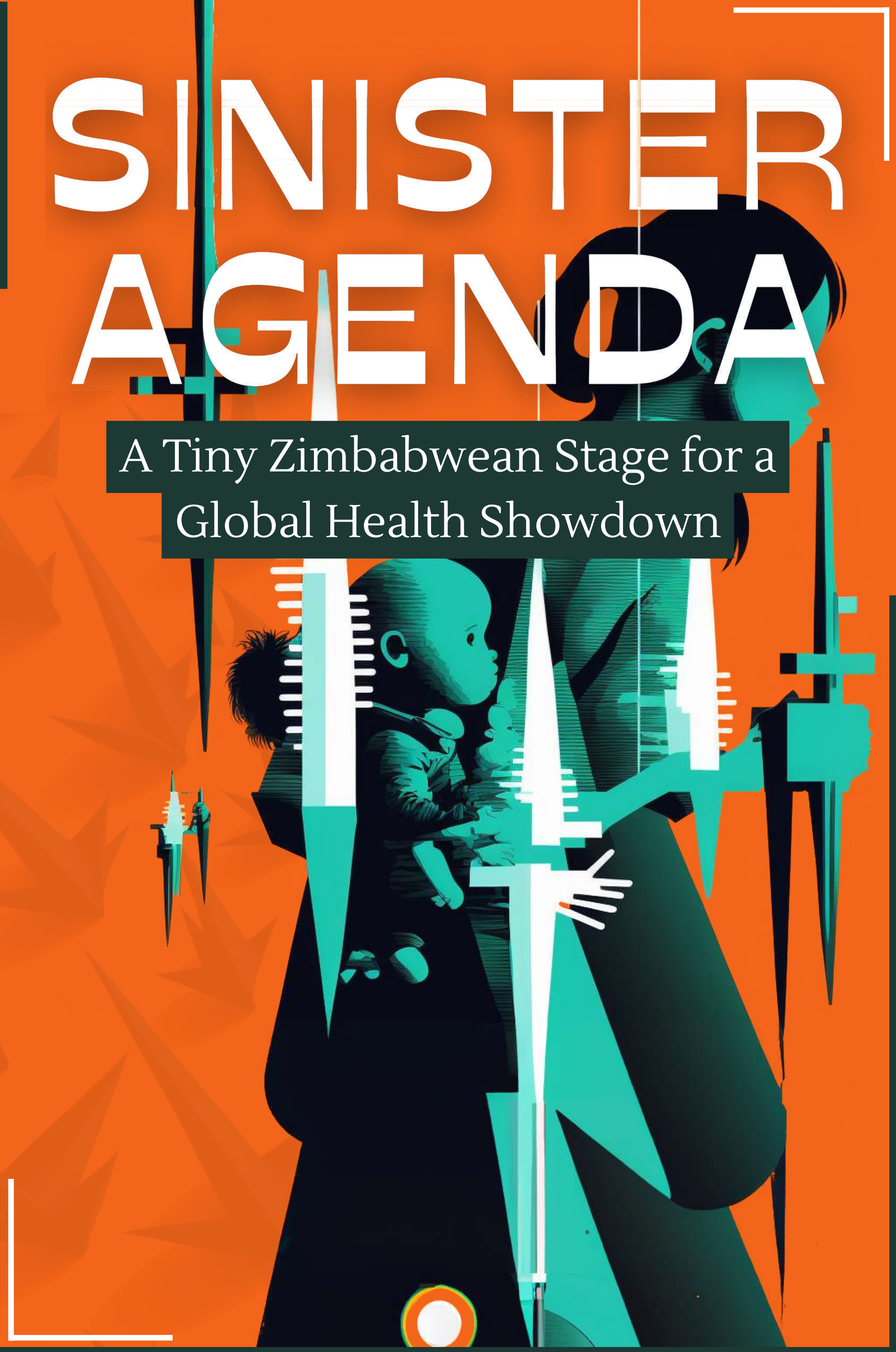
SINISTER AGENDA

A Tiny Zimbabwean Stage for a Global Health Showdown



COVID, Ivermectin, and Nanosilver: A Journey through the Landscape of Science and Politics

It's zeta potential, not a miracle

/Genius Doctor or Cunning Con?/

I was privileged to witness her treating a visibly sick 30-year-old woman. While she was quick to clarify that such a dramatic recovery wasn't typical, she also emphasised that it wasn't unusual...

