

Cry the Beloved Non-COVID Country: A Review of South African Health Care's Response to COVID Pandemic

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Abstract

Loss of life; economic decline and healthcare systems in turmoil are the hallmarks of the COVID-19 pandemic. The world bears witness to the rising incidence of infections, death and devastation associated with the SARS CoV2 virus and Africa is not immune to this devastation.

In a bid to launch an attack on par with the developed world Africa has shifted finances and resources to the public health crisis.

A great many efforts have been employed to recruit staff, equipment, and ICU resources to prepare for the looming crisis. To liberate these necessary resources many institutions have downscaled existing services. Redirecting funds, equipment, and personnel from the prevailing plights to deal with a new horror.

There is no doubt that the impact of the novel Corona (SARS CoV2) Virus on the global community is far reaching. There is however a growing concern that the extensive focus and attention granted to COVID-19 with the resultant lack of attention given to other medical problems indigenous to the African people.

A growing concern is the extensive focus and attention granted to COVID-19 with the resultant lack of attention given to other medical problems indigenous to the African people. HIV/AIDS; TB and trauma are still the greatest assassins of the African people. The authors explore the measures taken to combat COVID-19 and the effects it will have if the non-COVID health problems are not adequately serviced.

Keywords: Covid-19, Economic Crisis, Health Care System, SARS CoV2, Africa.

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Introduction

The impact of the novel Corona (SARS CoV2) Virus on the global community is far reaching [1,2]. The entire world bears evidence of the mass panic and destruction in the wake of the COVID-19 pandemic [3,4]. It is predicted that all economies and healthcare systems will suffer greatly [5-7]. As a result, nations have taken different approaches to dealing with the outbreak, with many electing to institute lockdown protocols with varying degrees of implementation [8-11]. The revitalization of economies after this pandemic ends will be an unenviable task for many governments [12].

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to other medical problems indigenous to the African people. HIV/AIDS; TB and trauma are still the greatest assassins of the African people. To date 32 million lives have been lost to HIV and its complications alone [13].

Similarly, Tuberculosis, a treatable disease, persists in claiming countless lives. The authors explore the justification for the diversion of attention and resources from these preexisting plights.

Impact of COVID on healthcare systems internationally and domestically

At first glance one would presume that American and European countries would be ideally positioned to

economically withstand the onslaught of COVID-19, however the statistics depict the contrary [14]. To date these are the nations suffering some of the highest infection and mortality rates. Current data presents the United States of America as the country with the highest infection rates with a death toll of over 100 000 [15]. Europe has not been spared either, reporting numbers in excess of 2 million [16,17]. Based on WHO figures the mortality rate from COVID-19 [18,19] is 6% of the world's population [2].

Africa's healthcare system is not immune to the COVID-19 devastation and the accompanying economic decline [20]. The disparities between public and private health have become more evident as COVID-19 unmasks the strain that public hospitals in the country bear. The public and private sector comprising SA's two-tiered healthcare system caters to the needs of 59 million people [18,21]. As an illustration of the disparity, in these healthcare systems one need only consider the intensive care unit, its resources, and its availability to over 50 million people. In 2014 Gopalan et al surveyed the ICU bed capacity in SA, estimating just under 5000 ICU beds available in the country. Of that total, 75% of the total ICU beds were in private hospitals [22,23].

It is projected that by November 2020 1,2 million South Africans will be COVID positive, approximately half of whom will need hospitalization with 40-60,000 people needing critical care. The expected trajectory of SARS CoV2 will undoubtedly place great strain on all existing resources in South Africa and the greater Africa [24].

A great many efforts have been launched to recruit staff, equipment, and ICU resources to prepare for the looming crisis. To liberate these necessary resources many institutions have downscaled existing services. Hospital wards have been decanted, patients sent home, theatre lists have been cut and staff have been redeployed. Consequentially hospitals have redirected their limited resources away from the existing health problems in keeping with global efforts to manage the COVID-19 pandemic. Cancer treatment, medical care for chronic conditions, ongoing trauma and accident care for example will be skeletal during the pandemic [25]. These noncommunicable diseases account for more than 40 million deaths per annum, translating also into a great economic blow especially in low and middle income countries [26].

The dangers of the COVID-19 pandemic are becoming clearer, however thoughtful considerations should be spared for the non-COVID related health issues and the impact it will have on African lives [27,28].

Tuberculosis and HIV

While South Africa spends 8.6% of its gross domestic product on health, higher than many middle-income countries, the public health sector is under severe pressure in large part due to the HIV/TB co-epidemic. South Africa treats approximately 84% of the population with 55% of the total health expenditure [29], yet remains in the unenviable position of being in the top 20 countries with the highest rates of TB, Multidrug Resistant TB.

