control measures to prevent the virus spreading.

It is important to learn lessons from the pandemic response so that action can be taken in the immediate future – as the UK's health services grapple with several pressures because of the pandemic and the biggest backlog of care in their history – and to be best prepared for future pandemics and avoid repeating past mistakes.

During November and December 2021, the BMA contacted its members and other key stakeholders, including Royal Colleges and leading think tanks, to understand the impact of the UK and devolved governments' handling of the COVID-19 crisis. We wanted to hear how it affected the lives of doctors, the health service, patient care, and the public's health. Our survey was largely qualitative, providing us with the voices from frontline doctors that we quote verbatim in this report, while we also include quantitative data from other research conducted by the BMA during the pandemic, including COVID tracker surveys and viewpoint surveys (More information about these resources can be found in Appendix A). Overall we want to help inform a robust review into the handling of the pandemic, ahead of the statutory inquiries starting in 2022.

We are publishing five reports, each focusing on a particular aspect of the pandemic response.

- The protection of the medical profession from COVID-19
- The impact of the pandemic on the medical profession
- Delivery of healthcare during the pandemic
- The effectiveness of the public health response to the pandemic
- The impact of the pandemic on population health and inequalities

Introduction

On 27 March 2020 the then-Chancellor of the Duchy of Lancaster Michael Gove spoke at a Downing Street press conference. He claimed that COVID-19 did 'not discriminate' and that anyone was at risk of catching it, as evidenced by the fact that both the prime minister and the secretary of state for health and social care were isolating with the disease.

While everyone is at risk of infection from COVID-19, in the two years since this comment was made, the discriminatory impact of this disease has been demonstrated repeatedly. You were five times more likely to be hospitalised and 65 times more likely to die of COVID-19 if you were over the age of 64.¹ Black and ethnic minority groups were more likely to catch COVID-19 and suffer complications² than their white counterparts, and healthcare workers are exposed³ to COVID-19 at higher rates and suffered increased mortality and morbidity as a result of this exposure^{4,5,6}.

It is not unusual for medical professionals to be disproportionately exposed to harmful substances or viruses due to the nature of their work; it is what makes proper occupational hygiene and infection control procedures imperative in healthcare settings. There is an acute need to mitigate these risks and protect medical professionals while they are doing their job. However, during the COVID-19 pandemic, medical professionals did not just face an unprecedented situation of increased stress and often greater workloads, they also faced a direct threat to their health, wellbeing and tragically, in some cases their lives. In 2020, medical professionals faced a challenge unlike anything seen before.

This report looks at whether the protection afforded to medical professionals over the pandemic (including pre-pandemic preparedness) was suitable and sufficient to counter the substantial risk to which they were being exposed. It is important to fully understand whether the danger posed by COVID-19 was addressed with appropriate speed and seriousness so that lessons can be learnt for our response to this and future pandemics.

To answer this question, decisions must be judged in the context in which they were made, including the evidence base that individuals and governments were working with at the time. As such, the answer as to whether medical professionals were sufficiently protected changes over the course of the pandemic. Unfortunately, it also changes depending on their race, gender, and disability status.

The BMA has received a wealth of testimony from medical professionals about how they felt they were treated during the pandemic, what they feel governments got right, and what they could have done better. Our conclusion from this testimony and work supporting our members throughout this pandemic suggest that while governments did some things right – namely the investment in multiple vaccine candidates and early approval – there were also many areas where the UK and devolved governments either failed to prepare in a meaningful way or were too slow to act when the situation required urgency. This ultimately left medical professionals unfairly exposed and far from adequately protected from COVID-19.

The UK was not adequately prepared for a pandemic

The wider health and public health systems were under-resourced

Before the pandemic the health systems across the UK were operating in an environment of scarcity. In the United Kingdom, per capita levels of nurses, doctors and beds are lower than the OECD average⁷; of the four nations England has by far the fewest doctors per 100,000, followed by Wales⁸. Before the pandemic our general health spending was below that of comparable western European neighbours such as France or the Netherlands. Between 2009/10 and 2019/20, health spending across the UK grew at only 1.6% above inflation – much lower than the prior historical average⁹. Chronic workforce issues were commonplace and reduced the ability of the NHS to cope with shocks. Northern Ireland and England had a vacancy rate of around 8.1% in December 2019 which equates to almost 6,500 and almost 100,000 vacancies respectively, while Scotland had 4,800 vacancies among nurses, consultants, and allied health professionals. Our capital spending on infrastructure and buildings was also lower than that of many comparable countries¹⁰, so in many places across the UK the health service entered the pandemic with an ageing estate, ill-suited to modern needs.

A better staffed and better resourced system would have been more able to deal with the acute spike in demand and high staff absence rate caused by the pandemic. It is well known that the NHS 'runs hot' especially in winter and that there is very little slack in the system¹¹. These fault lines were brutally exposed over the pandemic with too few staff, too few beds, and buildings that were unsuitable for full implementation of recommended infection control policies. The third report in this series will look at the impact of this on doctors' ability to deliver care in more detail.

The public health system across the UK is also broadly in a difficult situation – although spending has increased in Wales – and had seen cuts and reduced workforce that left it less able to respond effectively to the pandemic. The Public Health Agency in Northern Ireland saw its budget decrease by around 7% in real-terms in the years 2016/17¹² to 2018/19¹³. Public Health England's net spending saw real-terms cuts of 17%¹⁴ in the years 2015/16 to 2019/20, with the local public health grant seeing similar cuts of around 24% on a real-terms per capita basis since 2015/16¹⁵.

As a result of this under-resourcing, the UK Government was reliant on private providers in their COVID-19 response. This will be predominantly covered in our third report which will look at the delivery of healthcare during the pandemic, however it is useful context here. Private providers in England, for example, were responsible for the management of the PPE supply chain. This delegation of large parts of the management of procurement processes and supply chains in England to a complex web of external companies arguably left the UK Government less able to respond in an agile and rapid way to the dramatic increase in demand for PPE caused by the pandemic.



Recommendations

1. Maintain adequate workforce, investment, and future workforce plans including how many staff are needed to meet current and future demands, to ensure health services and public health systems are better prepared to deal with crises. The BMA and 100+ other health and care organisations are [calling for continuous and transparent assessments](#) of workforce shortages and future staffing requirements. This is the only way to ensure that Governments take accountability for providing safe staffing levels and adequate funds and resources to health services so they can deliver safe patient care at all times.
2. Improve capital investment, modernise physical infrastructure and improve ventilation of the NHS estate.

Key lessons from pandemic planning exercises were ignored

The pandemic has had a serious impact on the health of the UK population and its health systems. UK excess deaths during the first wave were among the highest in Western Europe¹⁶ and significantly higher than in countries that are generally regarded as having a robust response to the first wave of COVID-19, such as South Korea, Japan, Denmark, and Germany.

In part, this may be because the UK prepared for the 'wrong' kind of pandemic. The UK Government's primary assumption was that the major risk to public health was from an influenza-style pandemic – an opinion which was shared among the devolved governments. There were several exercises dating as far back as 2007 including:

- Operation Winter Willow, a UK-wide exercise.
- Exercise Pica, which looked at NHS primary care pandemic preparedness.
- Operation Cygnus, a joint UK and devolved governments' pandemic planning exercise from 2016, that looked at an influenza-style pandemic.

In hindsight, the focus of our pandemic planning around an influenza-style pandemic was an oversight, particularly considering that that we had already seen two coronavirus pandemics in the 21st century: SARS (Severe Acute Respiratory Syndrome) and MERS (Middle Eastern Respiratory Syndrome). Due to this emphasis, there was little consideration within the wider pandemic planning policies of strategies to detect and contain potential cases but rather an emphasis on how to respond in a situation where there was already significant mortality and morbidity¹⁷. Preparations centred on treatment of disease rather than containment, which may explain why the UK Government was slow to implement public health and occupational hygiene measures.

However, our pandemic planning was not entirely irrelevant. There were some relevant recommendations around PPE in Exercise Cygnus, particularly regarding staff training. The UK and devolved governments also conducted exercises that looked specifically at plans to deal with MERS including Exercise Alice in 2016 (England) and Exercise Iris in 2018 (Scotland). These demonstrate that while coronaviruses were a known threat, this appears to have had little influence on the wider pandemic preparedness policy and, crucially, the recommendations in these reports were not acted upon.

MERS and COVID-19 are different diseases, but the reports make recommendations that were directly relevant to the handling of the COVID-19 pandemic. Exercise Alice and Exercise Iris both recommend that PPE be considered a key issue and that 'it would be of central and crucial importance to staff'. Exercise Alice recommended a review of current stocks of PPE and recommended pandemic stockpiles to ensure there would be adequate stocks in place. This was a prescient and yet crucially ignored recommendation, given that the UK Government's PPE stockpile was not maintained properly before the pandemic, and quickly ran out at the start of the pandemic without a timely plan in place to replenish it¹⁸. Both reports also address contact tracing and isolating and make strong recommendations supporting these policies. These also seem to have had little influence on UK Government policy before the pandemic.



Recommendations

- UK and devolved governments should continue to carry out pandemic preparedness exercises for the most likely types of infections and must act on the lessons learned from these exercises and the COVID-19 pandemic, identifying key themes such as PPE stockpiling, testing, and public health capacity.



Questions for the inquiries to answer

- How was the initial policy response to the pandemic decided and how much influence did previous exercises have on the Government's approach?

Health and Safety Law

The Health and Safety at Work Act (HASWA, 1974) and the Management of Health and Safety Regulations (MHSR, 1999) both set minimum standards of protection that must be provided to workers if they are engaging with hazards in their daily work. Employers are legally required to conduct a suitable and sufficient risk assessment to identify the level of risk an employee is exposed to, identify steps that can be taken to mitigate this, and then put them into practice.

