



PRACTICE POINTER

Assessing risk for healthcare workers during the covid-19 pandemic

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What you need to know

- In addition to risk factors for severe covid-19 identified across broader populations, such as older age and male sex, data from the UK and the US have shown that healthcare staff of ethnic minority backgrounds have been disproportionately affected by covid-19
- Risk assessment of the workplace, workforce, and individual can help reduce potential workplace hazards for all staff, regardless of ethnicity
- Individuals who are at greatest risk of adverse outcomes from infection may need adjustments to their roles

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a new strain of coronavirus that causes coronavirus disease 2019 (covid-19). In March 2020, the World Health Organization classified covid-19 as an international pandemic. Initial guidance from many organisations identified people who might be more vulnerable to covid-19, based on knowledge of those known to be most susceptible to adverse outcomes from the influenza virus. Health conditions divided individuals into those who are “extremely vulnerable,” for whom shielding is required, and those at “increased risk of severe illness.”

Studies of hospital admissions and mortality have subsequently enabled identification of more specific risk factors. They include age, sex, and underlying health conditions, the most important of which are diabetes, hypertensive disease, cardiovascular disease, and obesity.¹ Concerns have also been raised in the UK and the US about ethnicity as a risk factor, because of the disproportionately higher rates of covid-19 infection and deaths in ethnic minority populations compared with white populations.² In the UK’s NHS, 21% of staff are from ethnic minority backgrounds, but non-white ethnicities accounted for 75.8% of deaths.³ In the US, Black people account for more than 20% of covid-19 cases among health professionals despite only 5% of doctors and 10% of nurses in the US being from this group.^{4,5} The extent to which covid-19 mortality is linked to workplace exposure, cultural or social factors, ethnicity, housing, and comorbidities is not fully understood.² However, as increasing data have emerged about risk factors for severe covid-19 during the pandemic, employers are carrying out risk assessment and management as part of their responsibility to protect employees from harm.

Why is occupational risk assessment necessary?

In the UK, employers have a responsibility created by the Health and Safety at Work Act, 1974, to protect the health and safety of their workforce, as far as reasonably practicable.⁶

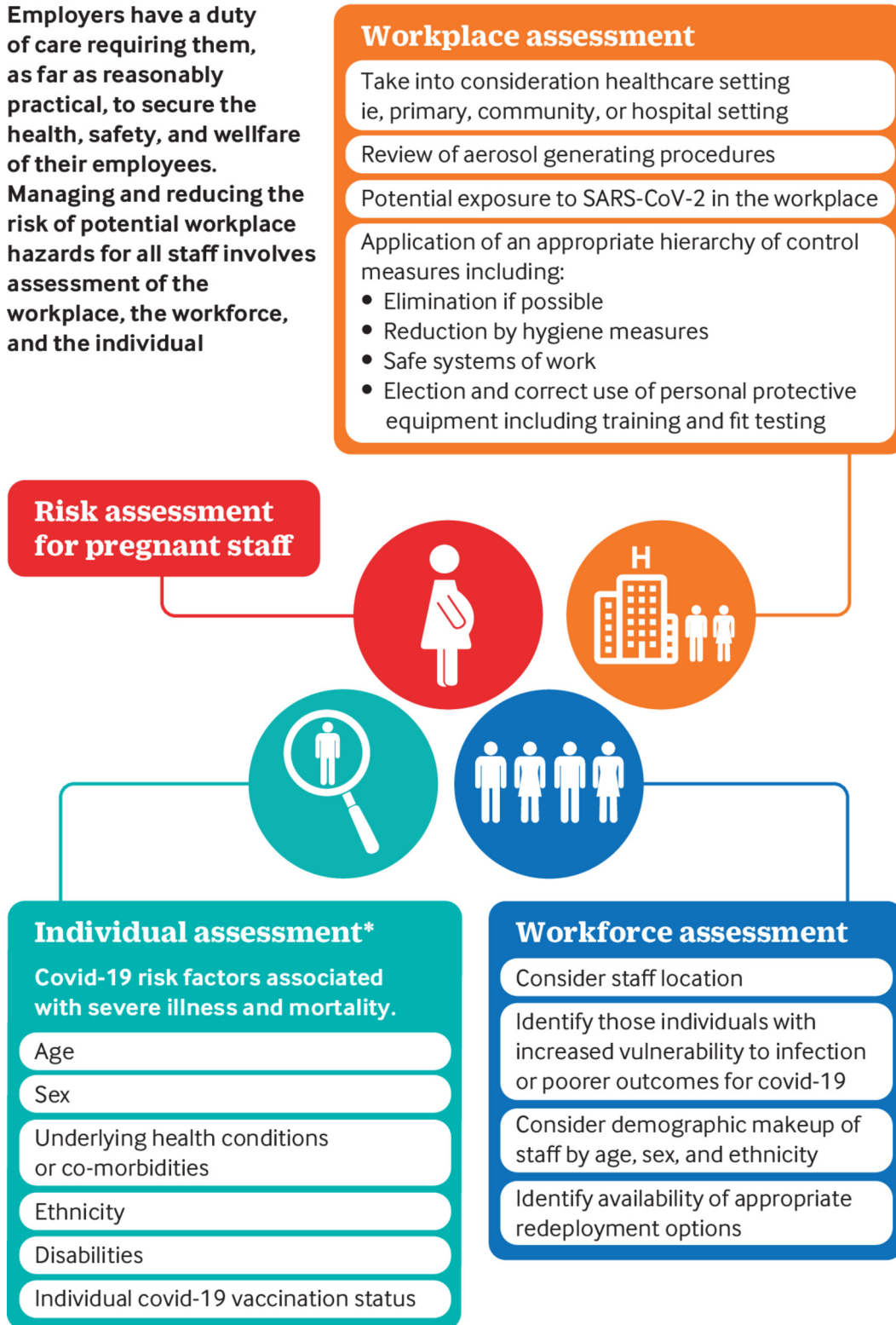
Tackling risks under the remit of UK health and safety law involves a preventive, risk assessment approach. This includes an equitable and inclusive approach to risk management and risk reduction of potential workplace hazards for all staff regardless of ethnicity and diversity. It involves identification of what could cause injury or illness (hazard), deciding how likely it is that someone could be harmed, and how seriously (risk). Action needs to be taken to eliminate the hazard, or if this is not possible, to control the risk. The Health and Safety Executive also recommends a risk assessment framework, for example, to employers to reduce the risk of work related stress.⁷

