

COVID-19 – ethical issues. A guidance note

In brief

During this pandemic, doctors are working under extreme pressure. Many are being diverted into new and unfamiliar areas of work and finding themselves working at or even beyond the ordinary limits of their competence or expertise. Retired doctors are returning to practice, and final year medical students are being fast-tracked into front-line roles. Resources are becoming increasingly restricted and choices of available care limited. The pandemic is fast-moving, relatively unpredictable and of uncertain duration. Providing care to existing standards is likely to be difficult. Where they become necessary, prioritisation and triage decisions will be professionally challenging. Doctors will understandably be concerned about their ability to provide safe and ethical care, and their own health and safety as well as those of their family and friends. They will also be concerned that their actions may attract criminal, civil or professional liability.

This guidance note addresses some of the main ethical challenges likely to arise during this pandemic. Wherever possible, links to other sources of advice are provided. From an ethical and professional regulatory perspective – which is also likely to govern the approach of the Courts if there are any legal challenges – doctors should be reassured that they are extremely unlikely to be criticised for the care they provide during the pandemic where decisions are:

- reasonable in the circumstances
- based on the best evidence available at the time
- made in accordance with government, NHS or employer guidance
- made as collaboratively as possible
- designed to promote safe and effective patient care as far as possible in the circumstances.

Should decisions be called into question at a later day, they will be judged by the facts available at the time of the decision, not with the benefit of hindsight.

Introduction and background

We are in the early stages of a pandemic outbreak of COVID-19, for which we currently have no effective vaccine and very little treatment.¹ Based on current – imperfect – knowledge, COVID-19 has a mortality per case ratio of somewhere between 0.5 and 3.4%,² although these figures are likely to be revised once more is known about background infection rates. An informed estimate by the English Chief Medical Officer (CMO) Professor Chris Whitty suggests a probable mortality rate in the region of 1% or less.³ Other commentators suggest it may be significantly higher than this, although

1 <https://www.bbc.co.uk/news/world-51839944>. Accessed 12 Mar. 20.

2 <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---3-march-2020>. Accessed 12 March 2020

3 <https://www.theguardian.com/world/2020/mar/06/uk-has-plans-to-deal-with-pandemic-causing-up-to-315000-deaths>. Accessed 12 Mar. 20.



it is too early to make definitive statements. (By comparison, seasonal flu has a mortality rate in the region of 0.1%.) Current data suggest that those most at risk include those over 70 and those with underlying co-morbidities, with men being at higher risk than women.

COVID-19 is likely to affect a large proportion of the population. It is already creating significant personal and economic disruption and loss. **Given that it may last several years, sustained pressure will continue to be placed on essential services** such as health, energy, food and pharmaceutical production and distribution, water supply and waste disposal.

Given the lack of pre-existing immunity, **it is likely that a considerable percentage of the population will seek, and may at some point require, medical attention.** There is little or no surge capacity in the NHS although vigorous attempts are being made to reduce demand through social distancing and to increase the availability of intensive care beds. Nevertheless, it is possible that serious health needs may outstrip availability and difficult decisions will be required about how to distribute scarce lifesaving resources. Although we profoundly hope this will not happen, it is important that we begin to think now about how we would respond should that situation arise in the future.

To date, much of the focus has been on conventional public health tools for the management of the early stages of an outbreak, such as quarantine and other forms of social distancing. As the pandemic develops and health services are put under greater pressure, it is possible that decisions about the allocation of potentially life-saving treatment to individual patients will fall to health care providers and individual health professionals. This would give rise to searching ethical – and procedural – questions and it is to those and related issues we now turn.

An ethical framework⁴

There has always been an ethical tension in medicine between a doctor's concern for the health and welfare of the individual patient and concern for the health of populations. In dangerous pandemics the ethical balance of all doctors and health care workers must shift towards the utilitarian objective of equitable concern for all – while maintaining respect for all as 'ends in themselves'.