I watched in disbelief, suspicious of a potential conspiracy, that perhaps this was a staged performance, in cahoots with the alleged patient who might have been an actor enlisted for the purpose of deceiving me.

A COVID MULTI-PART SERIES
BY

EDMUND KUDZAYI

This COVID-19 series is aimed at exploring the circumstances surrounding the virus, a task which can no longer be left to the mainstream media. Subscribe to the COVID Insights newsletter for periodic, comprehensive updates via email.

Feel free to connect via Twitter Direct Message or email at covid_insights@kukurigo.co.zw for any related inquiries.

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PART I

Ivermectin & COVID-19: Navigating the Tempest

The efficacy of Ivermectin, once celebrated for its exceptional anti-parasitic properties, in the management of COVID-19 has ignited a contentious debate. This medicinal drug has ascended to the epicentre of a profoundly polarised discourse, fraught with misinformation, amplified narratives, and palpable tension. The central inquiry persists: Is it a miracle panacea or merely a misconstrued instrument?

Our mission is to dissect the intricate matrix of the Ivermectin discourse, scrutinize its utility, and unearth the foundational catalysts fueling this prevalent dichotomy. We can only comprehend its function by delving into the nature of COVID-19. The dynamics of this pathology will help us formulate the necessary questions. If the virus replicates rapidly, doubling every six hours, and proliferating exponentially, what was the rationale behind recommendations for passivity as the virus multiplied rampantly within the host? Additional questions emerge as well.

Amid reports confirming Ivermectin's efficacy juxtaposed with those dismissing its usefulness, we may need to revert to initial laboratory studies where its high

effectiveness was determined. The emerging question is straightforward: What was the operative mechanism in the laboratory, and why did it subsequently fail? Moreover, why did some respond to this failure with triumphant dismissal rather than inquisitive bewilderment, seeking ways to restore its effectiveness? The answers to these queries lie in the realm of common sense and critical reasoning.

Yet, unresolved queries linger. Why did there appear to be a concerted effort to mislead the public into perceiving Ivermectin, most outrageously, as a medication exclusive to livestock, or, equally deceptive yet perhaps somewhat less disparaging, as a drug confined to treating parasitic infections?

The dishonesty is apparent considering the commendations the drug received prior to its perceived nuisance in the COVID-19 era. Reflect upon the esteemed publication, Nature, that stated in February 2017: "Recent research has challenged the assumption, prevalent for the majority of the past four decades, that Ivermectin lacked any antiviral properties. Ivermectin has demonstrated potent inhibition of the yellow fever virus replication, with EC50 values in the sub-nanomolar range. It has also shown to inhibit replication in several other flaviviruses, such as dengue, Japanese encephalitis, and tick-borne encephalitis, presumably

by targeting the non-structural 3 helicase activity."

Ivermectin's potential antiviral effects were clearly acknowledged well before the COVID-19 pandemic, the fact is indisputable. Though the deceit is glaring, the pivotal questions that demand answers are - why and how? What was the motive behind this deliberate misrepresentation? Moreover, how were its advocates able to orchestrate such widespread dissemination of this false narrative in unison across various media platforms? Fleetstreet would scarcely survive. The editors are guilty as charged.

Our exploration, however, does not end here. We will delve into the prickly subject of resistance and scepticism towards Ivermectin, shedding light on factors such as commercial pharmaceutical influences, the rampant nature of academic fraud, media narratives, and regulatory capture.

Promoting a transparent discourse, I invite a diversity of viewpoints. I welcome evidence-based counterarguments and foster an environment conducive to constructive dialogue. This endeavour extends beyond a simple article; it is a quest for truth, encouraging the public to challenge the dominant narrative and uncover the obscured facets of the issue.

PART I

This is a comprehensive, multifaceted exploration that commences with Ivermectin and threads through various COVID-19 matters, the resolution of which is essential to our understanding of our world.

PART II

A Tiny Zimbabwean Stage for a Global Health Showdown

As COVID-19's second wave loomed ominously, prompting the World Health Organisation to caution African nations against an impending lethal variant, the College of Primary Care Physicians of Zimbabwe (CPCPZ) found itself at a crossroads. Its president penned a letter to the Ministry of Health's permanent secretary, expressing deep concerns over the national COVID-19 treatment guidelines' efficacy.

