

## Review Article

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# The Effects of the COVID-19 pandemic in the UK- at a Local, National and International level perspective from the Emergency Department

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## Abstract

**Context:** There is a significant burden on all emergency services in the management and prevention of the novel COVID-19 transmission. The effects are felt right across the World with certain geographical areas being most affected, it has affected all countries irrespective of their healthcare infrastructure. It has been suggested that certain parts of World that are prone to natural disasters are better prepared for pandemics. However, this is completely unfound as major economies are overwhelmed with the effects of the COVID-19 and it becomes completely irrelevant of any past experiences as these have been in never seen before scale.

**Evidence acquisition:** The national fight against COVID-19 has been dubbed as the greatest fight for the National Health Service (NHS) with the entire United Kingdom under lockdown and the unfamiliar situation not seen before in peacetime. The general understanding of the disease process is that it has profound effects on the elderly and those with significant underlying health conditions such as cardiovascular, respiratory amongst others. However, it has surfaced from time to time that the very young are being affected and at times unfortunately been fatal.

**Results/Measures:** The United Kingdom has been in a lockdown just like several nations across the globe in a desperate measure to limit the spread of the virus. There have been weeks of planning at every level for all possible eventualities with regards to the ongoing COVID-19 pandemic. All routine operations and procedures have been cancelled only procedures that emergency life and limb saving and cancer surgery continue to take place in hospitals all across the hospitals in the NHS. Widespread measures such as social distancing, calling a dedicated helpline for information and advice rather than attending the nearest Emergency Department have led to a significant number of presentations to the Emergency Department.

**Conclusions:** The main concerns that remains for the NHS and other countries that have been affected is that once the lockdown restrictions are slowly eased will lead to a significant resurgence of cases that will overwhelm their respective healthcare infrastructures. From a clinician perspective, the main concern is the potential late presentations of the acutely unwell patients. This is the sentiment that is likely to be felt by many of my critical care colleagues working across NHS hospitals

**Key words:** COVID-19; Global Impact; Pandemic; United Kingdom

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## CONTEXT

There is a significant burden on all emergency services in the management and prevention of the novel COVID-19 transmission. The effects are felt right across the world with certain geographical areas being most affected; it has affected all countries irrespective of their healthcare infrastructure. It's a fight against time, with the ever-changing clinical presentations of the condition, meticulous and early detection is paramount in the fight against further transmission.

Healthcare services throughout the world are reeling under the relenting pressures to keep

communities safe from the disastrous effects of COVID-19. Underreporting from certain areas of the world where press freedom and the ability to publish the figures can seriously hamper the global effort. This has two important ramifications, on the national scale the lack of awareness of the cases affected can lead to further transmission. Secondly on a global scale as this is a rapidly evolving condition without any known treatment or vaccination strategies, countries have to undertake a continuous assessment and learn about the impact of the disease on other countries.

It is widely known fact that patients admitted with COVID-19 symptoms do worse than patients

without the symptoms. This is due to the multi-system involvement of the virus. The national fight against COVID-19 has been dubbed as the greatest fight for the National Health Service (NHS) with the entire United Kingdom (UK) under lockdown and the unfamiliar situation not seen before in peacetime. The general understanding of the disease process is that it has profound effects on the elderly and those with significant underlying health conditions such as cardiovascular, respiratory amongst others. However, it has surfaced from time to time that the very young are being affected and at times unfortunately been fatal.

The media have reported that in most of these cases there were no underlying health conditions. However, to confirm this would breach patient confidentiality and thereby make detailed investigations into these cases impossible. This leads to a conundrum for clinicians as it affects the level of preparedness for all healthcare professionals. The mainstay of treatment is mainly supportive with the use of invasive ventilation, organ support when needed and optimising nursing needs. Societies as a whole are baffled at the widespread reach of the virus and the devastating effects it has on humanity

#### THE NUMBERS

At the time of writing this article, there were confirmed 8,187 cases in Scotland with 586 cases in the county of Ayrshire and unfortunately 903 deaths in Scotland <sup>(1)</sup>. There were 122 patients admitted in hospitals across the county of Ayrshire with 10 patients in intensive care. From a UK wide scale, there were 120,067 cases with the total deaths of 16,060. Studies done in mainland Europe have estimated that the total number of cases would be up to 30 times the number of confirmed cases.

The numbers are daily updated across all the 4 nations at a set time in the UK. The UK has been in a lockdown just like several nations across the globe in a desperate measure to limit the spread of the virus. The Department of Health here in the UK has been advised to look into the number of deaths outside of the hospital settings. This can be noted to be multifactorial, the vast majority of deaths outside of hospital have been in care homes. There can be a time lag between the time of death and the issuance of death certificate. It is also important what the cause of death has been noted on the certificate. Recently this has been highlighted and emphasised by the office of national statistics that accurate cause of death is

documented in the certificates to ensure an accurate representation of the number of COVID-19 related deaths.