Sub-Saharan Africa has devastating incidence of HIV and TB coinfection and the ability of primary prevention centers to render essential services such as Prevention of Mother to Child transmission (PMTCT) and male circumcision will significantly affect the HIV incidence in this region.

The pandemic and its lockdown countermeasures have restricted not only individuals but also various trade, including the pharmaceutical trade, a pandemic in its own right. It is believed that antiretroviral production may be disrupted with concomitant disruption in PMTCT services. A brief disruption is estimated to result in a 10% increase in new infections and a 100% or more increase for 6-month disruptions to all PMTCT services [30].

Furthermore, it is estimated that a six-month interruption of the supply of antiretroviral drugs (ARV) will lead to an approximately 2-fold increase in HIV-related deaths over a one-year period. In sub-Saharan Africa alone this amounts to an excess of over 500,000 adult HIV deaths [19].

While an interruption of supply of ARV drugs would have by far the largest impact of any potential disruptions, other chronic conditions such as hypertension and diabetes may complicate as result of pharmaceutical disruptions.

Hypertension and Diabetes

Diabetes Mellitus (DM) is increasing in epidemic proportions globally. According to the WHO, the prevalence of DM in adults worldwide is predicted to rise to approximately 300 million by the year 2025 [31]. The International Diabetes Federation (IDF) has suggested higher figures, with estimating 552 million diabetics by 2030 [32]. Additionally, hypertension affects about one billion people worldwide and it is estimated that by 2025, up to 1.56 billion adults worldwide will be hypertensive [33]. While the presence of these comorbidities appears to worsen the COVID-19 infection, the pandemic will also potentially severely hamper our ability to treat these diseases of lifestyle.

Most people with hypertension and diabetes receive treatment in the public health care system and attend community health centres (CHCs). Due to a variety of factors they also generally lack patient-centred initiatives to empower patients to become active partners in their own care [34]. In most developing countries, the priorities of health care are the prevention and control of communicable diseases [31,35]. In a WHO survey completed in June 2020, 53% of countries reported disruption to hypertension management and a 49% disruption to diabetic care [26].

Unfortunately, with the necessary introduction of social distancing policies and lockdown restrictions brought about by the Covid-19 pandemic, as well as the diverting of resources for COVID positive patients the above has been significantly halted.

Trauma and Mental health

Experts have postulated that South Africa's violent history and the ongoing criminal elements may be exacerbated due

to the economic ramifications of lockdown regulations. This postulation is true for many African countries where poverty and high levels of unemployment ravage societies [18]. The COVID-19 pandemic is expected to weaken the economies with expected increases in violent crimes. The ripple effect will be an additional demand on health systems to care for these emergencies. The violence, solitude and the poverty also make great claims to the mental health systems. Post-traumatic Stress Disorder and depression will make further burden a depleted or skeletal medical service. The African nations launches an attack on the novel SARS CoV2 but is enough done to protect its people from the many social injustices and their disastrous sequel? One struggles to justify the depletion of resources needed to cater for these known plights [36].

Obesity

For the first time in human history, the number of overweight and obese people rivals the number of underweight people [37-40]. Within low to middle income countries particularly, obesity has advanced rapidly. This is worrying as these same nations often face a double burden of disease from both under-nutrition and obesity.

Obesity in South Africa is ranked fifth as a risk factor for early death and years of life lived with disability or disability-adjusted life years (DALYS) [41]. Obesity also has significant cost implications. According to the McKinsey Global Institute report, the global economic impact of obesity is roughly \$2.0 trillion, or 2.8% of the global GDP, roughly equivalent to the global impact of smoking or armed violence, war, and terrorism [42]. Obesity carries substantial direct and indirect costs for any nation's economy such as lost productivity and disability. The WHO echoes this and estimates that high BMI levels drive between 2% and 7% of global healthcare spending, with up to 20% of all healthcare spending being attributable to obesity, through related diseases such as Type 2 diabetes and heart disease.

In the African context, we cannot afford to lose sight of this growing epidemic in favor of the COVID-19 pandemic and in fact must acknowledge the part the obesity may play in worsening the outcomes of COVID-19 patients. In terms of sedentary behaviour, the 2008 Youth Risk Behaviour Survey already reported that nationally, 29.3% of learners watched television or played video or computer games for more than three hours per day with no significant variation by gender, grade or age, and that more than 41.5% did not participate in sufficient physical activities [39-41]. One can only imagine how the impact of the Covid-19 lockdown has negatively added to this. In addition to this and beggaring belief, the NiDS survey found a high prevalence of the dual burden of child malnutrition and adult obesity within South African households. In 45% of households where there is a stunted or underweight child respectively, there is at least one obese adult [43].