Prior to the 2009 pandemic, the Government issued an ethical framework – revised in 2017 – designed to help people think through strategic aspects of decision-making during a pandemic, as well as providing an ethical compass for clinicians. It took the form of several guiding principles which are set out briefly below.

- **Equal respect:** everyone matters and **everyone matters equally, but this does not mean that everyone will be treated the same**
- **Respect:** keep people as informed as possible; give people the chance to express their views on matters that affect them; respect people's personal choices about care and treatment
- **Minimise the harm of the pandemic:** reduce spread, minimise disruption, learn what works
- **Fairness:** everyone matters equally. **People with an equal chance of benefiting from a resource should have an equal chance of receiving it** – although it is not unfair to ask people to wait if they could get the same benefit later
- **Working together:** we need to support each other, take responsibility for our own behaviour and share information appropriately
- **Reciprocity:** those who take on increased burdens should be supported in doing so
- **Keeping things in proportion:** information communicated must be proportionate to the risks; restrictions on rights must be proportionate to the goals
- **Flexibility:** plans must be adaptable to changing circumstances
- **Open and transparent decision-making:** good decisions will be as inclusive, transparent and reasonable as possible. They should be rational, evidence-based, the result of a reasonable process and practical in the circumstances.

Resource allocation

⁴ The following ethical framework is taken from <https://www.gov.uk/guidance/pandemic-flu#ethical-framework>. Accessed 13 Mar 20.

During this pandemic, it is possible that demand on health services may outstrip the ability of the NHS to deliver services to pre-pandemic standards. As we have seen in China, Italy and Spain, deaths frequently follow hospitalisation and critical care interventions. In Wuhan, 5% of those infected were admitted to ICU, and 2.5% required mechanical ventilation.⁵ It is possible therefore that restrictions in the availability of mechanical ventilation may for a period become severe.

Although not everyone will become ill at once, the initial wave of illness can be extremely rapid, over a few days to a few weeks. In these circumstances, if demand outstrips the ability to deliver to existing standards, more strictly utilitarian considerations will have to be applied, and decisions about how to meet individual need will give way to decisions about how to maximise overall benefit.

We know that health professionals would find decision-making in these circumstances ethically challenging. Such extreme situations bring about a transformation of doctors' everyday moral intuitions. The obligation to persevere in the face of an extremely ill patient would be challenged by quantitative decisions based on maximising the overall reduction of mortality and morbidity, and the need to maintain vital social functions. Doctors would be obliged to implement decision-making policies which mean some patients may be denied intensive forms of treatment that they would have received outside a pandemic. Health professionals may be obliged to withdraw treatment from some patients to enable treatment of other patients with a higher survival probability. This may involve withdrawing treatment from an individual who is stable or even improving but whose objective assessment indicates a worse prognosis than another patient who requires the same resource.

Although doctors would likely find these decisions difficult, if there is radically reduced capacity to meet all serious health needs, it is both lawful and ethical for a doctor, following appropriate prioritisation policies, to refuse someone potentially life-saving treatment where someone else has a higher priority for the available treatment. These are grave decisions, but the legal principles were established in relation to the allocation of organs for transplantation and have been recently upheld by the Court of Appeal.⁶ In relation to adults lacking capacity, these prioritisation decisions are not 'best interests' decisions under capacity legislation. The fact that a patient lacks capacity does not import a 'best interests' decision-making model. In short, there is no automatic priority for those who lack capacity and decisions about their treatment should be made in the same way as for all other patients requiring treatment. If there is a need to limit the availability of intensive care for patients because of the COVID-19 pandemic and a critical shortfall in ICU capacity, it would be unethical to apply those limits differently to patients with or without appointed surrogate decision-makers or those with or without particular religious views.

It is essential that, should they be required to, doctors make these decisions in accordance with decision-making protocols rolled out by employing or commissioning organisations. This would need to be both practical and sufficiently flexible to respond in a timely manner to uncertainty and rapidly changing circumstances.