This applies to healthcare workers as it does to any employee in the United Kingdom, and the disproportionate hazards that medical professionals are exposed to make risk assessments and proper management of hazards particularly important. At the time COVID-19 came to the UK's shores, employers across the UK, especially those in healthcare settings, were required by law to review and update these risk assessments to consider the threat that COVID-19 presented to their staff. These legal responsibilities pre-date the pandemic and, crucially, were never superseded by any IPC (infection prevention and control) guidance that was issued at the time regarding how to manage COVID-19 in healthcare settings.



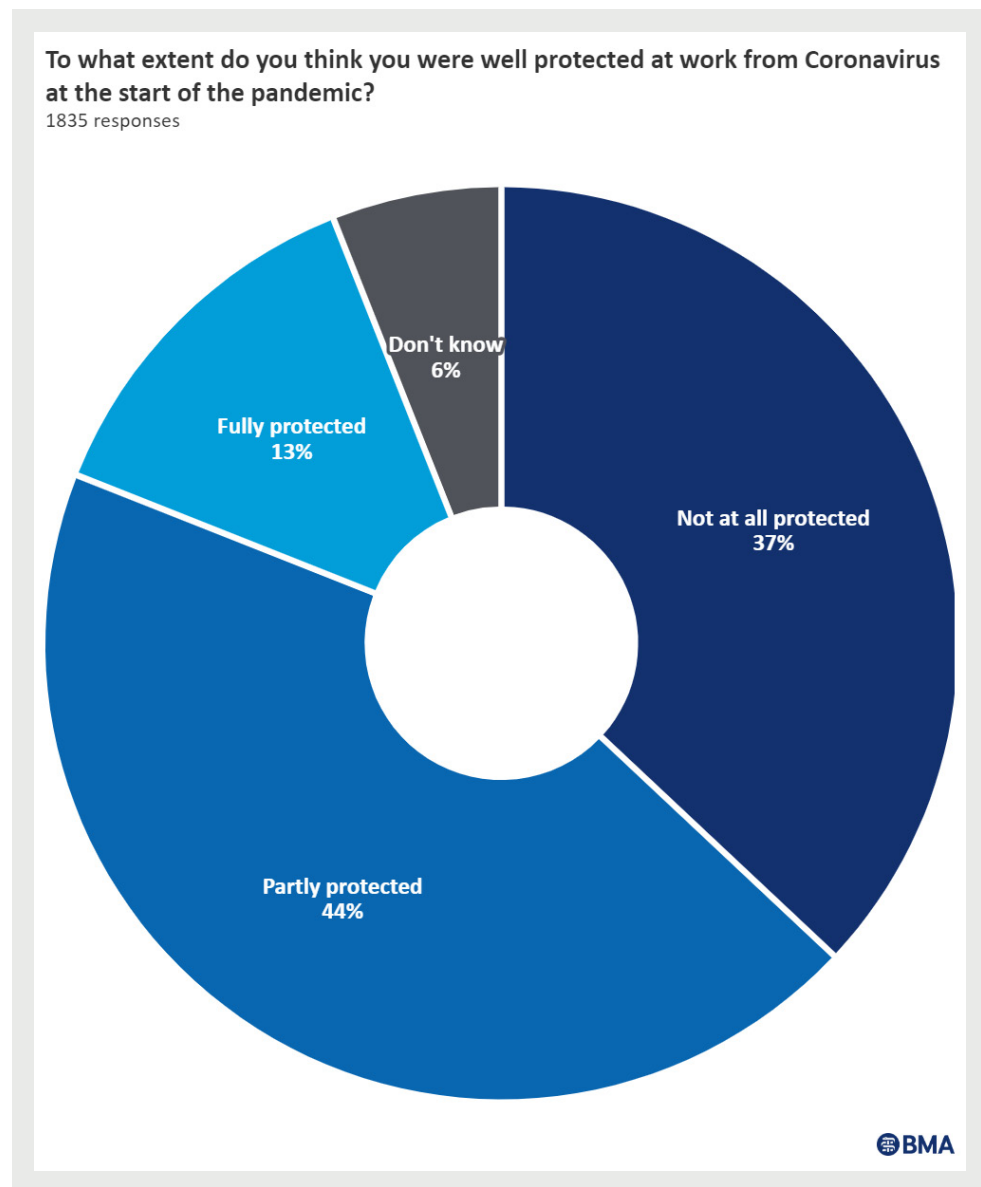
Recommendations

- Ensure that health and safety law is adequately publicised, enforced and promptly supported by appropriate guidance specific to the healthcare sector, and that it does not appear secondary to other considerations when responding to fast-moving situations.

Protection was lacking during the COVID-19 pandemic, especially in the first wave

The beginning of the pandemic was understandably the most fraught and acute period. In our call for evidence, 81% of respondents reported feeling only partly or not at all protected during the first wave (see Figure 1).¹⁹

Figure 1



This statistic improved in the later stages of the pandemic leading up to the vaccination campaign, but this initial finding is alarmingly high and demonstrates the feeling of many medical professionals that they were asked to do too much with too little.

The protection of medical professionals during the pandemic was influenced by many different factors. For example, the policies governments implemented to prevent sustained community spread played a role in the number of people presenting at hospitals and the likelihood of medical professionals catching the virus in the community. Governments' public health responses are included in our fourth report – our focus in this report is on how well protected

doctors were working either directly or indirectly with COVID-19 patients. To do this, we will look at the interventions that were made or ought to have been made to protect healthcare workers at their place of work. These include IPC, PPE (including RPE), risk assessments, ventilation, and vaccination.

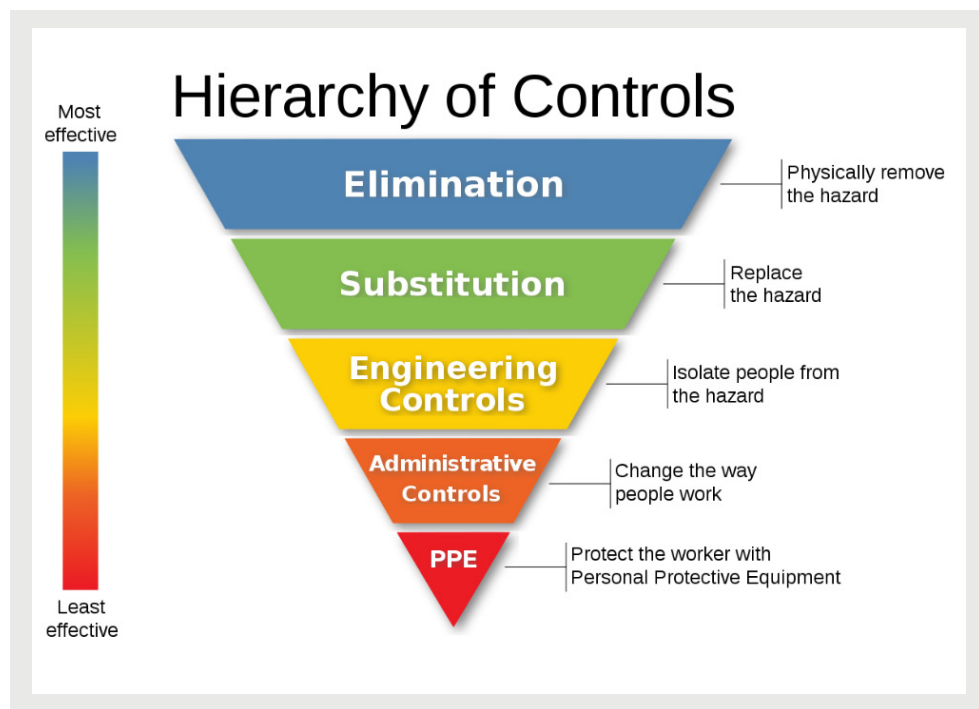
Infection prevention and control was inadequate

The hierarchy of controls and its applicability to COVID-19

IPC refers to policies designed to prevent and limit patient and healthcare worker exposure to avoidable infection in healthcare settings. IPC guidance always applies in all healthcare settings and is not specific to COVID-19 management. IPC guidance is based on a 'hierarchy of controls' (see Figure 2). This is a general guide to what policies and procedures will be the most effective when an individual is interacting with a hazard, such as the possibility of being infected or being hurt.

Logically, the most impactful interventions are the ones that physically remove the hazard eliminating any possibility of injury, for example, removing dangerous equipment. For COVID-19 elimination is not possible, as it would mean removing a COVID-19 patient from the healthcare worker treating them. Moving down the pyramid, the less impactful interventions are those that see workers interacting with hazards with varying degrees of protection or distance. For example, healthcare workers treating their patients while protected with RPE.

Figure 2



The 'hierarchy of controls' represents best practice and orders interventions in a systematic manner starting from control of the source, through control of the pathway of transmission and finally protection of the worker. The control measures at the top are those which would achieve the best protection with correspondingly minimal worker involvement. However, through speaking to medical professionals, we have found that the ability to implement certain, more impactful, interventions during the pandemic was sometimes limited and – as highlighted above – often impractical. This was a strong theme running through many of the responses to our call for evidence. The NHS estate is far from uniform and is a mixture of buildings that have different sizes, ages, and facilities. As previously noted, capital spending in the UK is poor in comparison to other countries. This often leads to NHS hospitals or GP surgeries having to make use of extremely old buildings and facilities, making universal implementation of proper IPC guidance – such as ventilation, isolation and spacing – nearly impossible. IPC guidance must be actionable and practical, meaning it needs to consider the inability to implement or maintain certain policies.

It is therefore worth noting that while PPE and other measures may feature at the bottom of the hierarchy of controls, their 'universalizability' across all health and care settings make them extremely important interventions to protect staff.

IPC guidance was poorly communicated and difficult to implement

UK Government guidance relating to COVID-19 started appearing in January 2020, but at this stage reflected the large degree of uncertainty and an understanding that COVID-19 was not circulating in the community. However, while the situation changed rapidly, the guidance did not and throughout February and early March 2020 IPC guidance was piecemeal and of little practical value. This was reflected in the responses we received to our call for evidence, with respondents across the UK saying that updated guidance was slow to come out and that when it did, it was contradictory and spread across different documents. This led to inconsistencies in the level of protection afforded to different kinds of medical professionals.