The proposed solution was to clear regulatory hurdles for a unique drug combination, touted as a "game changer" that could curb mortality rates to less than 1.5%.

At the heart of this controversy lay a novel combination of ivermectin, a drug that had been heavily criticised, and nebulised nanosilver. The proponent of this innovative combination, Dr Jackie Stone, had recently been apprehended on trumped-up charges of dealing with dangerous drugs, creating an aura of tension around the treatment.

PART III

Dr Jackie Stone and the Controversial Treatment

Dr Stone, a GP and former aviation doctor for Emirates during the 2002-2004 SARS epidemic, had discovered the potential of nano-particulate silver solution in a nebuliser to expedite patient recovery and augment oxygen saturation in hypoxic patients. Despite the successful use of this treatment since August 2020, powerful antagonists attempted to suppress its distribution.

The narrative took a darker turn when Dr Stone's private Medical Council file was allegedly leaked to Professor Rashida Ferrand, a British-Pakistani epidemiologist and staunch opponent of Dr Stone's protocol. In a series of fervent tweets, Professor Ferrand dismissed ivermectin and nanosilver as ineffective treatments and instead advocated for rest and paracetamol. She provided no alternative solutions for severe cases, a stance that would later be implicated in the rising COVID-19 death toll.

In a desperate attempt to remove Dr Stone from the narrative, Josephine Mwakutuya, the Medical Council's

registrar, sidestepped standard disciplinary procedures, directly reporting Dr. Stone to the police. Deprived of the opportunity to respond to allegations, Dr. Stone's professional journey was significantly hindered, prohibiting her from administering the very drugs she had championed.

Paradoxically, the same treatment protocol for which Dr Stone now faced prison, as prosecutors zealously pursued severe punishment to act as a 'deterrent,' was the very regimen the CPCPZ physicians were urging. This perhaps unsurprisingly, she had lectured and taught them how to use it.

PART IV

The College of Primary Care Physicians of Zimbabwe's Letter

It was 24 January 2021 when the two-dozen senior practitioners from the College of Primary Care Physicians of Zimbabwe (CPCPZ) drafted an urgent communique to the Permanent Secretary of the Health Ministry. Led by their president, they unequivocally stated that the procedures outlined in the national guidelines proved ineffective:

“We have followed the evidence rigorously and practiced the standard of care managing our patients in the early stage as with the national guidelines, proceeding to anticoagulants and steroids if they progress and then frantically trying to find oxygen and an ICU bed in hospitals, often a herculean or impossible task. But treating our patients with these standard guidelines has not worked...”

PART V

Ivermectin & COVID-19: Navigating the Tempest

They were no strangers to public health crises, having battled past outbreaks of cholera and the peak of the HIV epidemic. However, COVID-19 posed unparalleled challenges:

“The COVID pandemic has been our most stressful to date because of its sheer infectiousness and rapid progression to life-threatening disease.”

The swift progression is now widely recognised as a consequence of the exceptionally fast replication rate of SARS-CoV-2, which doubles every six hours in the initial 72 hours before reaching a plateau. This intense proliferation of the virus precipitates a sequence of events that can prove fatal for individuals with compromised immune systems.

PART VI

'We're Running Out of Coconut!'

"Imagine the early treatment protocol working with the immune system as a bucket filled with coconut flakes, and the infection as another bucket, but filled with chocolate balls. Our goal is simple - to envelop each chocolate ball with coconut. This seems quite straightforward, doesn't it?"

These were the words of Dr. Jackie Stone, a Zambian-born naturalized Zimbabwean. Standing tall in her fifties, with an authoritative presence, she would be the one credited with protecting Zimbabwe from a potentially disastrous COVID-19 aftermath.

I listened carefully as she continued, "But what happens when I introduce a second bucket of chocolate balls, then four, then eight, and every six hours there are 16, then 32, then 64, and so on? Unfortunately, you can't increase the amount of coconut quickly enough to keep up. Once the virus overwhelms the immune system - if you haven't stopped the virus in the first few days - it replicates exponentially, triggering a massive immune response called the cytokine storm, which leads to clotting and multi-organ failure. That's why early

treatment is crucial; you want to strike hard and from multiple fronts to prevent the virus from proliferating unchecked to the point where your immune system can't control it. This multi-pronged aggressive attack is what we call Combination Therapy, and it's not a new concept; it's how we got HIV under control."

