How has the COVID-19 pandemic enhanced my clinical and non-clinical skills

'You and I may not live to see the day, and my name may be forgotten when it comes, but the time will arrive when great outbreaks of cholera will be things of the past; and it is the knowledge of the way in which the disease is propagated which will cause them to disappear'[1]

Dr John Snow, 1813 – 1858

Whilst Dr Snow is known amongst anaesthetists for his initial work on anaesthetic agent dosing and their effects on human physiology[2, 3], he is also acclaimed as the founder of modern-day epidemiology following his study of the 1854 Cholera epidemic of London[4, 5]. Dr Snow was correct that it was the knowledge of how Cholera spread that led to improved control of subsequent outbreaks. Whilst we now have the knowledge of how COVID-19 propagates and how we can reduce this; it is important to consider other clinical and non-clinical skills that have been developed owing to this global pandemic.

As a first-year anaesthetic trainee, the COVID-19 pandemic has presented an additional challenge to the already steep learning curve that is the start of anaesthetic training. Learning and developing the necessary clinical skills whilst clad in personal protective equipment (PPE) has made communication and skill acquisition more challenging.

Video laryngoscopy has been the default choice for endotracheal intubation throughout the pandemic; with UK guidelines suggesting it be used to increase first attempt success rate and help the operator maintain maximal distance from the airway, thus reducing chances of potential infection[6, 7]. Using a range of different video laryngoscopes early on in training whilst educational opportunities have been limited has been of great benefit. It allows trainers to provide more guidance and advice about how to optimise views, overcome difficulties and ultimately maximise the chance of successful intubation.

The increased use of simulation training has been beneficial for developing clinical and non-clinical skills. As elective surgery volume reduced, it became vital to make the most of all learning opportunities. This included the use of manikins to practice an array of airway manipulation techniques and allowed me to gain relevant experience that could be applied when working clinically with patients.

Simulating clinical emergencies for COVID patients within multi-disciplinary teams proved invaluable for developing non-technical skills such as decision-making, leadership and situational awareness. This was especially pertinent during the early phase of the pandemic when the disease remained a relatively unknown entity and large numbers of staff were redeployed to potentially unfamiliar or more acute roles. The urgency of learning and rehearsal of correctly 'donning and doffing' in the context of a COVID medical or airway emergency was challenging but necessary and has remained important throughout the pandemic.

Although during the height of the pandemic rotas were intensified and we faced the new challenge of working in PPE, other organisational and environmental human factors developed to increase safety for those working in less familiar environments.

The pandemic has led to checklists being used for a multitude of reasons; from patient assessment to increasing trust wide critical care capacity. Whilst patient safety is inherent to why we use checklists, throughout the pandemic the emergency intubation and PPE checklists in particular have also helped maintain the safety of myself, my colleagues and our family members. Checklists have become more widespread in medicine but can be utilised poorly[8-10]; COVID-19 has raised my awareness of their correct and meticulous use to achieve their intended outcomes.

A significant challenge of COVID-19 has been communicating with patients and their relatives. The dehumanising and sensory restrictions that come with PPE make talking to patients difficult; many elderly patients affected by COVID-19 have pre-existing additional cognitive or sensory impairments. Simple measures such as using white boards were succeeded by innovative ideas such as CardMedic[11]. These digital flashcards were written by healthcare experts about common healthcare topics, can be displayed on a range of devices and have subsequently been translated into over 30 languages. This has highlighted the need to adapt how we communicate with patients as required and also how we can utilise technology to improve patient care.

Another challenging aspect of communicating with patients and relatives was acknowledging the unknown. With limited knowledge of the disease coupled with societal anxiety it was difficult to communicate risk and mortality[12, 13]. How to communicate compassionately with concerned patients and their families, whilst recognising the limitations of our own knowledge has been an important lesson from COVID-19, and one which will remain important throughout my career.

We know from previous pandemics, psychological distress experienced by healthcare staff can be profound[14, 15]. COVID-19 has undoubtedly had a significant adverse effect on healthcare staff's wellbeing[16, 17]. Whilst augmentation of the working environment is challenging, a comfortable area for staff to relax with improved rest and refreshment facilities would undoubtedly improve their working lives. This could also be used as a quiet area for reflection or discussion about difficult cases to help support mental welfare.

Whilst in many places antimicrobials, sanitation, vaccination and epidemiological study have made Cholera and other infectious diseases something of the past; these advances are being challenged by changes in human behaviour. As worldwide travel becomes easier and animal's habitats become more intertwined with our own, infectious diseases have the potential to become increasingly prevalent and spread more readily[18, 19].

A rapidly spreading, deadly, global respiratory virus resulting in a subsequent lack of ventilators, difficulty developing a successful vaccine and a lack of PPE as brought by COVID-19 were anticipated well in advance, yet as healthcare providers we were underprepared[20-22]. COVID-19 has forced us to react and adapt with haste, we now have time to reflect on what we have learnt clinically, non-clinically, as individuals, departments and as a society.

The pernicious effects of COVID-19 will remain for the foreseeable future and the lessons we have learnt from this pandemic, need to become endemic and not forgotten. The next disease

may have differences to COVID-19 and technology will have evolved, but the mainstay of what we have learnt should not just remain for our everyday practice, but also dictate how we prepare our clinical and non-clinical armamentarium for the next pandemic.

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