'I was redeployed to ICU [Intensive Care Unit] part way through from AMU [Acute Medicine Unit]. The difference in protection was stark. In ICU we had full PPE for anyone suspected and were told by consultants to take our own PPE to any ward patients to protect ourselves [...] On the AMU side, even though there is an undifferentiated take, self bought masks were not permitted (as they would frighten patients!) until a while after the CDC [Centres for Disease Control and Prevention] and WHO [World Health Organisation] recommendations were made. It was clear that ICU was prioritised and wards were having other 'guidance' to protect PPE levels. This is not equity, and judging by the level of staff COVID sickness in wards compared to ICU, and patient breakouts, there are indicators that staff and patients came to harm during this time due to these differences.'
(Locally employed/trust grade doctor, Wales)

As a result, in the very early stages of the pandemic, some medical professionals were explicitly forbidden from wearing PPE for fear that it would scare patients, or because they had purchased it themselves and it wouldn't be fair for everyone else in their trust.

'Several of us were told not to wear facemasks on rehab wards for fear of frightening the patients. This was true in many hospitals, and I believe it was a top down policy.'
(Consultant, England)

'Some colleagues started wearing fluid resistant masks early in March, only to be threatened by management with disciplinary action due to scaremongering the rest of the department.'
(Consultant, Scotland)

'I was not allowed to use the PPE that I had personally paid for [...] they said, it will be unfair to the rest of the staff if I used my own. When I said that I would be happy to share with people that I work with, they said, unless I could provide [for] everyone in the Trust, it won't be "fair".'
(Medical academic consultant, England)

Mid-March 2020 saw the release of the first iteration of more comprehensive IPC guidance for healthcare workers; there were nearly 2,000 patients in hospital in England²⁰, Scotland²¹ and Northern Ireland²² with COVID-19 as of 20 March 2020 when the guidance was released.

From this point, the guidance was updated frequently, but respondents to our call for evidence often reported that guidance was unclear or poorly communicated within the health and social care sector. The frequency of the changes also made it difficult for IPC teams to implement this guidance at a more local level, not least because the guidance was often released on Friday and implementing it over the weekend was difficult.

'The messaging early on from government and PHA [Public Health Agency] was poor leading to staff confusion and worry.'
(Consultant, Northern Ireland)

'Rules that changed constantly. So frequently at the outset infection control couldn't produce the guidance before it changed again. Trust PPE guidelines were changed frequently once the pandemic started, and changes were sent out often in the evening or at weekends.'
(Consultant, England)

This, together with the IPC guidance – despite being regularly updated – neither highlighting existing health and safety law nor considering the changing evidence base (see below), led to an atmosphere of distrust among healthcare workers. This was exacerbated by guidance being [out of step with international organisations such as the WHO and ECDC](#) at the start of the pandemic. Many reported that they felt changes to the guidance were more driven by a lack of PPE rather than with their safety as the number one priority²³. This distrust from the medical profession towards official guidance is a theme that appeared at several points in our call for evidence.

'The PPE guidance was based not on safety, but rather the lack of preparedness. False platitudes of staff safety were peddled out, when in fact staff were left at higher risk.'
(SAS doctor, Scotland)

'No attempt by HSCB [Health and Social Care Board] to follow the science on airborne transmission and need for staff to have FFP3 masks and HEPA air filters.'
(GP locum, Northern Ireland)



Recommendations

- IPC guidance must demand confidence and be in line with international standards.
- Systems for deciding and issuing IPC guidance should:
 - a. issue updated guidance rapidly in response to fast-changing situations and evidence.
 - b. communicate guidance effectively.
 - c. highlight existing rights and responsibilities under health and safety law.



Questions for the inquiries to answer

- What was the process for consulting stakeholders about the IPC guidance and how did this change over the course of the pandemic?

The changing evidence base was and is not reflected in updated guidance

After the first wave subsided going into July 2020, the initial complaints and issues with the IPC guidance also subsided as trusts, health boards and practices got more to grips with working under the new guidance. However, a repeated criticism we heard that extended beyond this time was the failure of the IPC guidance to change as the evidence base around COVID-19 transmission developed.

As 2020 progressed, we started to get a better understanding of the way COVID-19 spreads and there was increasing evidence that aerosol transmission of SARS COV-2 was a far more important driver of infection than previously assumed²⁴. As we approached the winter of 2020, numerous professional associations (including the BMA and the RCN), organisations, and academics were increasingly making the case that the IPC cell, the pan-UK body tasked with reviewing and developing the IPC guidance, was being too narrow about where it understood aerosol transmission to occur. In the very early stages of the pandemic, it was recommended that anyone interacting with a COVID patient do so wearing RPE²⁵. This changed in mid-March 2020 and the level of PPE was downgraded to only requiring an FRSM (fluid-resistant surgical mask) for routine care of COVID patients²⁶. This was ostensibly driven by the unfounded

assumption that aerosol transmission only occurred during AGPs (aerosol-generating procedures) and that, outside of these specific procedures, droplet transmission was the primary pathway for COVID-19 transmission. AGPs include procedures like intubation or CPR, where there is a recognised risk of aerosols being generated because of a procedure. While this category of procedures had been developed before the pandemic, in practice it was not useful to assess and control risk since it was not possible to distinguish procedures that generate aerosols and those that do not. The simple reason for the fallacy of 'AGPs' is that physiological activities such as coughing (or even breathing) generated more aerosol than AGPs such as ventilation²⁷.

As the evidence was developing around the role of the aerosol pathway in COVID-19 transmission, the medical profession was becoming increasingly aware that COVID-19 could be transmitted through a patient talking or coughing. The refusal of the IPC cell to recognise that aerosol transmission occurs outside AGPs and therefore requires higher levels of PPE, specifically RPE, and the reliance by employers on the IPC guidance rather than long-standing legal requirements under health and safety law meant that medical professionals started to feel they were not being adequately protected under the IPC guidance at the time. This was reflected in our call for evidence, as many respondents highlighted concerns that there was too much of a dichotomy drawn between AGPs and routine care because, as the pandemic progressed, the evidence around the ability of daily actions such as coughing to aerosolise particles became more apparent.

'No PPE availability. Failure to acknowledge that speaking singing coughing etc [sic] are all aerosol generating procedures, that healthcare staff cannot assess patients without getting close. Therefore, ALL categories of staff should be provided with PPE.'

(GP trainee, England)

'The fact we still use FRSM masks now is a joke given that we know it's an airborne virus.'

(GP contractor/principal, Wales)

'We were advised full PPE for Covid positive patients ONLY if they were 'aerosol generating'. Covid positive patients were constantly coughing. In my opinion, coughing is aerosol generating too. But apparently, getting ourselves exposed to [a] Covid positive patient's cough is OK and only [a] flimsy plastic apron and blue mask are enough to protect one.'

(Consultant, England).

[This dispute](#) appeared to be resolved in January 2022²⁸, when the IPC guidance briefly recognised that aerosols can be spread by coughing and talking and in effect meant that healthcare workers ought to routinely wear RPE when dealing with COVID-19 positive patients²⁹. This was following more than a year of constant campaigning by the BMA and others. The IPC cell has since 're-clarified' this guidance to say that they believe FRSMs are sufficient for dealing with COVID-19 positive patients and have removed previous references to aerosols being generated by daily actions³⁰. This means that, as of writing this report, healthcare workers in this country are still being denied the appropriate level of protection when treating COVID-19 positive patients.

During the initial stages of the pandemic, there was substantial uncertainty about the extent to which aerosol transmission was a pathway for infection and the difficulty of producing IPC guidance at pace, but we find it inexcusable that despite a brief acknowledgement in the January 2022 update of the IPC guidance, the IPC cell still doesn't fully acknowledge the significant role that aerosols play in COVID transmission and still puts healthcare workers at risk. We must conclude that there have been serious shortcomings during the pandemic that have left healthcare workers exposed and inadequately protected.



Recommendations

- On issues relating to the health and safety of workers, government and arm's length bodies should take a precautionary approach when understanding levels of risk.
- Ensure there is a supportive culture across the wider health system so all feel able to speak out and raise their concerns.



Questions for the inquiries to answer

- What does the IPC Cell understand the role of airborne transmission to be? Why was guidance around aerosol transmission updated then revoked?

Testing capacity was insufficient at the beginning of the pandemic

Testing was a well-documented problem at the beginning of the pandemic, both in the community and in health and social care settings. The UK Government drastically overestimated the UK's capacity to perform COVID-19 tests at the pace and in the volumes required, and the lack of capacity was one of the reasons the UK Government abandoned contact tracing so early during the pandemic and later had to separately set up Test and Trace, at a significant cost to the UK taxpayer. The UK Government allocated huge sums of public funds – £22bn to the test and trace system for 2020-21 and a further £15bn for 2021-22 – to a largely privately provided, centralised test and trace system that ultimately failed to provide an adequate service for large parts of the pandemic in that it failed to meet its targets.³¹ This was a direct consequence of weakened local councils' public health departments and undermined the country's ability to mount a coordinated and effective response at the outset of the pandemic.

This initial lack of capacity meant that even though testing was reserved for health and social care settings, there were not enough tests for all patients who needed one. Tests were limited to those entering intensive care and this left little capacity available for other patients in hospital, or those being discharged into social care settings. We now know this had severe implications for many living in care homes, which we will look at in more detail in the third report in this series.

This lack of testing capacity became a serious issue as COVID-19 began widely circulating in the community. Medical professionals told us they were unable to test incoming patients, which made determining COVID-19 positive patients difficult and meant that doctors were often coming into contact with COVID-19 positive patients without the recommended PPE. This, in turn – given the shortage of available tests for medical professionals during this early stage – may have meant they unwittingly transmitted COVID-19 to their patients and colleagues. This lack of testing capacity was undoubtedly a significant factor in the high levels of nosocomial spread we saw during the first wave of the pandemic³²; our call for evidence found it also left medical professionals feeling vulnerable and inadequately protected.