During the pandemic, there have been calls for the protection of all healthcare workers in primary, secondary, or community care,⁸ and various frameworks and tools for risk stratification have been developed in the UK and internationally.^{9–13} The European Agency for Safety and Health at Work has issued guidance for organisations to implement measures in place to prevent covid-19 infections, including risk assessment tools,¹⁴ and the World Health Organization has issued guidance on understanding and managing risk.¹⁵ These tools are based on best practice in occupational health and expert opinion; their effectiveness has not yet been evaluated. In this article, we present a simple framework: principles for assessing and managing covid-19 risk in healthcare settings. We describe a pragmatic approach that may be incorporated into existing risk procedures and be used as an aid to decision making. Several frameworks are currently in use in various NHS contexts, and they can be adapted to suit other healthcare settings.^{7,9–14}

How do you conduct a risk assessment?

Clinicians are familiar with the concept of Clinical Risk Assessment that seeks to improve the quality and safety of healthcare.¹⁵ Most clinicians are less familiar with the concept of workplace risk assessment. The framework presented here suggests three aspects to a risk assessment that are necessary for effective decision making (fig 1). It is important to consider all three: *workplace*, *workforce*, and *individual*. Several published frameworks give detailed practical methods of implementing these in practice,^{7,9–14} and are aimed at employers and individual line managers.

Employers have a duty of care requiring them, as far as reasonably practical, to secure the health, safety, and welfare of their employees. Managing and reducing the risk of potential workplace hazards for all staff involves assessment of the workplace, the workforce, and the individual



*Using a validated risk assessment tool, when available

Fig 1 | Framework for risk assessment

First, an assessment of *workplace factors* should include measurement of exposure to help identify who may encounter the hazard in their work environment. Factors include environmental hygiene, increased environmental cleaning, social distancing, and

hierarchy of other control measures, including eliminating risks if possible. With covid-19, we can identify the hazard, and to some extent the exposure (by environmental survey and testing) involved in the type of work being undertaken.

Second, an assessment of the *workforce* will help employers identify, in their team or service, to what extent those staff are at risk of exposure. Employers need to consider the availability of options to redeploy staff. Key considerations include staff location (primary or community care, or hospital setting) and an exploration of activities and risks in their typical working environments—for example, whether staff work in an environment where aerosol generating procedures are performed. Managers should seek to identify in their team or service the proportion of staff who may have increased vulnerability, including data on age and ethnicity.

Third, an *individual* risk assessment is required for every employee to identify those with increased vulnerability to infection and adverse outcomes from covid-19. These one-to-one conversations

may be conducted by a line manager, supervisor, senior manager, or health and safety representative. They should take into account age, sex, chronic health conditions, ethnicity, and pregnancy, and vaccination status of the individual.^{7 9 16 17} Details of criteria recommended in this framework are presented in [figure 1](#) and will be updated and refined in the light of new evidence. Several risk assessment tools have been developed based on these criteria and are in operation within the NHS.^{9 11 13} These are suitable for use by non-clinicians ([fig 2](#)). However, most risk tools are based on consensus and have not been validated. Exceptions include the QCOVID risk score in the UK, which uses individual level data from primary care. Although developed for assessment of population level risk, the tool can be used for healthcare workers.¹⁸