PART VII

Perplexity: Genius doctor or cunning con?

I was privileged to witness her treating a visibly sick 30-year-old woman. While she was quick to clarify that such a dramatic recovery wasn't typical, she also emphasised that it wasn't unusual.

I watched in disbelief, suspicious of a potential conspiracy, that perhaps this was a staged performance, in cahoots with the alleged patient who might have been an actor enlisted for the purpose of deceiving me. It wasn't an illogical suspicion, having observed her transformation from needing a hospital bed to walking and laughing as she bid Dr Stone goodbye just an hour later. What I was witnessing seemed implausible.

I was not alone in my perplexity. The CPCPZ doctors articulated in their letter:

"A GP colleague of ours, who had experience in the aviation industry during the previous SARS epidemic, discovered almost by accident that using nanoparticulate silver solution in a nebuliser helped patients to recover quickly and furthermore improved

saturations in patients becoming hypoxic. CPCPZ invited her to present to her peers, and over the ensuing 10 months, there has been debate, searching out of the literature, collaborating with scientists elsewhere in the world who could help us make sense of why this works so well..."

The veiled reference to the GP colleague was intentional. Dr Stone was now the subject of criminal investigations and a disciplinary procedure by the Medical Council so biased that her representing lawyers resigned in protest against the gross violation of due process. Crediting her directly would have only further complicated an already delicate affair in which the doctors were requesting, as per the letter's subject line:

URGENT REQUEST TO ALLOW AND FACILITATE ONGOING USE OF IVERMECTIN & NANO SILVER FOR TREATMENT OF COVID-19 PATIENTS

PART VIII

“We have seen it work”

“Since August 2020, we have adopted the use of both Ivermectin and nanosilver solution and have found this combination to be a game-changer in terms of the management of our patients. (A few South African colleagues who were desperate also used the two in combination and can relate anecdotes of clearing an old age home hospital full of COVID-19 patients in a week. They too were struck by the effectiveness and have actually put this protocol, called the SID protocol, on the Ivermectin Africa website.)

“For the past 5 months, we have used Ivermectin and nano silver, either separately or together, alongside the standard of care for our COVID-19 patients. After the first wave when numbers were low, it was less obvious just how successful this regimen could be, but when the second wave hit in mid-December, we found that using this protocol was extremely effective. We use far less oxygen, far fewer patients progress, and in fact, some practitioners estimate that they have less than 1.5% mortality using this combination. We believe that the Zimbabwean case fatality rate would be significantly higher over the last month if we had not been able to use it.”

The complete letter can be accessed via this link. However, the main points are evident from the excerpts above:

- *The national guidelines were ineffective.*
- *The implementation of a combination of Ivermectin and nanosilver was seen as a "game-changer".*
- *The doctors were unclear about why it was effective, only that it was.*
- *Certain doctors were reporting a mortality rate of less than 1.5% with this combination, a stark contrast to Professor Ferrand's alarming 35% case fatality rate.*
- *This protocol had been in use since August 2020 and was likely the reason why Zimbabwe evaded the worst of COVID-19.*

PART IX

Nanosilver: Electrostatic Speculations

The dramatic treatment of a 30-year-old woman using nanosilver caught my attention. I asked Dr. Stone about the mechanism of action, and though she could not provide certainty, she offered well-informed theories based on emerging research. Her extensive knowledge, which she attributed to her additional degree in biochemistry, shone through in her explanation:

“Silver has been recognised for its antimicrobial properties for thousands of years, partly due to its ability to bind to genetic material within microbes and inhibit replication. However, in the case of COVID-19, the remarkable improvement observed has a different explanation. It leans more towards quantum physics than biochemistry. While it's still conjecture, it's informed conjecture: the phenomenon is known as the zeta effect, occurring at a quantum level and involving interactions between the highly charged viral spike protein and inhaled nanosilver. The spike has 30 times the affinity for nanosilver than for the human receptor, so it coats and disables the spike through an electrostatic effect. These tiny silver particles,

measured in nanometers, generate an effect not seen with larger silver particles. The zeta potential is an electrostatic property at the particle-liquid interface that may influence quantum-level interactions between viral particles and charged surfaces, like nanosilver. A recent paper demonstrates that ivermectin has a similar effect. Red blood cells clot when the spike protein is added, and this is prevented and reversed with ivermectin. The more charged the spike of each variant is, the more effective the coating agents. Together, nanosilver and ivermectin can produce what some doctors have called a miraculous effect. They are truly game-changers. Neither nanosilver nor ivermectin is my invention, but a literature search will reveal that their potential antiviral properties are well-recognized."