'Despite reporting several possible cases to public health, none were tested as didn't meet stringent testing criteria at time. Fairly certain I caught it from a patient, I was also refused testing as only symptoms were fever and tiredness (breathlessness came post illness) and told to continue working.'
(GP locum, Scotland)

'There was a delay in allowing testing of all patients with possible COVID symptoms. I was seeing patients in A&E and being told I could not test them because they had not travelled to relevant countries. When testing was later allowed some of these patients unsurprisingly ended up testing positive. I saw these patients with no PPE due to hospital rules around when PPE was allowed to be worn.'
(Junior doctor, England)

Testing improved considerably in April 2020, after the UK Government announced their plan to rapidly scale up testing and introduced the five-pillar testing system with designated testing pathways for NHS keyworkers and antigen testing. Respondents to our call for evidence reported feeling significantly more protected once they were properly able to test patients.

'The main difference compared to the first wave was the ability to test for covid and feel safer around patients who were known to be negative.'

(Medical academic trainee, England)



Recommendations

- Public health systems should be resourced and funded to have adequate contact tracing capacity and be able to rapidly scale up testing for future variants or pandemics.



Questions for the inquiries to answer

- How long into the first wave did it take governments to understand that mass testing was of critical importance in controlling COVID-19?

Personal protective equipment supplies were insufficient, and processes for training and ensuring safe fit were inadequate

PPE is designed to protect the wearer from exposure and damage from a hazardous substance at work. While PPE always plays a role in health and social care settings, with the onset of the pandemic the need and demand for PPE exploded. PPE became significantly more important due to the nature of COVID-19 as a disease, which is caused by a highly transmissible respiratory virus that can be transmitted by droplets and aerosols. PPE access, quality, and fit were some of the key concerns that medical professionals highlighted in our call for evidence. Their experiences of accessing PPE and whether it provided them with the appropriate level of protection varied significantly, including across specialities and settings, as well as demographic characteristics such as ethnic group, gender and the presence of a disability or long-term health condition.

Initially supply in general and of specific items was an issue

In the initial stages of the pandemic, PPE supply was a major issue. PPE procurement and the transparency of the process have raised some serious concerns. The nature of PPE procurement changed during the pandemic and has at different times been a patchwork of different processes. For example, initially the central pandemic stockpile was managed by the DHSC (Department of Health and Social Care) on behalf of all four nations, then when PPE procurement was ramped up with the publishing of the PPE strategy, this was also being managed centrally by DHSC³³. At the same time, devolved governments were also working to secure their own supply of PPE and were responsible for managing their own stock.^{34,35,36} This is all while GP surgeries and other organisations that were initially outside the formal NHS supply chain secured their PPE supplies from commercial suppliers³⁷.

As early as the beginning of March 2020, it was apparent that there was an unparalleled global demand for PPE, which led to severe shortages and a lack of supply worldwide³⁸. The UK Government initially made the mistake of believing that its existing supplies would be sufficient³⁹. NHS England, for example, gave assurances to the Health and Social Care Select Committee that the England stockpile would be enough to manage the whole of the pandemic, whereas it barely lasted two weeks. This meant that as late as mid-March the UK Government was more focussed on ensuring delivery of existing stock than on increasing its procurement. So, when the UK Government scrambled to secure more supplies in late March and April – as demand began vastly outstripping what they thought would be sufficient supply – they entered a crowded marketplace.

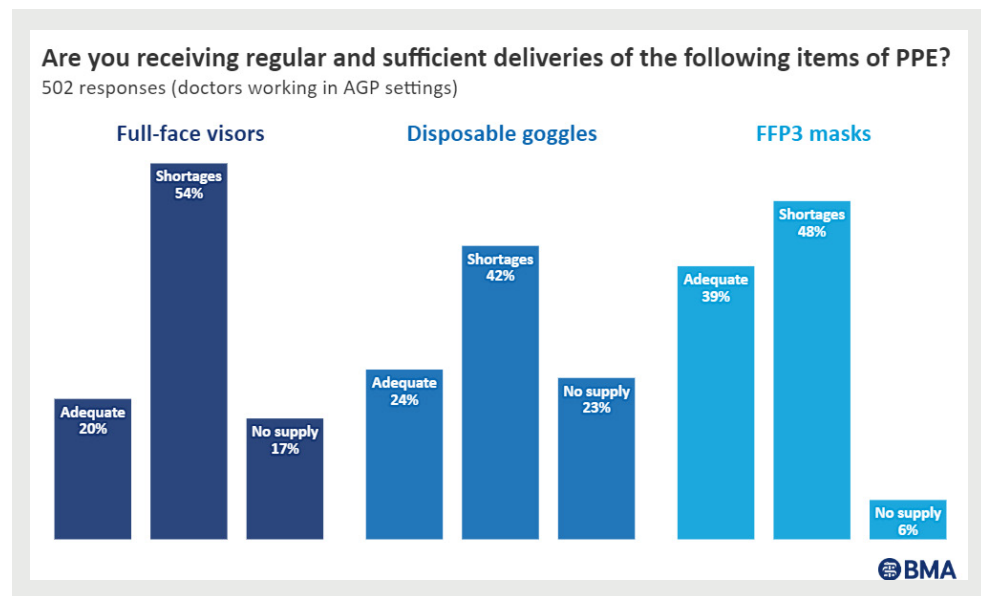
'We were sent 6 pairs of gloves and 6 aprons in an envelope approximately 3 weeks after the start of lockdown.'
(GP contractor/principal, Northern Ireland)

This created significant problems because the procurement process was more prone to risk than would normally be the case⁴⁰. This led to well-documented cases of PPE being procured from organisations with no experience of producing PPE and of PPE being delivered [that was unsuitable for use on the front line](#). While the UK Government worked quickly to address this problem, their process was often flawed. For example, frontline health and care organisations with relevant PPE knowledge – such as the BMA – were unable to recommend leads to the high-priority lane for contracts, while leads from ministers and lords were more actively pursued⁴¹. There was also a general lack of transparency surrounding the deals struck to source PPE. The lack of the UK's domestic capacity to manufacture PPE was an added difficulty and [something the BMA highlighted](#) to the UK Government at the time.

...meaning many medical professionals worked without adequate protection

Importantly, the delays in procurement and subsequent errors meant that medical professionals on the frontline often had to go without PPE, reuse single-use items or use homemade or donated items. The BMA repeatedly highlighted that medical professionals were not being provided with the PPE they needed throughout the pandemic, and our surveys show that there were acute shortages – even in AGP settings. Respondents who worked in an AGP setting told us that there were shortages or no supply of full-face visors (71%), disposable goggles (65%) and FFP3 masks (54%) (see Figure 3).⁴²

Figure 3



PPE shortages were also frequently mentioned in our call for evidence by respondents working in both AGP and non-AGP settings.

'At the start, despite knowing of the virus spread, no PPE was provided. Not even masks let alone thinking of level 2 PPE for aerosol generating procedures. This was when many of my colleagues and I became ill.'
(Consultant, Wales)

'We made our own, and bought our own when we could find any, we depended on friends sourcing FFP3 masks, my son's school 3D printing visors.'
(SAS doctor, England)

'Amazed at how paltry it was, [I] felt undervalued. Like going over the top in WW1 with a bow and arrow.'
(GP contractor/principal, Northern Ireland).

Going without PPE put doctors in the extremely difficult position of having to continue to treat patients knowing they were not being as well protected as they should have been. Respondents reported that they often had to reuse items or use items that were out of date, with multiple expiry stickers visibly layered on top of each other. The situation was so severe, that at the time the BMA had to produce guidance for staff detailing their rights and moral obligations to continue working [if they did not feel adequately protected](#). Worryingly, many respondents to our call for evidence, particularly those working in hospitals, reported feeling pressured to work without adequate protection and described the worry and anxiety this caused.

*'I was put under pressure to carry on regardless and 'support my colleagues'.
(Consultant, England)*

*'Expected to put yourself at risk no questions asked.'
(Junior doctor, Northern Ireland)*

Some respondents told us they felt unable to challenge management in this context.

*'Many of my senior doctors were not wearing PPE in meetings, I was clinically extremely vulnerable and had shielded and this made me very anxious. However, I was new and did not feel I could speak up.'
(Junior doctor, England)*

49% of respondents⁴³ who experienced a shortage of PPE said they had not reported or spoken out to their employer about this shortage, often because they did not believe any action would be taken (36%) or they were worried or fearful about speaking out (11%). Going without PPE was more commonly reported among ethnic minority doctors for example only 59% of ethnic minority doctors in general practice reported having full or adequate PPE as compared to 77% of their white counterparts.⁴⁴ Feeling worried or fearful about speaking out was more commonly reported by ethnic minority respondents (14%), those with a disability or long-term health condition (17%), GP trainees (19%) and SAS doctors (20%)⁴⁵.

The situation improved after the first wave, but for much of the pandemic staff were inadequately protected

Respondents in AGP settings told us that generally PPE supplies improved from April 2020 into May 2020⁴⁶, and the acute shortages seen at the beginning of the pandemic subsided – although we were still receiving reports about PPE shortages as late as August 2020⁴⁷.

However, other issues with PPE persisted, due to the problems with the IPC guidance. As previously discussed, the IPC guidance did briefly recognise that aerosol transmission occurs outside of AGPs and therefore logically RPE would have to be worn in the routine care of COVID positive patients⁴⁸. However, this guidance has since been rescinded. This means that some healthcare workers were – and still are – working with an unsuitable level of PPE. Our call for evidence showed this caused an understandable level of anger among healthcare workers.