All decisions concerning resource allocation must be:

- reasonable in the circumstances
- based on the best available clinical data and opinion
- based on coherent ethical principles and reasoning
- agreed on in advance where practicable, while recognising that decisions may need to be rapidly revised in changing circumstances
- consistent between different professionals as far as possible
- communicated openly and transparently
- subject to modification and review as the situation develops.

Where a decision is made to withhold or withdraw some forms of treatment from patients on the grounds of resource allocation, it is crucial that those patients still receive compassionate and dedicated medical care and attention, as far as possible in the circumstances. This should include appropriate symptom management and, where patients are dying, the best available end-of-life care. If it becomes necessary to make these decisions, they are likely to have a significant emotional impact on health workers, both in the short term and, in some cases, more enduringly. Such

⁵ <https://www.nejm.org/doi/full/10.1056/NEJMoa2002032>.

⁶ See R (BA) v The Secretary of State for Health and Social Care [2018] EWCA Civ 2696.

decisions may adversely affect the family and friends of healthcare staff. Doctors and other frontline health workers are already overstretched, and the ability of the health system to respond to the pandemic will be dependent upon their wellbeing. It is essential that employers take steps to provide appropriate support, including clinical ethics committee support and psychological support, to all health professionals working during the pandemic, many of whom may find working in the unfamiliar and strenuous conditions of a pandemic both practically difficult and morally and emotionally challenging. It is essential that their wellbeing is prioritised, both for its own sake and as part of maintaining effective clinical services. Health professionals should seek to ensure their own wellbeing, and the wellbeing of their colleagues as far as possible in the circumstances. It is vital that all those working in health systems endeavour to work collaboratively and supportively both within teams and more widely.

Triage

If services are overwhelmed during this pandemic, health providers will put in place – or expand – systems of triage. Triage is a form of rationing or allocation of scarce resources under critical or emergency circumstances where decisions about who should receive treatment must be made immediately because more individuals have life-threatening conditions than can be treated at once. Triage sorts or grades persons according to their needs and the probable outcomes of intervention. It can also involve identifying those who are so ill or badly injured that even with aggressive treatment they are unlikely to survive and should therefore receive a lower priority for acute emergency interventions while nonetheless receiving the best available symptomatic relief.

It is possible we could reach a point where the decisions made in triage will determine whether potentially large numbers of individuals will receive life-saving treatment or not. It is essential therefore that the principles underlying the decisions are systematically applied. In these circumstances it is likely that priority will ordinarily be given to those whose conditions are the most urgent, the least complex, and who are likely to live the longest, thereby maximising overall benefit in terms of reduced mortality and morbidity. Priority decisions will be dependent upon the relationship between the availability of resources and the demand. If serious depletion of resources arises, decisions about which patients should receive treatment will change over the course of the pandemic.

We know that current data about COVID-19 show a strong correlation between older age and mortality. Although work has not been done yet to establish whether this reflects an actual effect of age, or simply a correlation between age and co-morbidities that will affect survival rates, it is likely that the most challenging triage decisions will be made for these groups.

If they become necessary, **these decisions must not be solely based on age.** Ethically, triage requires identification of clinically relevant facts about individual patients and their likelihood of benefiting from available resources. **Younger patients will not automatically be prioritised over older ones.**

A pandemic will obviously not prevent people being ill in other ways. Triage decisions will therefore not only relate to those patients directly suffering from COVID-19. Similar criteria will need to be applied to all varieties of medical need. Consequently, thresholds for granting access to, for example, intensive care or ventilation will have to be changed for all patients with all presenting criteria. By itself, infection with COVID-19 should not guarantee priority.

The presence of co-morbidity may exclude individuals from eligibility. In these circumstances, **it may be necessary to discontinue treatment that has already been started, as there are patients in need whose outcomes are likely to be more favourable.** Difficult decisions will arise where strenuous intervention could reduce mortality significantly but would mean that individual patients use resources that could lead to better outcomes for a larger number of other patients.