Regardless of one's opinion of Dr. Stone, engaging in a thirty-minute conversation with her is enough to confirm her extraordinary intelligence. The CPCPZ's decision to invite her to speak was unquestionably justified.

Despite the various mechanisms Dr. Stone presented, the effectiveness of the treatment was evident. Any lingering doubts I had about her being a charlatan seeking to manipulate my journalistic pen dissipated upon reading the CPCPZ letter.

PART X

The Big Pharmaceutical Connection

Doctors who signed that letter later faced various forms of intimidation from the Medical Council registrar. Some had their practices raided by aggressive inspectors, while others received threatening phone calls, as efforts to silence discussions about this protocol continued.

Professor Ferrand emerged as a significant figure opposing the adoption of this protocol. I discovered that she was connected to a global pharmaceutical network that had effectively hijacked national health systems, now influencing policy as it pleased. In South Africa, our neighbour, I learned about the peculiar case of a professor with extensive property holdings and a penchant for luxury cars beyond his salary range.

Just weeks before the CPCPZ letter, South African epidemiologist and infectious diseases specialist Professor Salim Abdool Karim warned against administering Ivermectin in the treatment of COVID-19 patients. During an interview with IOL, Karim asserted that any doctor prescribing the drug would be committing professional misconduct.

"Ivermectin available in South Africa is intended solely for animal use. It would be professional misconduct for any doctor to prescribe it and any pharmacist to dispense it," he stated.

A quick literature search finds Ivermectin described differently. Described as a “Wonder Drug” by Crump in 2011, we find that it is, in fact, a Nobel Prize-winning, WHO essential drug for humans, that has been around for over 4 decades and is possibly the safest drug licensed by virtually every regulatory body in the world.

Karim was the head of South Africa’s Ministerial Health Advisory Committee (MAC) on COVID-19. His dubious contributions have been amply rewarded, being elevated to a member of the World Health Organisation’s Science Council. In Zimbabwe, Professor Ferrand also played a key role having been appointed to the COVID-19 Experts Advisory Committee, where she easily prevailed over her colleagues and reportedly steered policy.

One may wonder why these esteemed professors acted as they did. Ivermectin is among the world's safest drugs, even safer than paracetamol. It had proven to be remarkably effective in vitro. It would not have been unreasonable to consider its use, since the worst

possible outcome would be no effect. Who were they representing?

The College of Primary Care Physicians letter ended with a commonsense position:
“If we use Ivermectin and it is not effective against COVID-19, the worst possible outcome is a population of parasite-free people. If we withhold Ivermectin, there is no way to bring back lives lost, or days lost to illness, hospitalizations, fear, and worry - for COVID-19 patients themselves and their loved ones.”

Yet Professor Ferrand recommended against the use of Ivermectin on 23 Jan 2021. Two irreplaceable medical researchers: Professor James Hakim and Professor David Katzetstein, as well as 3 cabinet ministers, died over the next three days until Dr. Jasper Chimedza, the Permanent Secretary of Health, overrode this decision and approved mass importation of Ivermectin on 26 Jan 2021. The death rate dropped from 70 a day to zero by 26 Feb 2021. Yet Professor Ferrand and Dr. Agnes Mahomva still will not recommend the use of Ivermectin in hospitals and add it to the National Guidelines. Why?

For Professor Ferrand, it wasn't difficult to discover her connections to the Wellcome Trust, which primarily

financed her research. The Wellcome Trust has been questioned in the British Medical Journal for investing heavily in Ivermectin's competitors and has a long history of supporting Eugenics. Wellcome was closely collaborating with Unitaid within the World Health Organisation. Unitaid was later revealed to have influenced Dr. Andrew Hill's abrupt change in stance. He shockingly confessed on tape that he had falsified the paper the WHO used to justify their refusal to recommend Ivermectin. Just weeks earlier, Dr. Hill had authored an analysis on Ivermectin as a COVID-19 treatment, finding the drug overwhelmingly effective. His astounding admission can be viewed [here].