*'Early in 2020 (Jan-Feb) I received training from the health board which told us that we would need high grade PPE and that a normal surgical mask was inadequate. Imagine my surprise then when what we received on the ward was normal surgical masks and were then told this was "fine".'
(Junior doctor, Scotland)*

*'Healthcare workers died due to insufficient PPE. It should have been FFP3 for all not just ICU staff.'
(GP contractor/principal, Scotland)*

*'We were seeing patients who had COVID, but because of the advice that was behind the curve, they were deemed to be low risk [...] We needed proper protection with FFP3 masks, but these were not considered necessary and were not provided. It was in April 2020, whilst wearing inadequate PPE that I caught coronavirus from a patient.'
(GP contractor/principal, England).*

PPE fit and availability of fit testing were an issue, especially for certain groups

A lack of PPE was not the only barrier to healthcare workers being properly protected. For PPE, especially RPE, such as FFP2/FFP3 masks, to work effectively they must be properly fitted and be tight fitting. Poor availability of fit testing to ensure properly fitted masks was a frequent problem cited by respondents in our call for evidence. Moreover, where fit testing did occur, it was often useless as shortages meant only poor-fitting masks were available.

'It was really poor; little or no fit testing and even if you had been fit tested, the chance of finding the right mask was very remote.'

(Consultant, England)

'Haphazard availability, multiple fit testing due to masks going out of stock.'

(Consultant, Northern Ireland)

Women particularly struggled to find well-fitting masks. There is a gender bias within PPE – which is largely manufactured to suit white male faces and physiques – meaning PPE often did not fit women, who make up around 77% of the healthcare workforce⁴⁹. This was a problem that was highlighted to us throughout our call for evidence and persisted throughout the pandemic.

'I had initially struggled to get a face fit mask which worked for me as a small woman. When I did have a successful face fit, masks were never delivered to my workplace in the correct size and style.'

(GP contractor/principal, Scotland, female)

'I didn't feel fully protected at all and in particular being female and small and failing fit testing several times with several masks I was left feeling quite vulnerable from this.'

(Consultant, England, female)

Similarly, access to well-fitting PPE was also raised as a problem by some ethnic minority respondents.

'Using FFP3 with black hair is easier with a hair cover. The elastic snags. PPE posters do not routinely show or normalise the reasonable adjustments necessary for non-religious and religious reasons for covered hair.'

(Consultant, Scotland, Black/Black British)

Other research has also suggested that failure rates for fit testing are higher in staff from ethnic minority backgrounds⁵⁰.

Female respondents and those from ethnic minority groups consistently reported slightly higher rates of failing a fit test⁵¹, compared to male respondents or those from white ethnic backgrounds. On average, 8% of female respondents and 9% of ethnic minority respondents reported failing a fit test during this time, compared to 7% of male respondents and 7% of white respondents.

Guidance on using PPE and on donning and doffing safely was often inadequate

Relatedly, we also received a lot of testimony about the quality of PPE guidance and use in general. Practices like safe donning and doffing play a key role in ensuring the safety of the wearer and ensuring that hazardous PPE is safely disposed of.

There was a large degree of variation among respondents regarding how well trained they were in using PPE, but also in safely taking it off. Some respondents reported receiving quality doffing and donning training and they emphasised that this was usually locally organised and in contrast to centrally administered guidance.

'Excellent teaching in our department about the proper use of PPE from colleague consultants with military backgrounds and experience in Ebola outbreaks. Little teaching for colleagues from other departments.'

(Consultant, England)

'I recall having a concerned conversation with other juniors regarding why things were moving so slow [...] I suggested we start setting up PPE training sessions on a peer to peer basis, since it did not seem to be organised from more senior levels.'

(Junior doctor, Wales)

Others reported receiving little to no training and being expected to just know what procedures to implement.

'The IPC team dashed around saying follow droplet precautions without actually ensuring practical training to frontline doctors and nurses, never mind the poor porters, domestics, etc. There were no donning & doffing posters, no SOPs [Standard Operating Procedures] for how to get items (equipment, food, drink) in & out of an infectious room. There were huge assumptions made by off-ward staff that front-line staff would just know how to do these things, so no attention was paid to these details.'

(Consultant, England)



Recommendations

- The UK Government needs to maintain an adequate rotating stockpile of PPE and have plans to quickly scale up procurement and manufacturing if required.
- The medical workforce is diverse which means the PPE we procure needs to be suitable to different face and body shapes, varying hair textures, head coverings, and facial hair so all workers can access adequate protection.
- PPE should be provided with centrally coordinated guidance and practical training on how to fit test, use, and dispose of it safely.



Questions for the inquiries to answer

- Understand why the national stockpile was not configured to deal with COVID-19 and what needs to be done to ensure that the stockpile is appropriate to deal with a variety of threats.

Risk assessments weren't consistently carried out or implemented

Risk assessments are required by law to mitigate workplace risks

Risk assessments are an integral part of IPC practice and an important tool in ensuring that employees are safe and protected at work. As set out earlier in this report, the health of employees and others in workplaces remains well protected by laws dating back at least as far as the 1974 Health and Safety at Work Act. The legislation mandates that employers have duties to ensure both the health of their employees (Section 2) and others affected by the conduct of their undertakings (Section 3), such as patients, students, and site visitors.

Among other things, H&S law imposes a duty on all employers to undertake a 'suitable and sufficient risk assessment' proportionate to the risk arising from exposure at work and appropriate to the nature of the work. As has been stated, this obligation overrides IPC guidance. The Management of Health and Safety at Work Regulations require this assessment to have been recorded where the employer employs five or more employees. An employer in healthcare would, by law, have been expected to undertake risk assessments and review them regularly. Employers should assess all risks in their practice, ranging from needle sticks to workstation design, noxious effects of cleaning agents, risks from violent patients and lone working. They should conclude with a plan which is put into effect to mitigate risks as far as is reasonably practicable. There is also the legal obligation to revise the risk assessments when

one becomes aware of a significant new risk (e.g. COVID in February/ March 2020). COSHH (Control of Substances Hazardous to Health) Regulations also apply to COVID-19 risks in healthcare.

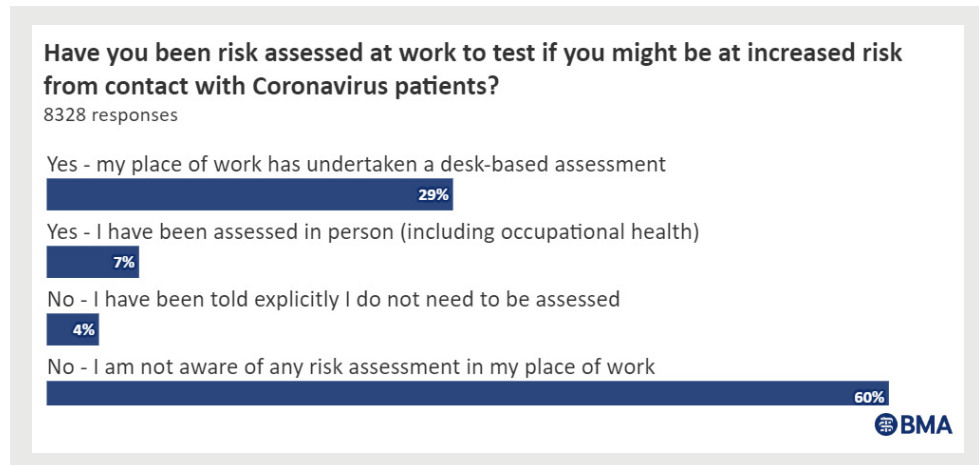
The 2020 Coronavirus Act and ensuing secondary legislation (health regulations), as well as government coronavirus guidance, have not provided derogation from the existing responsibilities under health and safety law. Risk assessments are not a recent requirement, and they must be done irrespective of guidance in place.

This means that, by law, at the start of the pandemic, every medical professional not working from home should have been individually risk assessed as promptly as possible and steps should have been taken to protect them from the new hazard, COVID-19, in response to their level of risk. There also should have been workplace risk assessments to identify areas of high risk within healthcare settings.

Many doctors were not risk assessed, leaving them unjustifiably exposed

However, by May 2020, 64% of respondents had not been risk assessed to test their risk from contact with COVID-19 (see Figure 4).⁵²

Figure 4



Respondents to our call for evidence also reported that risk assessments were not done, or significantly delayed.

'There was no risk assessment. I am asthmatic and overweight and I had no assessment at all.'

(GP locum, England)

'We didn't get risk assessed until months into the pandemic.'

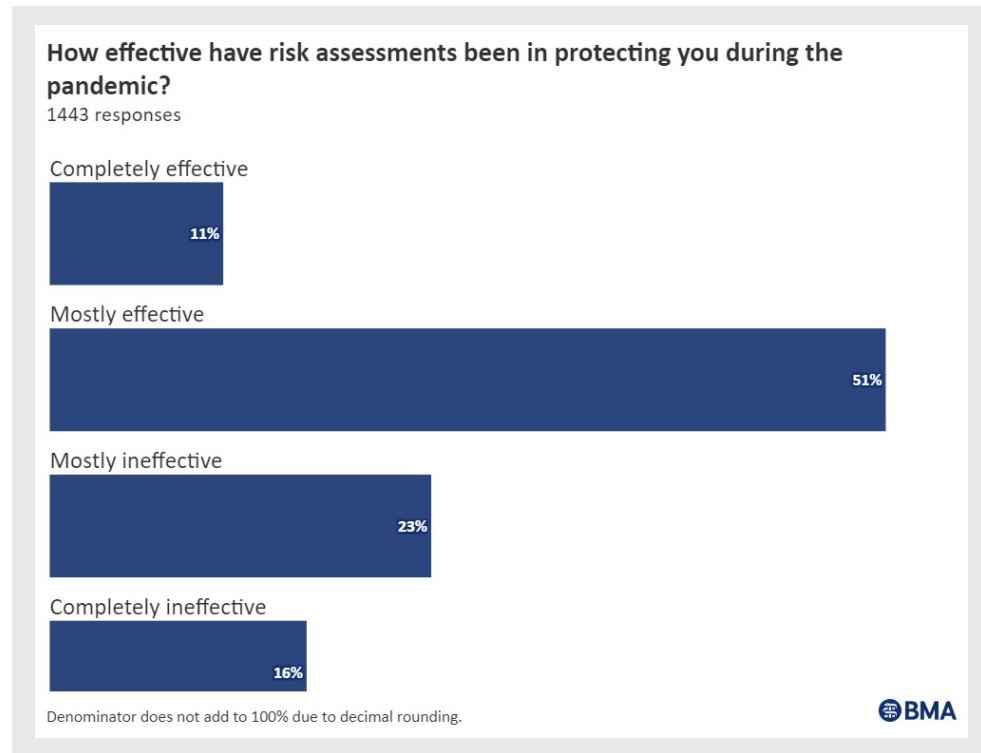
(Consultant, Scotland)

Doctors going without these basic measures is unacceptable and highlights that healthcare workers were expected to carry on working regardless, especially in the earlier stages of the pandemic. This is a significant issue, as risk assessments could have picked up on medical professionals' individual circumstances, going some way toward identifying those at particular risk from the virus and protecting them. A tragic question that the official inquiries into the pandemic will have to answer is whether some medical professionals' deaths could have been prevented with more prompt risk assessments.

