

Zimbabwe and COVID19 – A Tidal Wave or a Ripple? Is There Hope?

An Opinion Piece by Dr Austin Jeans (author of The Low-Carb Companion)

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As I write this piece, stewing as it has in my brain for some days, we find ourselves at the start of the Easter period, a time most notably celebrated as a message of great hope by Christians worldwide. At the same time we find ourselves amidst the global viral COVID19 pandemic, as declared by the World Health Organisation (WHO), which has dramatically changed life as we knew it. Globally the number of confirmed infections stands at over 1.6 million with nearly 95,000 deaths despite a raft of containment measures adopted to different degrees by individual Governments of the countries of the world. As a continent with its current burden of COVID19, Africa sits quite far down on the 'scoreboard' with a total of 12,000 cases to date in 52 countries, a death toll of 576 and only three African countries thus far having over 1000 confirmed cases (South Africa 1900 cases, Algeria & Egypt 1600 cases). When you compare these figures to other countries like the USA (currently at 469,000 cases, over 16,500 deaths) or Spain (153,000 cases, 15,000 deaths) and Italy (143,000 cases, 18,000 deaths) it poses some really pertinent questions. Are we in Africa simply behind the pandemic curve and thereby poised on the brink of an 'avalanche' of COVID19? Do the relatively few cases so far identified in Africa (and specifically here in Zimbabwe) point to effective early containment measures or a capacity failure thus far to test adequate numbers of people in the population at large? Is it possible that COVID19 in Zimbabwe will not actually become the 'infection armageddon' being experienced in other countries where exponential numbers of very sick people overwhelm hospital care facilities and health care workers? As the World Bank reports on economic indicators that predict a devastating impact on the economies of Sub-Saharan Africa, the consequences of this global crisis and the actions taken thus far to combat it are of paramount concern to each and every one of us. We are all looking to our political leaders for the exit strategies that will keep us safe but at the same time mitigate our national and individual economic demise! Is there hope? I think there is.

In Zimbabwe we sit 12 days into the 21 day national 'lock-down' instituted on 31 March by our Government in line with similar measures put in place by other countries including our South African neighbours. As we explore this situation I feel there is much hope for optimism especially when we look at some of the pertinent COVID19 issues in more detail. At the same time there are some concerns with regards to key components of our Public Health capacity to respond to the challenges that may lay ahead. It is a perspective that could easily be overtaken by future events but we need sound structured debate to take place at all levels of our society. This will hopefully guide decisions made by our Government that balance the probability (or lack of) for a local COVID19 pandemic versus the very certain dire economic, health and food security consequences for our country and it's people if we opt to maintain a prolonged shut-down of the bulk of our formal and informal economy.

The points I want to address that give me room for hope are:

1. The current scale of the COVID19 problem in Zimbabwe.
2. Factors that may reduce the likelihood of this ballooning to pandemic proportions.
 - a) Climate
 - b) Outdoor environs
 - c) Population age demographics
 - d) Metabolic health
 - e) BCG vaccination status
 - f) Early containment (lock-down) measures

The current scale of the COVID19 problem in Zimbabwe:

Zimbabwe's COVID19 statistics sit at 395 tests having been done (on symptomatic cases), revealing 11 positive COVID19 tests and 3 deaths have been registered. So what do these figures tell us about Zimbabwe's COVID19 'status'? Do we really only have so few cases? There are two indicators by which one can gauge whether or not COVID19 has taken substantial root in a country. Firstly that widespread

testing to detect actively infected cases is being carried out which then provides an infection rate, the second indicator is that health facilities are reporting significant numbers of atypical pneumonia cases and/or associated deaths.

