ISSUES IN MEDICINE

A policy and decision-making framework for South African doctors during the COVID-19 pandemic

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Faced with a pandemic, doctors around the world are forced to make difficult ethical decisions about clinical, economic and politically charged issues in medicine and healthcare, with little time or resources for support. A decision-making framework is suggested to guide policy and clinical practice to support the needs of healthcare workers, help to allocate scarce resources equitably and promote communication among stakeholders, while drawing on South African doctors' knowledge, culture and experience.

Doctors are among the heroes who are leading critical changes to practices and procedures during the novel coronavirus SARS-CoV-2 pandemic that had led to over 250 000 deaths worldwide as of 7 May 2020.[1] However, there are many common constraints to adopting new behaviours and creating rapid changes in contemporary healthcare environments, such as healthcare workers' knowledge, attitudes and beliefs, heavy clinical workloads, resource constraints and poor communication.[2] These everyday barriers set the stage for compounding the challenges of a global pandemic in healthcare systems that were already stressed and strained. In South Africa (SA), a pragmatic decision-making framework with a local context is needed that builds capacity to: (*i*) address healthcare workers' needs; (*ii*) assist with allocation of scarce resources; and (*iii*) facilitate communication among key stakeholders in clinical practice. The authors of this article therefore wish to present an ethically justified framework on how to address a potential surge of clinical demands that can be used by doctors, in both the public and private healthcare sectors, to respond to difficult ethical decisions and choices.

The SA healthcare context

The SA healthcare system is socialised, and 84% of the population is serviced in the public health system by 30% of doctors, as opposed to 16% of the population that is served by 70% of the doctors in the private healthcare system.[3] It is has been shown that the annual per capita expenditure on healthcare ranges from ZAR2 520/USD140 (public) to ZAR25 200/USD1 400 (private), indicating a large disparity in healthcare delivery and costs.[4] This disparity is largely due to a state of crisis of public hospitals related to rundown and dysfunctional infrastructure because of underfunding, mismanagement and neglect.[3,5] Furthermore, this disparity also influences disease burden and effective treatment options, with the public health sector having fewer resources.[6]

The dire conditions of healthcare in SA are worrisome, and these vulnerabilities will be greatly exacerbated during the spread of COVID-19. Research indicates that individuals most susceptible to complications are those with underlying health conditions and comorbidities (e.g. hypertension, diabetes, heart disease) prior to contracting the virus.[7] As reported in news from abroad, many of these patients end up in intensive care units (ICUs) requiring ventilation. In a recent study, Mahomed *et al.*[8] found that ICUs in both the private and public sectors in SA do not meet international standards, with a huge shortage of mechanical ventilators (especially in the public health sector). Furthermore, in order to curb the spread of COVID-19, those who test positive need to be treated in isolated rooms. The authors of the ICU study report that the identified 10% of ICU beds that should be allocated as isolation rooms was not attained.[8] The aforementioned is problematic given the transmission and infection rates of the virus through droplet and direct contact,[9,10] as well as the projected number of people needing ventilator support and isolation.

SA as a country has faced heavy epidemic illness burdens previously, and lessons from these experiences (phronesis) can inform the next steps in the fight against COVID-19. SA doctors are in a unique position to respond, owing to past crisis and epidemic experiences with healthcare service delivery and prevention strategies, such as related to HIV-AIDS,[11] tuberculosis (TB), including multidrug-resistant TB and extensively drug-resistant TB,[12-14] influenza[15,16] and Ebola.[17,18] Dealing with such outbreaks requires moral competence, clinical expertise, and administrative, political and legal navigation strategies to determine the next steps for ethical decisions in clinical practice. According to Lai *et al.*,[9] COVID-19 is the sixth international public health emergency since Ebola (2019; 2014), Zika (2016), polio (2014) and H1N1 (2009).[9]

The common message from Western media is that we all need to work together during this global crisis. SA has long held the philosophy, ideology and core values of collective solidarity and interdependence in the moral response of *ubuntu*.[19] As the basis of the SA Constitution, this shared cultural value represents a unique strength to draw on when addressing factors such as potential spread, community attitudes, and access to healthcare and scarce resources.

Policy for ethical decision-making

Given that the virus is not contained in any specific locale and has already crossed borders and oceans, it is recommended that the global community unite in order to 'flatten the curve' of COVID-19. The basis of the proposed framework is set out in three phases, with key indicators, strategies and decisions (Fig. 1). This framework is meant to encourage engagement and ongoing communication with hospital administrators, infectious disease specialists and provincial governments, to determine how best to respond to the pandemic in their own local context with a transparent and ethically defensible approach.