These details about Professor Ferrand in Zimbabwe and Professor Karim in South Africa, both staunchly against early treatments like Ivermectin, are mentioned briefly due to space limitations. A broader detailing will be presented as the series continues. Nonetheless, their reference is crucial for a comprehensive understanding of the narrative, hence their brief but necessary inclusion.

My aim is for this background to provide sufficient context to stimulate the curiosity of government officials, health professionals, activists, and the general public. I hope it encourages them to question and

reassess decisions that led to the unnecessary loss of thousands of lives due to the denial of safe and effective early treatments.

Now, let's delve into the science.

PART XI

The "Don't Do Anything" approach

Indeed, the SARS-CoV-2 virus, which causes COVID-19, does not directly cause death. Instead, the rapid replication of the virus overwhelms the body's immune system. In a desperate attempt to combat this overwhelming viral invasion, the immune system can overreact, triggering a so-called "cytokine storm". This intense immune response, rather than the virus itself, is what can lead to severe complications or even death in some COVID-19 patients. As such, a crucial part of treating COVID-19 involves stopping or slowing down viral replication early in the infection process.

Flawed Medical Advice

Medical advice advanced by Professor Ferrand, suggesting that people should stay at home until they experience severe symptoms, such as difficulty breathing, invariably contributed to the high number of fatalities from COVID-19. This approach essentially gave the virus free rein to multiply within the body. Consequently, by the time an individual sought medical attention, their condition might have already deteriorated to a critical level.

The Importance of Early Intervention

Early intervention, aimed at slowing down the replication rate of the virus, could potentially have given the immune system a better chance to mount an effective defense against the virus. This approach could prevent the immune system from going into overdrive and triggering a cytokine storm, which is often the stage at which severe complications and fatalities occur.

PART XII

Understanding COVID-19: A Staged Progression of Pathology

Phase I: Viral Replication (Days 1 to approximately 9-12 post-exposure)

During the initial phase, the SARS-CoV-2 virus enters the human body and begins replication. As it duplicates itself, the virus infiltrates more cells, gradually increasing its presence within the body. Many infected individuals may remain asymptomatic or experience only mild symptoms, such as a slight fever or a mild cough. Simultaneously, the body's immune system activates, attempting to neutralise the virus and limit its replication. However, the rapid and abundant replication of the virus can overwhelm the immune system, making it increasingly difficult for the body to manage the growing number of viral particles.

Phase II: Hyperinflammation Response (Approximately Days 9-13 to 28 post-exposure)

This phase is characterized by an intensified immune response, potentially leading to inflammation. In some cases, this response can become overly aggressive, resulting in a 'cytokine storm' - a massive release of

inflammatory molecules that can cause widespread tissue damage. Such hyperinflammation can severely impact organs, especially the lungs, heart, kidneys, and liver. In extreme cases, this can lead to multiple organ failure and even death.

Phase III: Clumping and Clotting (Day 10-14 onwards)

High levels of spike protein, generated by uncontrolled virus replication, and the resultant excessive immune production of proteins and antibodies cause red blood cells to stick together and to the walls of blood vessels, similar to what occurs in cerebral malaria. This process turns the blood into a thick, treacle-like consistency, which then sludges and clots, preventing the already struggling organs from receiving oxygen. Most individuals who die succumb to heart failure due to oxygen deprivation.

Phase IV: Death - Usually a Hypoxic Cardiac Arrest

PART XIII

Deciphering the Progression of Symptoms and Organ Damage

The development of COVID-19 can be categorised into four distinct stages: asymptomatic, mild, severe, and critical.

Asymptomatic Stage

During the asymptomatic stage, individuals may carry the virus without displaying any noticeable symptoms. They can unknowingly transmit the virus to others.

Mild Stage

Mild cases typically manifest with symptoms such as fever, cough, and fatigue. At this stage, the infection may resemble a common cold or flu.

Severe Stage

The severity of the infection escalates when individuals experience difficulty breathing, chest pain, and diminished oxygen levels in their bloodstream. This stage requires closer monitoring and medical intervention.