The pandemic, and the restricted availability of intensive care, will influence other clinical decision-making within the hospital. For example, **it will be important for clinicians to review and document the appropriateness of cardiopulmonary resuscitation for all inpatients (with or without COVID-19 associated illness) where there is a possibility of acute deterioration. If patients have sufficient background illness, co-morbidity and/or frailty that they would not be admitted to intensive care (because of the necessary restrictions on admissions), it is important that cardio-pulmonary**

resuscitation is **not** commenced in the event of a collapse. Performing advanced resuscitation for a patient for whom post-resuscitation intensive care cannot be provided would potentially cause harm to the patient, consume limited resources at a time of considerable strain, and potentially put the resuscitation team at unnecessary personal risk.

A CHEST consensus statement on triage and care of the critically ill during pandemics and disasters can be found here: [https://journal.chestnet.org/article/S0012-3692\(15\)51990-9/pdf](https://journal.chestnet.org/article/S0012-3692(15)51990-9/pdf)

A useful BMJ comment on triage during the COVID-19 outbreak can be found here: <https://blogs.bmj.com/bmj/2020/03/09/covid-19-triage-in-a-pandemic-is-even-thornier-than-you-might-think/>

Medical utility

The focus of health professionals' attention during triage will be on delivering the greatest medical benefit to the greatest number of people. Behind such a deceptively simple principle lurk challenging decisions. Such a strategy requires an epidemiological judgment about at-risk groups that will vary according to the epidemiology of the disease.

To maximise benefit from admission to intensive care, it will be necessary to adopt a threshold for admission to intensive care or use of scarce intensive treatments such as mechanical ventilation or extracorporeal membrane oxygenation. Relevant factors predicting survival include severity of acute illness, presence and severity of co-morbidity and, where clinically relevant, patient age.⁷ Those patients whose probability of dying, or of requiring a prolonged duration of intensive support, exceeds a threshold level would not be considered for intensive treatment, though of course they should still receive other forms of medical care.

The difficulty will lie in applying the general principles to a complex, unpredictable and evolving health crisis of uncertain duration and extent. **Ethical questions are likely to arise, however, where the requirements of medical utility have been met, but choices between individuals with equal need still have to be made.** One likely challenge during the current pandemic is that large numbers of people requiring intensive care are likely to have similar chances of survival and anticipated lengths of stay in ICU. In these circumstances, consideration will have to be given to an egalitarian approach that ensures a fair distribution of resources.

The most likely approach in the first instance is a modified queuing system, based on the well-established and understood principle of 'first come, first served'. This would mean that those patients who become critically ill earlier in the pandemic would be more likely to be admitted to intensive care or receive mechanical ventilation than those who become similarly ill at a later stage, albeit they may only be offered intensive support for a defined but limited period. While such an approach is procedurally simple to apply, and arguably fair, it is not without its challenges. It is, for example, likely to give priority to those who are mobile, who have access to transport, or who live close to hospitals and other sites of health provision.

Withdrawing or withholding treatment?

There is likely to be significant ethical attention to decisions about withholding therapies from patients at the time of deterioration. However, there is no ethically significant difference between decisions to withhold life-sustaining treatment or to withdraw it, other clinically relevant factors being equal – although health professionals may find decisions to withdraw treatment more challenging.⁸ There may be a need to make admission to intensive care or commencement of advanced life-support conditional upon response to treatment, for example, drawing on the concept of a time-limited trial of therapy.⁹ **In the setting of overwhelming demand, if patients' prognosis**

⁷ Zhou, Fei, Ting Yu, Ronghui Du, Guohui Fan, Ying Liu, Zhibo Liu, Jie Xiang et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *The Lancet*. doi:10.1016/S0140-6736(20)30566-3.

⁸ Wilkinson, D., and J Savulescu. 2012. A costly separation between withdrawing and withholding treatment in intensive care. *Bioethics* 26 (1):32-48. doi:10.1111/j.1467-8519.2010.01811.x.