Phase 1

The primary phase is activated early in the crisis stage of the pandemic where <2% of the local population exhibit key symptoms of COVID-19 (e.g. fever, cough, upper airway congestion, myalgia and headache)[20] and test positive. As data suggest, ~12% of positive patients may need to be intubated.[21] During this period, regular medical procedures and other services may continue, including scheduled and emergency surgery. In anticipation of what may transpire, it is recommended to conserve blood. Usual resuscitation (e.g. cardiopulmonary resuscitation (CPR), intubation, etc.) policy guidelines should be followed. Benefits and risks should be communicated to patients and families during phase 1 to ascertain what is in the best interests of the patient.

In collaboration with doctors, hospital administration should reduce the hospital's inpatient population as much as possible. This means discharging patients home if this is deemed to be a safer environment to recover in. It is also recommended during this phase that visitor limitations be implemented, only one visitor per patient being allowed, given the fact that community spread of the infection is one of the biggest drivers of this pandemic. Non-essential hospital services should be decanted by discharging patients to another facility or transition to home care.

During this phase it is assumed that there are still enough supplies and appropriate space to treat and care for patients, and enough qualified healthcare workers. Given the global scarcity of personal protective equipment (PPE), it is recommended that institutions create a stewardship effort to preserve this limited resource. The hospital's administration should identify isolation units, prepare infrastructure, and plan access to these units.

Furthermore, administration needs to activate the formation of an ad hoc committee (committee for scarce resources), the aim of which is to manage scarce resource demands. The committee should begin by identifying resources that are likely to become scarce, develop a simple system for tracking the resources, and establish indicators for when to allocate specific resources. Ideally, this committee should consist of individuals with leadership experience and expertise in areas such as critical care, palliative care, infection control, public health, supply chain management, administration and ethics. Should people with such expertise not be readily available on site, sourcing them from regional academic institutions is recommended. Also, ensuring a multidisciplinary team approach to crisis management would potentially circumvent any biased oversight.

Phase 2

This level is activated when between 2% and 10% of the local population exhibit symptoms and test positive. All COVID-19-positive patients should be moved to the isolation floor(s), and a no-visitor policy should be strictly enforced. Regarding CPR and intubation, the recommendation is to proceed with normal protocols, provided enough PPE is available. Patient resuscitation should not be attempted without appropriate donning of PPE. It is also recommended that all elective surgery be suspended, as operating rooms can also be used as isolation rooms. Only emergency surgery should be performed.

According to international trends, 20 - 30% of staff would be absent and space and supplies would be at capacity. Only essential workers should be allowed into the hospital, and all used PPE should be repurposed if it is safe to do. Unfortunately at this time difficult decisions will arise, and those patients with the best chance clinically for long-term survival outside the ICU should receive preference in the allocation of critical resources.

It is recommended that no single individual makes these decisions; rather, a second ad hoc committee should be created to navigate clinical decision-making (committee for clinical decision-making).
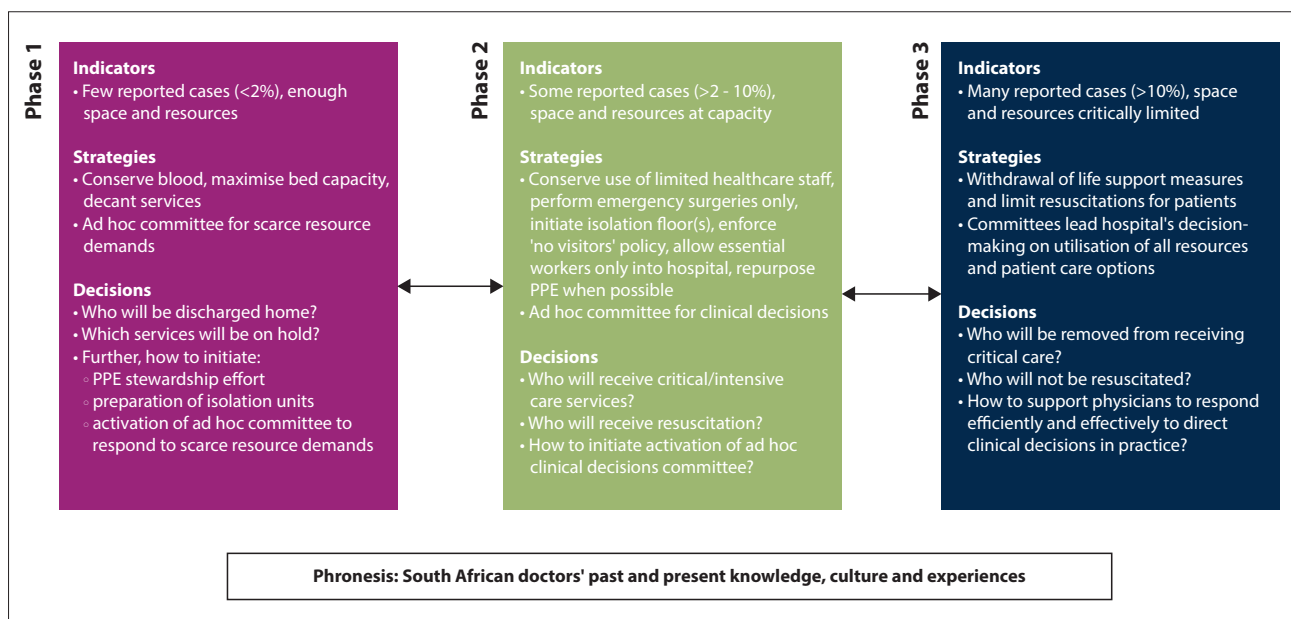