#### MEASURES UNDERTAKEN IN THE UK

There have been weeks of planning at every level for all possible eventualities with regards to the ongoing COVID-19 pandemic. All routine operations and procedures have been cancelled only procedures that emergency life and limb saving and cancer surgery continue to take place in hospitals all across the hospitals in the NHS. Hospitals are divided into green (clean) and red (suspected or confirmed COVID-19) zones. This is done in the Emergency Department, ICU/HDU, Assessment units and the Wards. Close liaison with the Health Protection, the Academy of the Royal Colleges and the Chief Medical officers in all the 4 Nations have led to a set of recommendation that are used in all clinical and non-clinical areas. The guidance covers the use of Personal Protective Equipment (PPE) and the level of protection required when performing from the most basic of clinical task to the most complex task. There has been extensive training in my hospital to the correct application of PPE and the pitfalls that can be avoided.

The availability of PPE has been under tremendous scrutiny the main aspect being the scarcity of this valuable commodity in the fight against the invisible enemy. The issue with its supply has been a global problem. As with any pandemic there is associated mass hysteria with the easy spread of inaccurate and misleading information and this makes the situation even more difficult to control. This is particularly problematic in certain parts of the World where the use of social media is prolific and it serves as the only means of information reaching the masses.

Tighter media control on misleading information is needed in situations like which we find ourselves in currently. Widespread measures such as social distancing, calling a dedicated helpline for information and advice rather than attending the nearest Emergency Department have led to a significant number of presentations to the Emergency Department. People from all walks of life have somewhat come together to support each other during these tough times. There has been widespread appreciation of the work that is being done by the NHS and society has made it a priority that NHS workers are looked after well in all aspects of day to day activities.

The UK government has implemented very generous plans to ensure that businesses have kept

on running and have offered high value stimulus packages in order to do so. From a personal perspective, the vast majority of patients that present to our department have significant acute clinical problems that require urgent management. Compared to normal patient numbers there are proportionately lower numbers of patients (between 25-50% compared to baseline) attending the Emergency Department but a higher proportion of admissions with critical health care problems that require urgent treatments.

#### THE GLOBAL PERSPECTIVE

At the time of writing this article, globally there were 2,399,849 confirmed cases with 164,939 deaths and recovery in 615,674 cases <sup>(2, 3)</sup>. The majority of deaths have been in developed nations including the United States, Italy, Spain, France and the UK.

This has baffled scientists worldwide as the aforementioned nations have a robust health infrastructure and have a significant proportion of GDP dedicated to healthcare. In the less developed countries, there is a fear of second wave where the community transmission is the main concern. In these countries' communities live in close proximity thereby social distancing can become impractical. Countries have taken drastic measures including mobilising army and special forces to reinforce the importance of social distancing and reducing all non-essential travel. It has been suggested that certain parts of World that are prone to natural disasters are better prepared for pandemics. However, this is completely unfounded as major economies are overwhelmed with the effects of the COVID-19 and it becomes completely irrelevant of any past experiences as these have been in never seen before scale.

#### THE MAIN CONCERNS

The main concerns that remains for the NHS and other countries that have been affected is that once the lockdown restrictions are slowly eased will lead to a significant resurgence of cases that will overwhelm their respective healthcare infrastructures. It has been suggested in the media that the UK has the lowest number of ventilators available per unit population compared to anywhere else in Europe. There is no data to confirm this concern. There has been a shift in the production of ventilators with major industries allocating their resources solely in the production of ventilators based on already approved designs as part of fight against time.

From a clinician perspective, the main concern is

the potential late presentations of the acutely unwell patients. This is the sentiment that is likely to be felt by many of my critical care colleagues working across NHS hospitals.

There is the concern that patients may be waiting for longer at home than they would otherwise present in other times. This has been identified and Chief Medical Officers across all the 4 nations have urged the general population to seek help for serious health problems before these problems become life-threatening. We are expecting a significant rise in critically unwell patients in coming weeks to months and have to deal with these situations as they arise.

#### CONCLUSIONS

These are tough times that require extra precautions and understanding from each and every one. At the end of the day, when we are all sinking, we should seek to help each other to stay afloat holding onto whatever is available. This article is about a pandemic, thereby the numbers included in this study are only accurate at the time of writing this article.

#### Highlights

- There is a concerted effort led by the UK government in working with the health care agencies to limit the spread of the COVID-19 pandemic
- Society as a whole have been bonded in the common fight against the COVID-19 pandemic
- Strict measures implemented by the UK government have led to a reduction in the spread of the virus and its disastrous effects
- Team work is dream work

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#### AUTHORS' CONTRIBUTION

The author met the standards of authorship based on the recommendations of the International Committee of Medical Journal Editors.

#### CONFLICT OF INTEREST

The clinical views and perspectives about the ongoing pandemic are completely of the author own and is based on personal experience whilst working in an ED in a district general hospital and thereby may not be reflective across all the areas of the UK.

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None

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