Some that were risk assessed felt these assessments or their implementation fell short

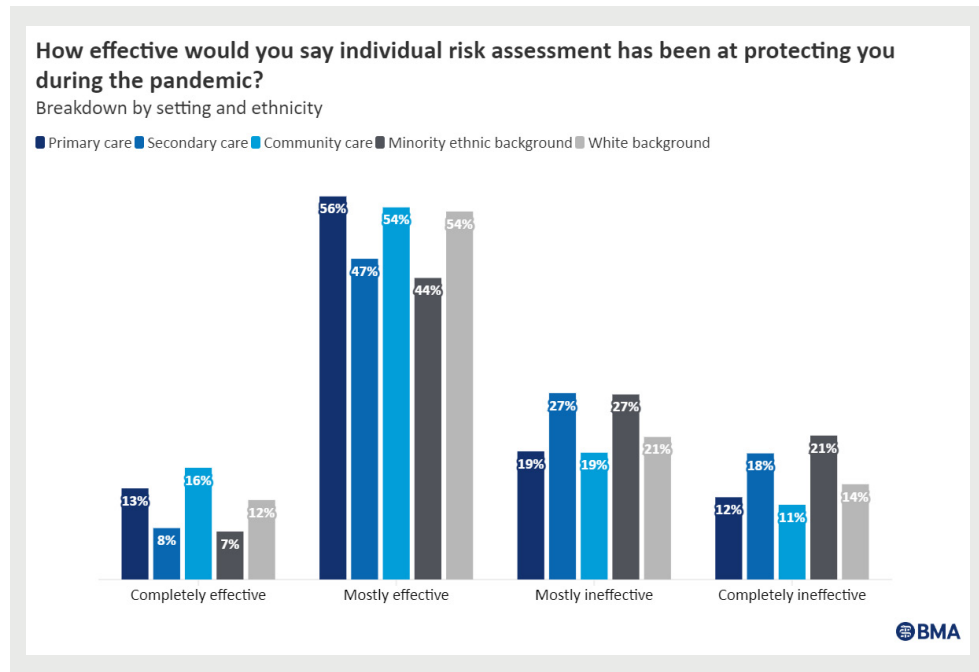
While risks assessments can be very effective if they are implemented and actioned properly, our evidence suggests this did not always happen. Six in ten respondents to our call for evidence said they believed that risk assessments were fully or partly effective at protecting them (62%); but over one third (39%) said they believed risk assessments were ineffective at protecting them at work (see Figure 5).⁵³

Figure 5



Behind these headline stats lies a more complicated picture, with significant differences between doctors. For example, those who worked in hospital settings were more likely to report feeling negative about their risk assessments than doctors in other settings: 45% of doctors working in secondary care felt risk assessments were mostly or completely ineffective, compared to 31% in primary care and 30% in community settings. Similarly, 48% of respondents from an ethnic minority background said risk assessments had been mostly or completely ineffective, whereas only 35% of their white colleagues said so (see Figure 6).⁵⁴

Figure 6



The negative testimony of ethnic minority doctors is a particularly worrying finding when we consider the unacceptable and disproportionate number of COVID-19 cases, harm, and deaths among ethnic minority healthcare workers. Whilst only 21% of all healthcare workers in UK health services come from an ethnic minority background, during the first wave they made up 63% of healthcare workers who sadly lost their lives. This discrepancy is even more pronounced when we consider doctors, of whom 44% are from an ethnic minority background, but who made up 94% of all those who lost their lives during the first wave⁵⁵.

Respondents to our call for evidence also told us about their experiences with risk assessments, many of which were negative. The main reason cited among those who had negative experiences was that the recommendations made in the risk assessment were not fully implemented. This was often because of the nature of doctors' roles, their working environment or staff pressures meant they were not able to work in the way their risk assessment recommended them to.

'Risk assessment was by questionnaire we had to complete and led to a score; this didn't take into account the unsuitable environment at work.'
(Consultant, Wales)

'Individual assessments were carried out but not implemented due to pressure of work.'
(Consultant, Scotland)

'Irrespective of your risk profile if you are Duty GP and there is a sick patient who needs to be seen you have to see them.'
(GP contractor/principal, England)

Another issue frequently mentioned was that risk assessments had procedural flaws. For example, some did not consider whether they or any of their household members were shielding.

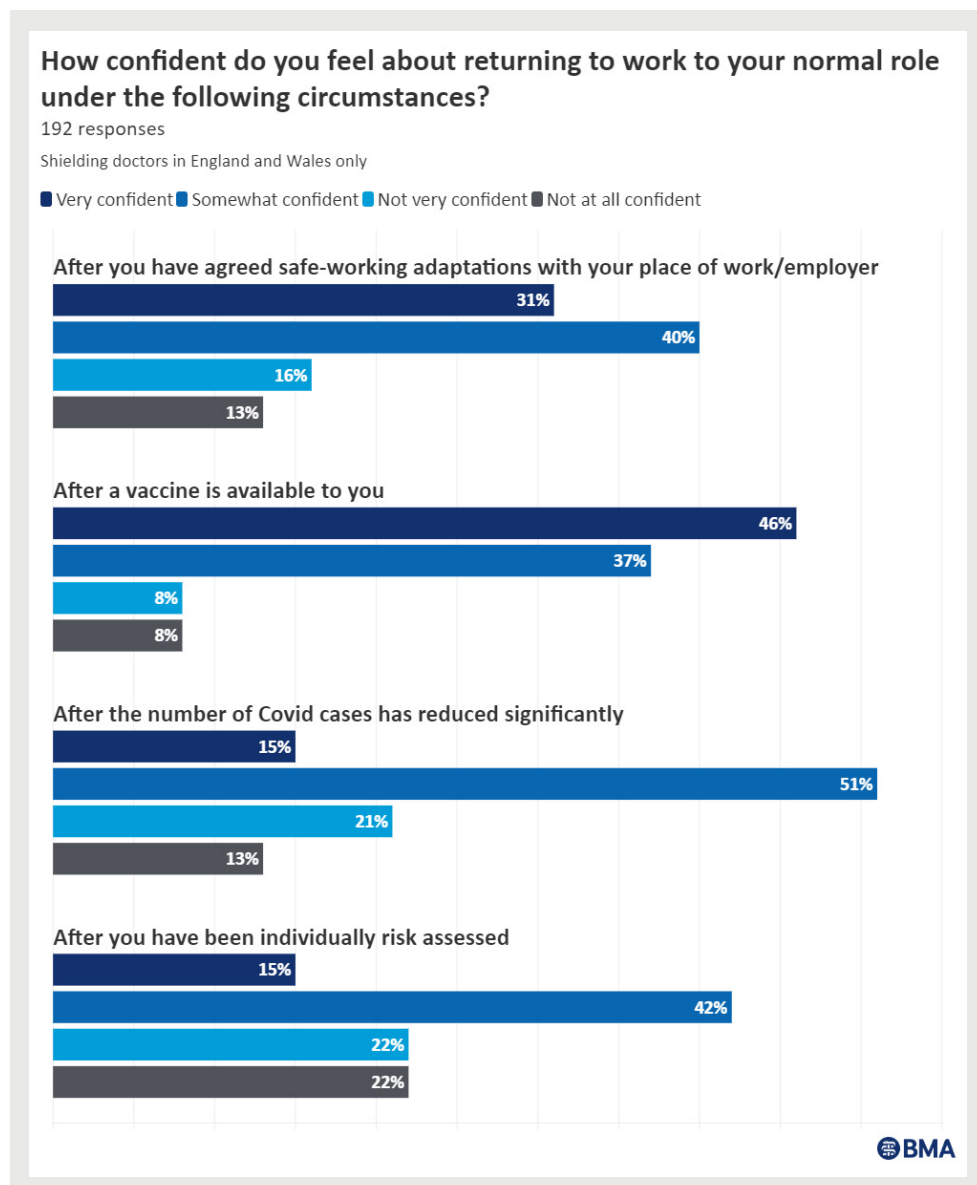
'As my trust created their own risk table which missed out any question of shielding or immunosuppression I was told I was not able to shield. I had to refuse this risk assessment and fight hard to be allowed to shield even after I had received my shielding letter and sent it in. It was extremely stressful and unfair.'
(Consultant, England)

'There was not a section on there about family members or about being a carer for vulnerable people. I was a carer for both my grandfather and Mother, who were both in the extremely vulnerable category.'