Fig. 1. Decision-making framework. (PPE = personal protective equipment.)

In the public sector it would be recommended that some members of the first ad hoc committee (for allocating scarce resources) make up the clinical decisions committee. This second committee is meant to directly advise clinicians, in real time, concerning difficult ethical decisions in complex clinical patient care situations. It cannot be stressed sufficiently that decisions should be guided only by clinically relevant criteria as determined by the doctor's assessment of the patient,[22] and no other bias (i.e. age, gender, ethnicity, legal status, sexual orientation) should be included in the evaluation.

Phase 3

The final phase is reached when >10% of the local population exhibits symptoms of infection and have tested positive. At this stage supplies, space and personnel are at critical levels and staff absenteeism of >30% will occur. The previously mentioned committees for resource allocation and clinical decision-making should be leading the hospital's efforts in managing the pandemic and demands on the system. Given the dire situation and anticipated strain on ventilators and other supplies (e.g. medication for sedation to ensure comfort during intubation), withdrawing life-supporting interventions would be allowed if a patient shows no improvement. These decisions should again be made not by an individual but by a committee. If the demand outstrips the supply for treatment, it would be up to the committee to decide to limit treatment to patients with the most potential for long-term survival outside the ICU and those who have no comorbidities. Should a COVID-19-positive patient require resuscitation, the fewest people necessary should attend, and only if they have the necessary PPE. If there are competing needs, the usual triage guidelines should be followed, where saving patients with the most potential survival years should be prioritised.

Conclusions

None of the above ethical decisions in clinical practice will be easy to make. Further guidance for these issues can be found in the work of Hans Jonas, *The Imperative of Responsibility*.[23] He argues that any stakeholder is responsible to act in good faith and contribute to the enhancement of the system, as responsibility transcends the needs of an individual as well as the present time frame.[23] Therefore, in order for society to exist beyond this catastrophe, the present stakeholders need to work together collectively. This is the essence of *ubuntu*.[19]

Moreover, support for doctors' decision-making in such a time of crisis is not only critical for patients, it is also critical for doctors themselves. Kotalik[24] highlights the risks of conflicting duties for doctors during a pandemic (e.g. patient as a victim and a potential vector, altered doctors's responsibilities, role as agent of the law/public health) and the risks for compromising one's loyalties and integrity.[24] Doctors will have to make difficult choices, despite fear and many unknowns.[25] Even before this crisis, the health and wellbeing (e.g. physical, mental and spiritual) of doctors was at risk in everyday practice.[26,27] Supporting transparent and ethically defensible decision-making during this time of crisis will reduce the impact of burnout,[28] moral distress,[29] and the potential for doctors leaving (the country, medicine itself)[30] in the wake of the pandemic.

Doctors are a critically important resource for SA and her people. SA doctors have the knowledge, culture and experience to navigate this crisis, even in resource-poor settings. While is it fully recognised that '"doing more with less" is unfeasible' (Brooke-Sumner *et al.*,[2] p. 137), this framework offers pragmatic indicators, strategies and key decisions to guide energies and efforts for pandemic management and in the recovery phase thereafter. It offers an opportunity to work together to bolster skills, maintain and maximise capacity, and draw on supportive relationships.

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