Critical Stage

In the critical stage, patients may suffer from respiratory failure, septic shock, and multiple organ dysfunction. This stage is life-threatening and necessitates intensive care and advanced medical support.

PART XIII

The "Don't Do Anything" approach

Indeed, the SARS-CoV-2 virus, which causes COVID-19, does not directly cause death. Instead, the rapid replication of the virus overwhelms the body's immune system. In a desperate attempt to combat this overwhelming viral invasion, the immune system can overreact, triggering a so-called "cytokine storm".

This intense immune response, rather than the virus itself, is what can lead to severe complications or even death in some COVID-19 patients. As such, a crucial part of treating COVID-19 involves stopping or slowing down viral replication early in the infection process.

PART XIV

Mechanisms Driving Symptoms and Organ Damage - A Deadly Embrace

The SARS-CoV-2 virus binds to the ACE2 receptor on cell surfaces, infiltrates the cell, and initiates replication. The immune system responds, potentially causing flu-like symptoms such as fever, runny nose, and gastrointestinal issues like nausea, vomiting, and diarrhea in the infected individual.

A full recovery is possible for some, particularly if they have sufficient levels of vitamin D, vitamin C, and zinc.

However, approximately 15% of individuals experience excessive inflammation. An abundance of the virus, spike proteins, and immune proteins interact, causing cells to adhere to one another in a phenomenon referred to as "A Deadly Embrace." The spike protein can be likened to a triple fishing hook, attaching itself to red blood cells and blood vessel walls, subsequently causing cells to clump together and adhere to the walls.

As these clumped cells are unable to transport oxygen, oxygen saturation levels decrease, though the patient

may not be aware unless they measure them. At this stage, the individual may not experience shortness of breath and may only exhibit a cough. Monitoring oxygen saturation with a pulse oximeter between days 5-8 is crucial. Treatment at this stage can still be highly effective, with little to no long-term damage to organs.

When shortness of breath arises, lung tissue damage is already underway, leading to Acute Respiratory Distress Syndrome (ARDS). ARDS is a critical condition characterized by fluid accumulation in the lungs, making breathing laborious. Severe inflammation and clotting can also impact other organs, such as the heart and brain.

Treatment at this stage necessitates blood thinners, steroids, home oxygen, and intravenous antibiotics for secondary infections. Unfortunately, the mortality rate for patients who reach this level of illness is high.

PART XV

Unpacking Ivermectin's Mechanisms of Action Across Different Disease Phases

Phase I: Viral Replication

Ivermectin inhibits SARS-CoV-2's entry into cells by directly blocking the viral spike protein from binding to the ACE2 receptor. The drug halts viral replication by directly targeting various crucial viral proteins, such as RdrP, which requires zinc. Zinc functions as the bullet, while ivermectin acts as the gun. This is not an exhaustive list, as ivermectin has several other antiviral actions during the early stages of infection.

Phase II: Hyperinflammation Response

Ivermectin directly suppresses toll-like receptor 4 (TLR4) signaling, preventing the activation of the NF-kappa B pathway and reducing the production of inflammatory cytokines.

The drug also impedes STAT-3 and indirectly inhibits PAK1, which in turn blocks IL-6 gene transcription and C-reactive protein that increases PAI-1 levels. This mitigates inflammation and lowers the risk of blood clot formation.

Phase III: Aggregation and Clotting

Once clotting begins, ivermectin competitively binds to (coats) the viral spike protein, preventing red blood cell aggregation and clotting. Imagine the barbs of a triple fishing hook coated with a smooth ball. No further clotting occurs, and the clumps of red cells can now transport oxygen to the tissues. Blood flow is maintained. Ivermectin also prevents platelet activation by inhibiting the interaction between ACE2 and TMPRSS2 with the viral spike protein, further averting blood clot formation.

Phase IV: Death - Hypoxic Cardiac Arrest

Perhaps the least known and most intriguing aspect of ivermectin's effects involves the mitochondria, the energy-generating engines of cells. Impaired mitochondrial ATP production in heart cells may lead to heart failure; thus, a drug that protects mitochondria and improves ATP production under disease conditions would be a valuable treatment option. Ivermectin maintains mitochondrial ATP levels under low oxygen conditions in cardiomyocytes.