(GP trainee, England)

Respondents told us that, when they were able to shield, they were generally well supported; around two-thirds of respondents (59%) felt they had received a good level of support while shielding. However, 30% did report receiving no support or an unsatisfactory level of support.⁵⁶ Doctors who were shielding were understandably nervous about returning to work, however, and told us that it would be the availability of vaccination against COVID that would make them feel the most confident about returning to work (see Figure 7).⁵⁷

Figure 7



Recommendations

- Carrying out risk assessments as required by law and acting upon them should be prioritised in all stages of a pandemic response to protect the vulnerable.
- Investment in significantly increasing the occupational medicine workforce.

Ventilation in NHS buildings is too often not good enough

During the pandemic, and as the evidence base on how COVID-19 transmission evolved, ventilation became more prominent as an effective non-pharmaceutical intervention. It is now widely recognised that good ventilation can help to reduce the spread of COVID-19 by preventing or slowing the build-up of SARS COV-2 particles in the air in a confined space.

However, the ability to effectively ventilate NHS buildings varies. As noted previously, the NHS estate is not a uniform set of buildings and some of the buildings in use are significantly easier to ventilate than others. Poor ventilation was an issue frequently mentioned in responses to our call for evidence. Unsurprisingly, given that building infrastructures are difficult to change, this problem extended beyond the first wave. Respondents in our call for evidence reported that there was often inadequate ventilation where they were working and that it was difficult to improve ventilation due to the age of certain buildings on the estate.

'I contracted Covid and so did all my colleagues. I was working in a Victorian open ward with no ventilation or masks and all the patients has SARS-CoV-2 pneumonia.'

(Junior doctor, Scotland)

'We had no ventilation, no windows in the Covid Zone of ED [Emergency Department].'

(Consultant, England)

'To this date the issue of ventilation in our unit hasn't been addressed. We are in an old building that is planned to be demolished in a couple of years, but not once have we opened windows in the clinical areas and I don't know that there is an appropriate ventilation system.'

(Consultant, Scotland)

This meant it was not always possible to properly implement infection control procedures. However, these respondents said that they felt more comfortable implementing their local protocols over time and adapting guidance to their situation, particularly as the first wave subsided. Those working outside of the NHS estate – for example in community settings or when conducting home visits – faced additional ventilation challenges.

Poor ventilation continues to be a problem across the NHS estate and must be addressed to future proof the NHS estate for future pandemics. Better ventilation also provides other benefits, such as reduced nosocomial spread of other respiratory viruses.



Recommendations

- Improve ventilation across the NHS estate by implanting clear standards and funding and equipment to meet them.

The vaccination programme was a success overall, with a few issues around early rollout

The vaccine programme, delivered by the NHS, is regarded as being the most robust part of the COVID-19 response in the UK, and the actions taken to secure access to a wide range of vaccine candidates and accelerate their safe approval are certainly the UK's biggest success during the pandemic. This is an opinion shared by the medical professionals who responded to our call for evidence, with 90% expressing a favourable view of the vaccine programme.

The UK was the first country to administer a COVID-19 vaccine in early December 2020 and was among the first countries to achieve high vaccine coverage which has continued with a successful booster campaign. All the available COVID-19 vaccines are highly effective at preventing serious illness and death – which was the principal aim of the vaccination campaign and as such vaccination presents an incredibly effective intervention at protecting healthcare workers. It is also worth noting that healthcare workers were among the first to receive the vaccine, being rightly prioritised given their occupational exposure to COVID-19.

'The delivery of vaccination was prompt and probably the only success story in the UK's covid response.'

(Consultant, Wales)

The vaccine programme itself was delivered by healthcare workers and several respondents reported, quite rightly, that they took a great deal of pride in being the ones to deliver the vaccination campaign.

'This was a massive undertaking that we had no idea we would be able to staff or fund adequately at the time. It now however is one of the greatest achievements of my career, being able to protect my community.'

(GP contractor/principal, England)

There was admittedly some divergence in experience, expressed either in our call for evidence or in wider feedback from our members, between certain groups of medical professionals, mainly around access to the first dose. For example, junior doctors, GP locums and medical students who were not yet deployed and doctors who work in private practice – and therefore did not get offered the job through their employer – were more likely to report difficulty in accessing their first vaccination. Respondents in our call for evidence who were pregnant at the start of the vaccination campaign reported receiving conflicting advice on whether to be vaccinated or not which led to confusion and situations where individuals who wanted to be vaccinated were sometimes unable to be vaccinated even after the advice changed. Some individuals who were confused or concerned by the changing advice therefore remained unvaccinated. Lastly, there were also reports in our call for evidence that non-patient-facing staff, and in some cases management, were able to book and receive their vaccine before patient-facing staff largely due to differences in access to a computer when booking opened and practical challenges of fitting vaccination around patient care. This was an understandable source of frustration for some, although other respondents felt that, for managers, this was a way of trying to encourage people to take the opportunity to be vaccinated. Nonetheless, overall, the vaccination campaign was considered overwhelmingly positive, and respondents often mentioned the speed with which they received their vaccine and the ease of booking as significant positives.

At the time of the vaccine rollout, there was a degree of apprehension when the UK decided to increase the vaccine dosage interval for the Pfizer vaccine beyond the two weeks recommended interval by the clinical trial to 12 weeks. The rationale given for this decision was that vaccine supply was a major issue, that there was a bottleneck in the number of doses that the UK was able to administer within a specific timeframe and that as such vaccinating a greater number of people with one dose would spread coverage and protection in those who needed it.

Deviating from the recommended dosage interval – a decision no other country made at the time – did leave many healthcare workers feeling anxious, particularly when their appointments were cancelled very suddenly. Healthcare workers were particularly affected by this decision, as they were among the first to receive the vaccine, and naturally felt concerned about being the test case for a decision to deviate from the original dosage schedule which may have left them with less protection, especially after having to work without adequate PPE early in the pandemic.



Recommendations

- Vaccine procurement was a massive success and should be used as a model for how to effectively fund scientific research in a fast-moving situation.
- Any future vaccination programmes for the medical profession should consider the range of potential barriers to access which could be experienced by some staff, and identify ways to ensure access is equitable.



Questions for the inquiries to answer

- What can be learned from the enormous success of the vaccine rollout and critical role played by the NHS and medical profession to better facilitate future public health campaigns?

Conclusion

The pandemic has been an extraordinarily difficult time for everyone, but particularly for those who were working on the front line and were disproportionately exposed to COVID-19. There were efforts made to protect frontline healthcare workers and we understand that the pandemic constituted a fast-moving emergency where decisions had to be made quickly. However, looking at the evidence from the testimony of medical professionals from across the UK, we must conclude that healthcare workers have not been properly protected during the pandemic.

We went into this pandemic with health and public health systems that were under immense pressure and chronically under-resourced, and pandemic planning that was ineffective and not implemented. In the initial stages of the pandemic, a lack of PPE, testing and risk assessments meant that healthcare workers were systemically exposed to COVID-19 without being able to properly mitigate this risk with proper infection control procedures in place. Governments across the UK did not act quickly enough to put into place the kind of policies that would have helped healthcare workers do their job safely in those early stages.

As the pandemic progressed, healthcare workers were undeniably better protected, as they reported to us. However, issues remained. For example, as of writing this report, there was still a refusal to provide healthcare workers with proper respiratory protective equipment that would have given them the level of protection they needed against an airborne virus. Furthermore, a significant minority of doctors reported not having had a risk assessment despite it being a legal obligation. These failings have damaged trust between healthcare workers and Governments.

The vaccination campaign on the other hand was a success and did protect healthcare workers. However, the campaign was delivered by those healthcare workers who had been tirelessly treating patients for two years. Healthcare workers should have been better protected at all stages of the pandemic. We hope that future pandemic planning will learn the lessons from COVID-19 and governments across the UK will engage with the profession to understand how they can help healthcare workers so healthcare workers can help the public.

Appendix A

Overview of BMA COVID research

Title	Date	Responses	Coverage
Covid Tracker survey 1	6 April 2020	1,924	UK wide
Covid Tracker survey 2	16 April 2020	6,126	UK wide
Covid Tracker survey 3	30 April 2020	16,343	UK wide
Covid Tracker survey 4	14 May 2020	10,328	UK wide
Covid Tracker survey 5	28 May 2020	8,455	UK wide
Covid Tracker survey 6	18 June 2020	7,497	UK wide
Covid Tracker survey 7	9 July 2020	5,905	England/Wales
Covid Tracker survey 8	13 August 2020	4,279	England/Wales
Covid Tracker survey 9	22 October 2020	7,820	England/Wales/Northern Ireland
Covid Tracker survey 10	17 December 2020	7,776	England/Wales/Northern Ireland
Covid Tracker survey 11	8 February 2021	8,153	UK wide
Covid Tracker survey 12	19 April 2021	5,521	UK wide
Viewpoint survey 1	8 July 2021	2,478	England/Wales/Northern Ireland
Viewpoint survey 2	2 September 2021	1,749	England/Wales/Northern Ireland
Viewpoint survey 3	26 November 2021	2,424	England/Wales/Northern Ireland
Viewpoint survey 4	4 February 2022	1,320	England/Wales/Northern Ireland
Call for evidence	17 December 2021	2,484	UK wide (open to BMA members and non-members)