⁹ Vink, E. E., E. Azoulay, A. Caplan, E. J. O. Kompanje, and J. Bakker. 2018. Time-limited trial of intensive care treatment: an overview of current literature. *Intensive Care Medicine* 44 (9):1369-1377. doi:10.1007/s00134-018-5339-x.

worsens after admission to intensive care – sufficiently that, if it had been the case prior to admission, the treatment would not have been commenced – it should be withdrawn and the same facility offered to another patient reasonably believed to have the capacity to benefit quickly.¹⁰

Depending upon the nature of the pandemic, there may be a need during its progress to shift from one level of service rationing to a more or less severe one, the details of which should be set out by management in protocols. The WHO talks about the ‘phasing’ of a pandemic, with different phases requiring different decision-making criteria.

A link to the WHO pandemic phase information for COVID-19 is available here:
<https://www.who.int/csr/disease/swineflu/phase/en/>

Direct and indirect discrimination in prioritisation decisions

Where patients are refused access to life-saving treatment as a result of triage or prioritisation decisions it is likely that questions about possible discrimination may be raised. During the peak of the pandemic, doctors are likely to be required to assess a person’s eligibility for treatment based on a ‘capacity to benefit quickly’ basis. As such, some of the most unwell patients may be denied access to treatment such as intensive care or artificial ventilation. This will inevitably be indirectly discriminatory against both the elderly and those with long-term health conditions, with the latter being denied access to life-saving treatment as a result of their pre-existing health problems. A simple ‘cut-off’ policy with regard to age or disability would be unlawful as it would constitute direct discrimination. A healthy 75-year-old cannot lawfully be denied access to treatment on the basis of age. However, older patients with severe respiratory failure secondary to COVID-19 may have a very high chance of dying despite intensive care, and consequently have a lower priority for admission to intensive care.

Although a ‘capacity to benefit quickly’ test would be indirect discrimination, in our view it would be lawful in the circumstances of a serious pandemic because it would amount to ‘a proportionate means of achieving a legitimate aim’, under s19 (1) of the Equalities Act – namely fulfilling the requirement to use limited NHS resources to their best effect.

Maintaining essential services

Although we are not there yet, it is possible we may reach a stage where decisions about beneficial distribution of resources can no longer be restricted to medical utility alone. Given the potential for widespread social and economic disruption, decisions about which groups will have first call on scarce resources may also need to take account of the need to maintain essential services, in a situation where the workforce providing those services is severely depleted. This may mean giving some priority to those who are responsible for delivering those services and who have a good chance of recovery, in order to get them back into the workforce. In addition to delivering maximum clinical benefit, priorities during a severe pandemic may include:

- limiting social disruption
- ensuring maintenance of health care systems
- ensuring integrity of social infrastructure
- limiting economic losses.

In addition to those individuals involved in tackling the immediate health and social care aspects of the pandemic, and particularly those with scarce and irreplaceable skills, many public and private actors are necessary to ensure that essential services are maintained. This could include personnel in the emergency services, security, essential products and services, the maintenance of critical infrastructure such as transportation, utilities such as electricity, water and sewage systems, telecommunications and sanitation. Priority will also need to be given to the continued function of governance structures. Key individuals who are involved in the production of countermeasures, including vaccines, anti-virals and other essential health products may also form part of this

¹⁰ Wilkinson, DJC, E Butcherine, and J Savulescu. 2019. Withdrawal aversion and the equivalence test. *American Journal of Bioethics* 19 (3):21-28. doi:<https://doi.org/10.1080/15265161.2019.1574465>.

prioritised group. In our view it will be for Government to define the categories of essential workers and the tests to be applied. This is not a responsibility that should lie with doctors.

Giving priority to those working in essential services in this way would move beyond our usual system of resource allocation and decision-makers could face criticism for discriminating between individuals on the basis of social, rather than solely medical, factors. Should such an eventuality arise, procedures for decision-making must be transparent, reasonable and based on defensible moral principles and great care must be taken in clearly communicating the rationale for this approach and the critical importance for all of maintaining these vital services.