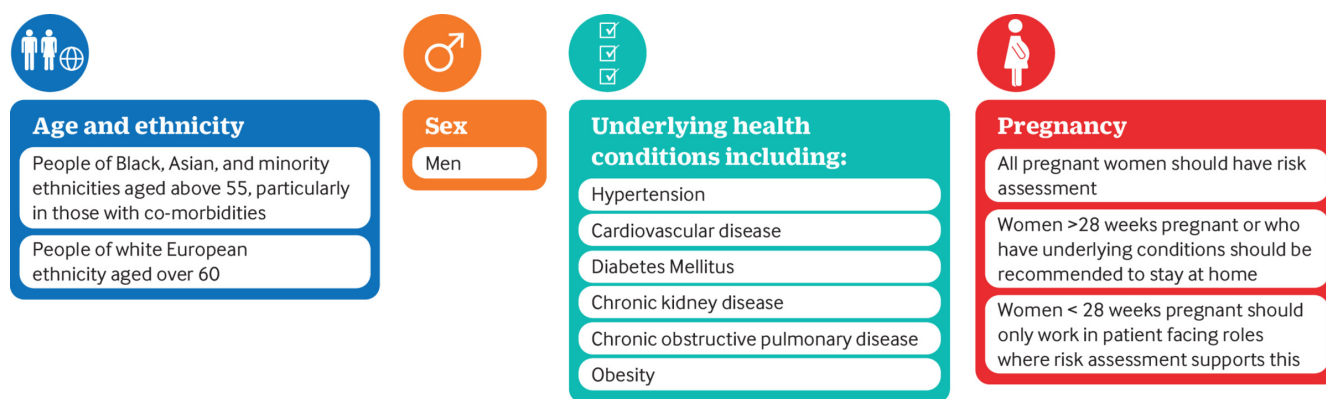


Fig 2 | Risk assessment for the individual

Assessments should consider psychological and social factors, risk behaviours, and mental wellbeing. Individuals' understanding of risk will vary, as will their willingness to engage in a work activity that they perceive to be hazardous. Managers may not be aware of underlying health conditions in their staff, as in normal circumstances it is not appropriate to seek such information beyond functional capabilities. However, in the current situation, health assessment of all staff by a specialist (eg, occupational health) service may not be practical and inquiry by managers about the presence of health conditions is reasonable, subject to cautions about confidentiality. Such conversations between managers and staff need to be handled sensitively and supportively, to create an environment in which individuals can openly discuss their concerns. Staff may be more anxious, depressed, or traumatised than under normal working conditions. An open and positive workplace culture supports health workers to share their concerns about risk with employers and consider their preferences. Some staff may require additional advice and support.

How will this help reduce the risk?

Risk assessment should be followed by risk management: the application of a hierarchy of control measures. A holistic system of risk assessment aims to help employers make adjustments to mitigate the risk of covid-19 to staff. This starts with elimination of exposure to the hazard if possible, engineering controls of exposure to the hazard, hygiene measures, and safe systems of work, and by the selection and correct use of personal protective equipment (PPE), including training and fit testing. In doing so, it may be possible to minimise potentially high risks of infection. Individuals who are at greatest risk of adverse outcomes from infection may need adjustments to their roles, and some may require redeployment across the health system to environments that pose a lower risk.

Several practical examples of how to conduct a risk assessment of the workplace, workforce, and the individual have been published, and are relevant to all workplaces, including healthcare settings.^{14 19}

Where do we go from here?

Research and audit programmes are under way to determine the impact of covid-19 on healthcare workers, with several longitudinal studies ongoing.^{20 21} As more scientific evidence on covid-19 becomes available, more accurate validated risk prediction scores will facilitate more precise estimates of individual risk.

Figures to date do not suggest that doctors or nurses, particularly in intensive care units, have a higher mortality rate than the general working population.²² This may reflect a controlled working environment where exposure to the hazard can be minimised by safe systems of work and provision and correct use of PPE. Nonetheless, because of the disproportionate number of overall deaths in ethnic minority healthcare workers, risk assessments should be implemented for all healthcare workers.

Finally, risk management should involve training, measuring how well control measures are working, and learning from that experience. A risk management process should also involve consultation with staff. The pandemic has created an opportunity to improve safety in the workplace beyond covid-19, to consider cultural factors, and to ensure that all staff feel included and supported to raise concerns. How such processes have been conducted should also be evaluated to help improve risk management in the current pandemic and in any similar events in future.

Education into practice

- What is the most effective way to ensure that all staff know they need an individual risk assessment?
- How might you approach a member of staff for a discussion about their risk profile?
- Who will know how managers, and other people responsible for carrying out these assessments, find these discussions in practice? Do they require additional information and support?

How patients were involved in the creation of this article

Patients were not directly involved with creation of this article but the authors included clinicians and managers who are involved in day-to-day decision making on occupational health and risk assessments of healthcare staff.

Further information

- Health and Safety Executive. What to include in your COVID-19 risk assessment. <https://www.hse.gov.uk/coronavirus/assets/docs/risk-assessment.pdf>
- Supporting Occupational Health and Wellbeing Professionals. Occupational Health Risk Assessment Guidance. <https://www.som.org.uk/occupational-health-risk-assessment-guidance>

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Competing interests: KK and AM developed with others the Risk Reduction Framework currently being supported by NHS Employers.

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