References

- 1 CDC, Risk for COVID-19 Infection, Hospitalisation and Death by Age Group, 2022: <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-age.html>
- 2 Mathur et al, 'Ethnic differences in SARS-CoV-2 infection and COVID-19-related hospitalisation, intensive care unit admission, and death in 17 million adults in England: an observational cohort study using the Open SAFELY platform', *The Lancet*, 2021: [https://www.thelancet.com/article/S0140-6736\(21\)00634-6/fulltext#seccestitle150](https://www.thelancet.com/article/S0140-6736(21)00634-6/fulltext#seccestitle150)
- 3 ONS, 'Which occupations have the highest potential exposure to the coronavirus' 2020: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/whichoccupationshavethehighestpotentialexposuretothecoronaviruscovid19/2020-05-11>
- 4 Mutambudzi et al, "Occupation and risk of severe COVID-19: prospective cohort study of 120,075 UK Biobank participants". *Occupational Environ Med*: 2020 <https://oem.bmj.com/content/oemed/early/2020/12/01/oemed-2020-106731.full.pdf>
- 5 Shah et al "Risk of hospital admission with coronavirus disease 2019 in healthcare workers and their households: nationwide linkage cohort study". *BMJ*. (2020) <http://dx.doi.org/10.1136/bmj.m3582>
- 6 Industrial Injuries Advisory Council, 'COVID-19 and occupation: position paper 48', 2020: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/964524/covid-19-and-occupation-policy-paper-48.pdf
- 7 OECD, 'Health at a Glance 2021: Highlights for the United Kingdom', 2021: <https://www.oecd.org/unitedkingdom/health-at-a-glance-UK-EN.pdf>
- 8 Institute for Government, 'Devolved public services: the NHS, schools and social care in the four nations', 2021: <https://www.instituteforgovernment.org.uk/sites/default/files/publications/devolved-public-services.pdf>
- 9 Institute for Fiscal Studies, 'Pressures on the NHS' 2021: <https://ifs.org.uk/uploads/6-Pressures-on-the-NHS-.pdf>
- 10 'The Health Foundation', International comparisons of capital in health care : why is the UK falling behind', 2019: https://www.health.org.uk/publications/long-reads/international-comparisons-of-capital-in-health-care-why-is-the-uk-falling-behind?gclid=CjwKCAjwxOCRBhA8EiwA0X8hi2Bkl0SelXdwmc5Tb6wr1M5HEft7ck_kfVslxzExEwXhNlfcx-GlxoCqP0QAvD_BwE
- 11 HoC Health and Social Care and Science and Technology committees, 'Coronavirus: lessons learned to date', 2021: <https://committees.parliament.uk/publications/7496/documents/78687/default/>
- 12 Public Health Agency, 'Annual Report 16/17: 2017 https://www.publichealth.hscni.net/sites/default/files/2018-07/PHA%20ACCOUNTS%202016-2017%20V3%20-%20Final%20to%20Publishers_0.pdf
- 13 Public Health Agency, 'Annual Report 18/19 : 2019 <https://www.publichealth.hscni.net/publications/pha-annual-report-and-accounts-2018-2019>
- 14 Health Foundation, 'Improving the nation's health: the future of the public health system in England', 2020: <https://www.health.org.uk/publications/reports/improving-the-nations-health>
- 15 Kings Fund, 'Public Health: our position', 2021: <https://www.kingsfund.org.uk/projects/positions/public-health>
- 16 Economist, 'Tracking COVID-19 excess deaths across countries' 2022: <https://www.economist.com/graphic-detail/coronavirus-excess-deaths-tracker>
- 17 HoC Health and Social Care and Science and Technology committees, 'Coronavirus: lessons learned to date', 2021: <https://committees.parliament.uk/publications/7496/documents/78687/default/>
- 18 National Audit Office, 'The supply of personal protective equipment during the pandemic', <https://www.nao.org.uk/wp-content/uploads/2020/11/The-supply-of-personal-protective-equipment-PPE-during-the-COVID-19-pandemic.pdf>
- 19 BMA Call for evidence survey, 17 December 2021.
- 20 NHS England, 'COVID-19 Hospital Activity': <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-hospital-activity/>

- 21 Scottish Government, 'Coronavirus (COVID 19): trends in daily data', 2022: <https://www.gov.scot/publications/coronavirus-covid-19-trends-in-daily-data/>
- 22 NI DOH, 'Latest coronavirus update', 2020: <https://www.health-ni.gov.uk/news/latest-update-coronavirus-covid-19-12>
- 23 Hoernke et al. 'Frontline healthcare workers' experiences with personal protective equipment during the COVID-19 pandemic in the UK: a rapid qualitative appraisal', British Medical Journal, 2021: <https://bmjopen.bmj.com/content/11/1/e046199.info>
- 24 Greenlough et al. 'Ten Scientific reasons in support of airborne transmission of SARS COV-2', The Lancet, 2021: [https://www.thelancet.com/article/S0140-6736\(21\)00869-2/fulltext](https://www.thelancet.com/article/S0140-6736(21)00869-2/fulltext)
- 25 National Archive, 'UK Government Web Archive', IPC Guidance March 2020: <https://webarchive.nationalarchives.gov.uk/ukgwa/20200306074809/https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/wuhan-novel-coronavirus-wn-cov-infection-prevention-and-control-guidance>
- 26 National Archive, 'UK Government Web Archive', IPC Guidance March 2020: <https://webarchive.nationalarchives.gov.uk/ukgwa/20200324162205/https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control#history>
- 27 Wilson et al, 'Airborne transmission of COVID-19', 2020: <https://www.bmj.com/content/370/bmj.m3206>
- 28 BMA, 'BMA calls for urgent review of PPE guidance', 2021: <https://www.bma.org.uk/bma-media-centre/bma-calls-for-urgent-review-of-ppe-guidance-as-provision-still-inadequate-and-health-care-workers-at-serious-risk>
- 29 UK Health Security Agency, 'Infection prevention and control for seasonal respiratory infections in health and care settings (including SARS-CoV-2) for winter 2021 to 2022', updated January 2022: <https://webarchive.nationalarchives.gov.uk/ukgwa/20220121003939/https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-guidance-for-maintaining-services-within-health-and-care-settings-infection-prevention-and-control-recommendations>
- 30 UK Health Security Agency, 'Infection prevention and control for seasonal respiratory infections in health and care settings (including SARS-CoV-2) for winter 2021 to 2022', updated 14 April 2022: <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-guidance-for-maintaining-services-within-health-and-care-settings-infection-prevention-and-control-recommendations>
- 31 National Audit Office, 'The Government's approach to test and trace in England – interim report', 2020: <https://www.nao.org.uk/wp-content/uploads/2020/12/The-governments-approach-to-test-and-trace-in-England-interim-report.pdf>
- 32 Health and Social care select committee, 'COVID-19: Government procurement and supply of personal protective equipment', 2021: <https://committees.parliament.uk/publications/4607/documents/46709/default/>
- 33 UK Gov, 'PPE Plan' 2020: <https://www.gov.uk/government/publications/coronavirus-covid-19-personal-protective-equipment-ppe-plan/covid-19-personal-protective-equipment-ppe-plan>
- 34 Ulster University, 'Ensuring the Quality and Quantity of Personal Protective Equipment (PPE) by enhancing the procurement process in Northern Ireland during the and COVID-19 Pandemic: Challenges in the procurement process for PPE in NI': <https://pure.ulster.ac.uk/en/publications/ensuring-the-quality-and-quantity-of-personal-protective-equipment>
- 35 Welsh Government, 'Procuring and Supplying PPE for the COVID-19 Pandemic', 2021: https://www.audit.wales/sites/default/files/publications/PPE%20-English_0.pdf
- 36 Audit Scotland, 'COVID-19 Personal Protective Equipment', 2021: https://www.audit-scotland.gov.uk/uploads/docs/report/2021/briefing_210617_ppe.pdf
- 37 NHS Providers, Government procurement and contracts for PPE, 2020: <https://committees.parliament.uk/writtenevidence/18228/pdf/>
- 38 World Health Organisation 'Shortage of personal protective equipment endangering health workers worldwide', 2020: <https://www.who.int/news/item/03-03-2020-shortage-of-personal-protective-equipment-endangering-health-workers-worldwide>

- 39 National Audit Office, The supply of personal protective equipment during the pandemic, <https://www.nao.org.uk/wp-content/uploads/2020/11/The-supply-of-personal-protective-equipment-PPE-during-the-COVID-19-pandemic.pdf>
- 40 Health and Social care select committee, 'COVID-19: Government procurement and supply of personal protective equipment', 2021: <https://committees.parliament.uk/publications/4607/documents/46709/default/>
- 41 Health and Social care select committee, 'COVID-19: Government procurement and supply of personal protective equipment', 2021: <https://committees.parliament.uk/publications/4607/documents/46709/default/>
- 42 BMA Covid Tracker survey, 6 April 2020
- 43 BMA Covid Tracker survey, 14 May 2020
- 44 BMA Covid Tracker survey, 30 April 2021
- 45 BMA Covid Tracker survey, 14 May 2020
- 46 BMA Covid Tracker surveys, 6 April 2020 – 14 May 2020
- 47 BMA Covid Tracker survey, 13 August 2020 (responses from England and Wales only)
- 48 Hoernke et al. 'Frontline healthcare workers' experiences with personal protective equipment during the COVID-19 pandemic in the UK: a rapid qualitative appraisal', British Medical Journal, 2021: <https://bmjopen.bmj.com/content/11/1/e046199.info>
- 49 BMJ, 'Personal protective equipment is sexist' 2021: <https://blogs.bmj.com/bmj/2021/03/09/personal-protective-equipment-is-sexist/>
- 50 Green et al. 'Fit-testing of respiratory protective equipment in the UK during the initial response to the COVID-19 pandemic', <https://pubmed.ncbi.nlm.nih.gov/33940089/>
- 51 BMA Covid Tracker surveys, 30 April 2020 – 18 June 2020 (responses from hospital doctors working in England and Wales only)
- 52 BMA Covid Tracker survey, 14 May 2020
- 53 BMA Call for evidence survey, 17 December 2021.
- 54 BMA Call for evidence survey, 17 December 2021.
- 55 HSJ, 'Exclusive: deaths of NHS staff from covid-19 analysed' 2020: <https://www.hsj.co.uk/exclusive-deaths-of-nhs-staff-from-covid-19-analysed/7027471.article>
- 56 BMA Covid Tracker survey, 9 July 2020 (responses from shielding doctors working in England and Wales only)
- 57 BMA Covid Tracker survey, 9 July 2020 (responses from shielding doctors working in England and Wales only)

British Medical Association
BMA House, Tavistock Square,
London WC1H 9JP
bma.org.uk

© British Medical Association, 2022

BMA 20220111