Management of risk to health professionals

As we have seen in China, Italy and elsewhere, health professionals are directly at risk of illness, and those with underlying morbidities may be particularly vulnerable. Obligations on health professionals to accept a degree of risk in providing treatment impose strong reciprocal obligations on employers. All employers have both a legal and ethical responsibility to protect their staff and must ensure that appropriate and adequate personal protective equipment is available, and that staff are trained in the use of it. Health staff, and other staff essential to the running of health services, cannot be expected to expose themselves to unreasonable levels of risk where employers have not provided, or have been unable to provide, appropriate protective equipment.

Where health professionals have a reasonable belief that their protective equipment is insufficient – that it falls short of expected professional standards – they need to raise this as a matter of urgency with their managers. Risk assessments must be made based upon the specific facts of the case, and consideration should be given to finding alternative ways of providing the care and treatment needed. In the BMA's view, there are limits to the level of risks doctors can reasonably be expected to expose themselves to as part of their professional duties. Doctors would not be under a binding obligation to provide high-risk services where employers have failed to fulfil at least minimal obligations to provide appropriate safety and protection and to protect doctors and other health professionals from avoidable risks of serious harm.

If BMA members are concerned that they are being asked to see patients who are infected, or who are suspected to be infected, without adequate safeguards being in place, this should be raised immediately with the BMA via local representatives or First Point of Contact, the BMA's telephone advice service.

The impact on general practice

During the peak of a pandemic, it is possible that hospital facilities may effectively lose much of their capacity to admit new patients, and GPs will effectively be unable to refer. In these circumstances, it is possible that the overwhelming majority of serious health needs will be met in the community. Even with effective services available, GPs will be dealing with most health need in the community. As such, they are going to be under even more intense pressure. Individual GPs will also be exposed to the virus and may require isolation. In these circumstances, it is reasonable for general practices to engage in different ways of working. These may include:

- a reduction or cancellation of non-essential services
- a reduction or cancellation of home visits
- widespread use of telephone triage
- increased use of telephone and video consultations
- greater use of email and messaging apps
- the cancellation of all non-urgent appointments.

As discussed earlier, GPs, like their hospital doctor colleagues, may find work pressures and the nature of the decisions they are forced to make emotionally distressing during a pandemic. It is vital that support is provided and GPs seek to ensure their own wellbeing and that of their professional colleagues.

The importance of fair process

For responses to a pandemic to be ethically defensible, consideration must be given to procedural ethics – to ensuring that decisions at all levels are made openly, accountably, transparently, by appropriate bodies and with full public participation (to the extent possible within the timescale within which decisions need to be made). There may also be a role for scrutiny of individual decisions by a second doctor, or where appropriate by properly constituted clinical ethics committees, where time permits.

Given the threat presented by a pandemic, the widespread media interest in the issue, and some of the more sensational recent coverage, the arrival of a pandemic raises the spectre of public alarm and, in *extremis*, the possibility of civil disobedience. Public acceptance of rationing decisions, and cooperation in a health emergency, are more likely if citizens accept the fairness and legitimacy of allocation decisions and have been informed beforehand of the anticipated response. There are several factors that are likely to influence such acceptance. Firstly, who is charged with responsibility for making the decisions? Where decisions are made clandestinely and without oversight by elected or other appropriate representatives or appointees, confidence in decisions may be lost. Transparent and accountable decision-making processes, including explicit discussion of the ethical principles and reasoning upon which decisions are made, are likely to lead to greater public acceptance. It is also important that the public is kept informed, and that there are opportunities for participatory decision-making when feasible, and for public feedback and comment.