Testing: are our health authorities currently carrying out a significant community-wide testing program? We can evaluate this by looking at the number of tests for COVID19 infection (expressed as tests done per million people in a population) carried out so far. If we look at some comparators, Switzerland is high up on the 'leader-board' having done 19,000 tests per million, Hong Kong 12,900/million, Germany 11,000/million, Canada 9000/million, UK nearly 3000/million, South Africa over 1000/million, India 102/million and Zimbabwe has done 26 tests per million. This indicates that we really have no idea of the actual scale of COVID19 cases in our country if we base this on the very small number of tests carried out thus far. The key to responding appropriately in a pandemic is aggressive widespread testing of the community to detect the virus positive cases which allows for effective contact tracing, isolation of those infected for 14 days and monitoring for those cases who progress to more severe illness. Also understand that one of the really important statistics learned from those countries ahead of us in this viral pandemic relates to the likelihood of a large number of 'silent' infected cases who have no symptoms at all ('asymptomatic cases') which various studies have shown can be between 25%-80% of infected cases. A recent finding in Lombardi, northern Italy, a hard hit COVID19 region where 40 out of 60 blood samples (67%) from 'healthy' (i.e. having no illness symptoms) blood donors were found to be positive for coronavirus shows how prevalent this may be. In other words it is likely that hundreds even thousands of people have or have had COVID19 infection totally silently. There is even debate as to whether these asymptomatic cases are able to transmit the virus to another person. It does mean though that this is a potential double-edged sword in that we may have many potential 'silent' spreaders but also that we may already have a substantial number of people already past the infection and now immune; if the latter be the case this would be a good thing but only measurable when antibody testing for COVID19 becomes available (as opposed to current testing for the virus itself) which is a while away. Anyway the conclusion has to be that as far as our current levels of testing are concerned in Zimbabwe, at this point in time we really have no idea what percentage of our population is infected and that fact, from a Public Health perspective, is something that our health authorities need to ramp up.

Severe cases: so at the other end of the scale, are Zimbabwe's health facilities reporting significant numbers of severely ill people presenting with atypical pneumonia and/or associated deaths? The answer at this stage is that they are not (if our health authorities reporting systems are valid),. This fact gives us hope that we do not currently have an epidemic of COVID19 threatening our health delivery services.

Factors that may reduce the likelihood of this ballooning to pandemic proportions:

a) Our Climate: we know that influenza epidemics and outbreaks are seasonal in nature, being worse in colder seasons especially in the Northern Hemisphere countries and substantially reduced in summertime. Our warmer climate (even in the coming dry Zimbabwe winter) may significantly reduce the rates of COVID19 transmission by reducing the time that the virus can survive in droplets spread by inhalation or touch from person to person or on surfaces. So I propose that our climate is potentially a very positive factor that may reduce our risk of rapid spread of the virus.

b) Outdoor Environs: in Zimbabwe we are blessed with a predominantly outdoor environment where most people spend most of their time. Research on viral transmission shows that the risk of person to person spread is reduced by up to 18.7x in open spaces (outdoors) when compared to closed spaces (indoors). Compared to many overpopulated countries and cities especially those with cold, wet winter months where the majority of those people are indoors most of the time, Zimbabwe is very different. In addition we can improve the situation further by wearing a non-medical fabric mask (as recommended by the WHO since this has been shown to reduce viral transmission), we should all be wearing one when out and about.

c) Population Age Demographics: the most optimistic factor of all that provides the biggest source of hope is the age demographics of our population in Zimbabwe. To give this context we need to understand one very important fact which is that in those countries who have experienced high rates of severe COVID19 disease and deaths, the most vulnerable and afflicted (amounting to over 95% of hospitalised cases) have been older people in the population (predominantly those over 65yrs and especially over 80yr old) and more specifically

in those older folk who have other pre-existing health issues such as obesity, diabetes, hypertension, heart, lung or kidney disease. The point being that the countries currently having the highest numbers of hospitalised cases and deaths from COVID19 are those with older populations from a demographic perspective. Let's have a look at some relevant figures to illustrate the point. Below is a chart showing the respective age demographics for Italy (HAVING THE SECOND OLDEST POPULATION IN THE WORLD) which has been severely afflicted by COVID19, the USA which is in the middle of it's pandemic crisis and Zimbabwe.

	Italy	USA	Zimbabwe
<i>0 – 54yrs old</i>	65%	75%	91%
<i>over 55yrs old</i>	35%	25%	9%

The above figures demonstrate how predominantly young our population is here in Zimbabwe with 91% being under 54yrs old. If we dig a little deeper into published demographic data we find that nearly **60% of Zimbabwe's population is under 25yrs of age** compared to Italy (20%) or USA (33%). If we consider that the COVID19 data shows that the vast majority of infections in younger age groups are mild and the risk of death is almost nil (measured at a rate of less than 0.1 of all infections compared to a rate of 14 in people aged over 80yrs) then Zimbabwe's predominantly young population poses a vastly reduced overall risk of a severe overwhelming outbreak of severe COVID19 cases. To date of all COVID19 cases worldwide with outcomes (ie recovered or died) a total of 77% of cases have recovered.