Dr. Nathi Mdladla, former Associate Professor and Chief of ICU at Dr. George Mukhari Academic Hospital, has shared anecdotal experiences involving ivermectin. When his ICU ran out of ventilators and he had to

decide which patients to put on life support, he administered ivermectin to both those to be ventilated and those considered hopeless cases who were placed in a ward on face mask oxygen, expecting them to die. Surprisingly, many patients survived on ivermectin despite experiencing low oxygen levels for several days. The cardio-protective effect of ivermectin may account for some of the remarkable turnarounds described worldwide in end-stage patients. This drug allows the mitochondria in cells, the engines powering heart cells, to keep running despite low oxygen levels.

In a systematic review of ivermectin by Dr. Fatemeh Heidary, a Senior Clinician-Scientist, the following paragraph provides an apt conclusion:

"Ivermectin has continually proved to be astonishingly safe for human use. Indeed, it is such a safe drug, with minimal side effects, that it can be administered by non-medical staff and even illiterate individuals in remote rural communities, provided that they have had some very basic, appropriate training."

The question arises as to why there was suddenly so much concern about a drug deemed harmless enough for barely literate villagers to administer to themselves. One might suspect that the purported safety concerns served as a convenient pretext to support another agenda.

PART XVI

Contextual Glossary of Technical Terms

Viral Replication: The process through which a virus duplicates itself within a host cell.

Hyperinflammation Response: A heightened immune response that can inadvertently damage the body's own tissues.

16.1 Progression of Symptoms and Organ Damage

Asymptomatic: A state where no symptoms of a disease are evident.

Alveoli: Tiny air sacs in the lungs where gas exchange (oxygen and carbon dioxide) transpires.

Coagulation: The process through which blood transitions from a liquid to a gel-like state, forming a clot.

16.2 Mechanisms Contributing to Symptoms and Organ Damage

ACE2 (Angiotensin-Converting Enzyme 2): A protein present on the surface of certain cells which SARS-CoV-2 leverages to infiltrate the cell.

RAAS (Renin-Angiotensin-Aldosterone System): A hormonal system that orchestrates blood pressure and fluid equilibrium in the body.

Hypoxia: A condition typified by the deprivation of an adequate oxygen supply to the body or a specific body region.

Acute Respiratory Distress Syndrome (ARDS): A severe pulmonary condition that precipitates breathing difficulties and low oxygen levels in the blood.

Cytokine storm: An overzealous immune response that releases a large volume of immune-signalling molecules (cytokines) into the bloodstream, inciting widespread inflammation.

Systemic Inflammatory Response Syndrome (SIRS): A severe inflammatory response that affects the entire body, often culminating in organ failure and death.

16.3 Ivermectin Mechanisms of Action During Different Phases of the Disease

Spike protein: A protein on the SARS-CoV-2 virus's surface that binds to the ACE2 receptor, thereby enabling the virus to penetrate the host cell.

IMP, RdrP, and KPNA-1: Proteins integral to the viral replication process which Ivermectin is believed to inhibit.

Glycan-binding: The interaction between a sugar molecule (glycan) and a protein, such as the viral spike protein and red blood cells.

Platelets: Small blood cells instrumental in clotting.

ACE2 and TMPRSS2: Proteins involved in SARS-CoV-2's binding and entry into host cells, which Ivermectin is thought to inhibit, thereby averting blood clot formation.

Toll-like receptor 4 (TLR4): A protein engaged in the immune response that detects pathogens and initiates inflammation.

NF-kappa B pathway: A signalling pathway integral to the immune response that regulates the production of inflammatory proteins.

STAT-3: A protein implicated in the immune response and inflammation which Ivermectin is thought to block.

PAK1: A protein involved in cellular processes and immune response which Ivermectin is believed to indirectly hinder.

IL-6: An inflammatory protein (cytokine) that plays a pivotal role in immune response and inflammation.

C-reactive protein: A protein produced by the liver in response to inflammation, often employed as an infection or inflammation marker.

PAI-1: A protein implicated in blood clotting that is upregulated by C-reactive protein.

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If you find these insights valuable, please share them. Any contribution towards this initiative, via www.buymeacoffee.com, is deeply appreciated and helps keep us producing these crucial insights.

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