Liability issues

During the pandemic, health professionals are likely to be exposed to considerable amounts of stress, may be working well beyond their normal hours, and will be subject to anxiety about their own health and that of their families. In emergency situations, it may also be ethical for health professionals to consider intervening to provide treatment at the limits of or even beyond their competence in order to prevent serious harm. Retired health professionals are returning to practice and final year medical students are being fast-tracked. The skills of these professionals may not meet pre-pandemic expected standards of fitness to practise, but they may nevertheless be able to make a vital contribution. In extreme circumstances, even untrained staff may be required to undertake some functions. This will inevitably give rise to questions about professional and legal liability and indemnity. In relation to concerns raised about a doctor's fitness to practise during the pandemic, the GMC states:

Whenever a concern is raised with us, we always consider it on the specific facts of the case, taking into account the factors relevant to the environment in which the doctor is working.

We know that health services are under intense pressure, and managers and clinicians are making difficult decisions about how to provide care to patients often in extremely challenging circumstances. The scale of the challenges to delivering safe care would be relevant to a question about the clinical care provided by a doctor.

In addition, we'd consider the resources available to the doctor, the problems of working in unfamiliar areas of practice and the stress and tiredness that may affect judgment or behaviour. We would also take account of any relevant information about resource, guidelines or protocols in place at the time.

The primary requirement for all doctors is to respond responsibly and reasonably to the circumstances they face.¹¹

This overall approach is reinforced in a letter to medical staff from the Chief Medical Officers of the four nations and the medical directors of the GMC and NHS England.

¹¹ GMC forthcoming.

Advice from the General Medical Council on its regulatory approach to doctors working during a pandemic can be found here: <https://www.gmc-uk.org/news/news-archive/coronavirus-information-and-advice>

A joint letter to doctors from the CMOs of the four nations and the medical directors of NHSE and the GMC about support during a pandemic can be found here: <https://www.gmc-uk.org/news/news-archive/supporting-doctors-in-the-event-of-a-covid19-epidemic-in-the-uk>

The arrival of a pandemic will also require the rapid development and deployment of vaccinations and anti-virals. The urgency of the event will mean that the normal procedures for development and licensing may have to be suspended or adapted to the demands of the emergency. In turn this could lead to health professionals using large numbers of relatively novel and untested pharmaceutical interventions. Mass use of untried vaccine could result in numerous adverse events. Issues of liability will therefore have to be addressed as a matter of urgency by the Government.

Key information/guidance from other bodies

Advice from the General Medical Council on its regulatory approach to doctors working during a pandemic: <https://www.gmc-uk.org/news/news-archive/coronavirus-information-and-advice>.

A joint letter to doctors from the CMOs of the four nations and the medical directors of NHSE and the GMC about support during a pandemic: <https://www.gmc-uk.org/news/news-archive/supporting-doctors-in-the-event-of-a-covid19-epidemic-in-the-uk>.

A UK Government advice portal on COVID-19: <https://www.gov.uk/government/topical-events/coronavirus-covid-19-uk-government-response>.

NHS England's operating framework for managing the response to pandemic influenza: <https://www.england.nhs.uk/publication/operating-framework-for-managing-the-response-to-pandemic-influenza/>.

Health Protection Scotland's guidance on COVID-19: <https://www.hps.scot.nhs.uk/guidance/>.

Guidance on COVID-19 from Public Health Wales: <https://phw.nhs.wales/topics/latest-information-on-novel-coronavirus-covid-19/>.

Guidance on COVID-19 for Northern Ireland: <https://www.health-ni.gov.uk/coronavirus>.

A CHEST consensus statement on triage and care of the critically ill during pandemics and disasters: [https://journal.chestnet.org/article/S0012-3692\(15\)51990-9/pdf](https://journal.chestnet.org/article/S0012-3692(15)51990-9/pdf).

A useful BMJ comment on triage during the COVID-19 outbreak: <https://blogs.bmj.com/bmj/2020/03/09/covid-19-triage-in-a-pandemic-is-even-thornier-than-you-might-think/>.

The Government's ethical framework for decision-making during a pandemic: <https://www.gov.uk/guidance/pandemic-flu#ethical-framework>.

Guidance on health protection legislation in Wales: <https://gov.wales/sites/default/files/publications/2019-04/health-protection-guidance-2010.pdf>.