d) Metabolic Health: I have already mentioned the key role that having an underlying illness appears to play in dramatically increasing the risk of more severe COVID19. These conditions, most notably obesity and pre-diabetes / diabetes, which have accounted for upward of 80-90% of hospitalised cases in the USA and other countries, speak loudly to the state of 'metabolic health' in a nation. Obesity rates in the USA are at over 42% of their population (in fact 75% of Americans are either overweight or obese) with associated pre-diabetes and diabetes at 'epidemic' proportions afflicting over 50% of Americans. Here in Zimbabwe we do not have these conditions present in either comparable proportions or numbers, which combined with a younger population demographic again breeds optimism on our nation's chances of avoiding an overwhelming COVID19 crisis.

To provide balance to this issue of our population health, it must also be said that we do have a relatively high incidence of hypertension amongst Zimbabwean adults which poses a COVID19 risk concern and of course we also have a substantial number of people living with HIV. The impact of COVID19 on people with HIV is currently unknown but evidence from influenza studies show an increased pneumonia risk in people with HIV which is reduced in part if they are taking anti-retroviral drugs (ARVs).

e) BCG Vaccination Status: the Bacillus Calmette–Guérin (BCG) vaccination is used in many countries to prevent tuberculosis. A study published recently by the New York Institute of Technology (NYIT) which analysed the mortality from COVID19 in 178 countries over a 15 day period, observed that countries without universal policies of BCG vaccination such as Italy, Spain, the Netherlands and the USA, have been more severely impacted with COVID19 compared to countries with universal and long-standing BCG policies such as Zimbabwe, India and Portugal. The incidence and death rates of COVID19 differed by up to 10x in these two groups of countries. For example when comparing Spain which does not have an active BCG vaccination program to neighbouring Portugal which does (figures as at 10 April 2020):

- Portugal: 14,000 cases, 409 deaths, 0.1% infection rate. 2.5% death rate.

- Spain: 153,000 cases, 15,500 deaths. 0.27% infection rate. 9.5% death rate.

The study findings suggest that people in Spain are almost 3x more likely to get COVID-19, and 10x more likely to die than in Portugal. There are weaknesses in this study as it relies heavily on recorded death rates which are heavily influenced by each countries testing strategy, so it may not tell the whole story. My (reserved) conclusion from this is that our long-standing BCG vaccination program for all at birth here in Zimbabwe may contribute to a reduced impact of COVID19, another cause for hope! As a footnote to the BCG story, a trial of the BCG vaccine in 4000 hospital workers is now underway in Australia.

f) Early containment (lock-down) measures: the effectiveness of the early lock-down aka 'stay-at-home' measures put in place before any measured evidence of a significant COVID19 problem in Zimbabwe will

be judged going forward but if we look at the experience of countries like Italy and the USA who only instituted such containment measures later rather than earlier, they seem to have been 'chasing their tails' ever since with the viral pandemic severely impacting on their health services. There is indeed room for hope in that this early lock-down will contribute to being ahead of the curve, slowing down the spread of COVID19 within Zimbabwe.

In conclusion, we know from the science of epidemiology that the concern over a COVID19 pandemic in Zimbabwe lies predominantly with its potential risk to vulnerable people of developing severe COVID19 disease including the very real risk of death and the potential impact on health services. Ultimately the confident salvation from COVID19 for every country lies with having at least 50% of a people in a population exposed to and thereby immune to the virus creating what is known as 'herd immunity' (which can be tested by sampling the population for antibodies to COVID19 when these tests become available). This will only be achieved if and when infection rates, including the 'silent' asymptomatic cases, rise at controllable rates (or indeed have already done so) or will ultimately be achieved with the arrival of an effective vaccine against COVID19; a vaccine which by all accounts is still a long way off.

I have an optimistic outlook for Zimbabwe. There is and can continue to be a great degree of hope that the issues I have outlined indicate that we are not, at this point, in the throes of an overwhelming COVID19 crisis and that those same factors may indeed prevent us from escalating to a crisis at all. At the end of the day our Government has to balance the scales of humanitarian health protection against the very real imposing threat of economic and social devastation. I am hopeful that consideration and debate takes place around the need for the continuance of total 'lock-down' versus a cautious, measured, pragmatic and graduated return to normal life initially for the very low risk sector of the population whilst protecting those at increased risk, thus allowing productivity and economic recovery to start earlier rather than too late. Happy hopeful Easter!