In 2008 already the WHO identified that approximately 29% of deaths in South Africa were due to non-communicable diseases. Statistics SA reported almost 40% over this same

time period 35 further underpinning the significant impact that diseases have on the South African populace. In contrast the Corona virus pandemic currently has an estimated mortality rate of 6% for all infected cases, raising the difficult question of why there is such an acute and large resource distribution disparity being seen with the Covid-19 response globally?

With regards to the African response, a few key questions were not addressed from the outset. These were:

1. How much of our resources could we divert to this new disease profile?
2. To which aspects should we divert? And what percentage to each?
3. How would we now triage the pre-existing health landscape in an already stringent triage system?

In viewing resources needed, we blindly followed the path of international colleagues. This path led us to more ICU beds, more ventilators, field hospitals and triage centres [14,44].

Given the inability of most of the population to socially distance, the concept of large field hospitals to isolate the majority of mild disease patients, was a logical one. Aside from the infrastructure, these hospitals would need sufficient human resources [20,45].

In the initial planning stages, many potential ventilator spaces were identified and equipment for these spaces rapidly placed on order along with an injection of national funding for the pandemic response [44]. Why did we do this when figures emerging from Italy, the UK and the US showed mortality for ventilated patients [46-48]? If we applied the usual triage policies for critical care beds in our country, this would be an immediate exclusion for admission.

Has Africa blindly adopted the global COVID-19 response or is the diversion of scarce resource validated in the face of this public health crisis?

In the absence of stringent triage, the international response was to create a ventilated bed for every patient. In the best of circumstances, Africa never had the capacity for a ventilated bed for every good candidate, let alone a ventilated bed for anyone who needed it [49,50]. The reality is that SA only has 80 intensivists in this country with approximately 1500 ICU beds in the public health sector and we are already stretched to capacity [51]. The ratios in other parts of Africa are similar or worse whilst globally intensive care units nurse in a ratio of 1 nurse to 1 patient. Many SAICUs work on a 1:3 ratio. Without more intensivists and registered nurses, the ideal of increased services for these additional beds is unrealistic [52-54]?

Nurse attrition is endemic to this continent, the proposed solution was resource diversion in the form of closing outpatient departments and reducing "elective" surgical lists. The perceived benefit of this would be to direct the nursing and medical staff from these areas to the pandemic response. However elective surgery in many state and private institutions represent theatre time scheduled to the operative

management of cancer and other life or limb threatening conditions. This is anything but elective. In diverting resources to the COVID-19 pandemic, we effectively doom another population [55].

With staff and resources diverted elsewhere clinicians are increasingly encountering difficult choices. The stringent criteria for critical care beds for both COVID and non COVID has been further strangled and triage now has to shift to the quality and quantity of life in these urgent cases [27,28]. Should we still be doing limb saving vascular surgery? Should we be doing prolonged surgery in patients with indolent cancers- these will not advance even if we wait a year. Should we be doing surgery, all be it curative, in cancers with a less than 50% 5-year survival? These are the questions that have to be answered [27,28,56].

With all things COVID or Non-COVID, little provision is made for the person under investigation (PUI). Many PUIs have succumb to preventable deaths on account of clinician uncertainties and fear and highlighting a need for at minimum a high care space for PUIs. Many institutions had not considered the PUI phenomenon and even fewer had staff or resources to dedicate to yet another hospital population and in many cases, this resulted in delays to surgical treatment for the patient requiring critical care admission. What we need to remember is "primum non nocere" – first do no harm. If training dictates that a patient requires an emergent surgical procedure, then that is what should be done first before looking for which ward the patient will be sent to thereafter? The era of PUI should not be the reason that a patient dies simply because they did not have a suitable post-operative ward to go to [56,57].

Conclusion

There is no doubt that the impact of the novel Corona (SARS CoV2) Virus on the global community is far reaching. The disparities between public and private health in South Africa and Africa have become ever more evident as COVID-19 unmasks the strain that public hospitals in the country bear, particularly when one considers the intensive care unit. The dangers of the COVID-19 pandemic are clear, however thoughtful consideration must be spared for non-COVID related health issues and the impact this will have on African lives. The burden of chronic disease amongst the African population is tremendous and the COVID-19 pandemic has done little to ameliorate this. If anything, it has diverted attention and vital resources away from significant and ongoing health issues that impact the economy and nation. Resource allocation and triage policies need to be carefully implemented against the tremendous health needs of the African populace in the context of both COVID and non-COVID disease.

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