

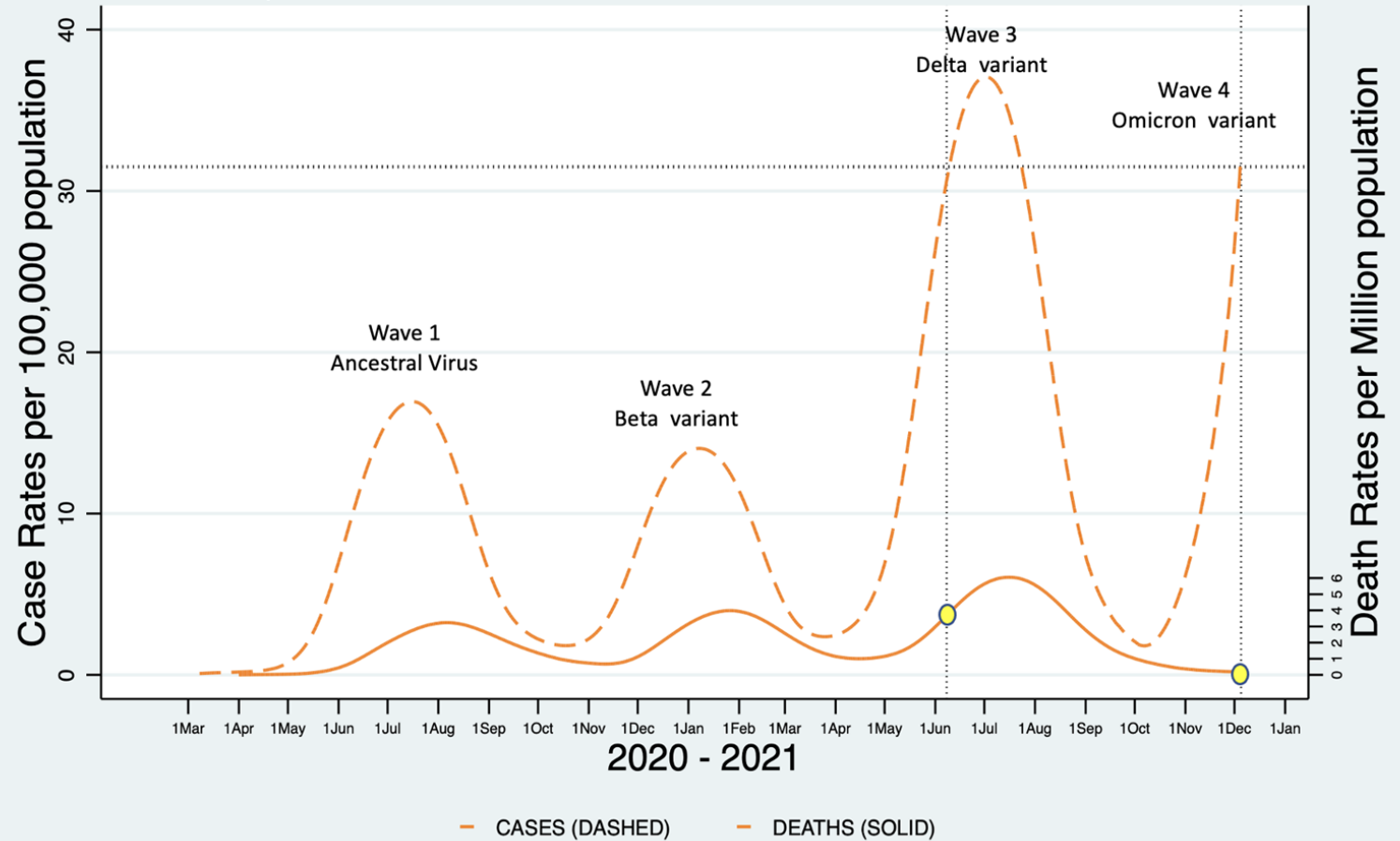


# COVID-19 – The African Reality.

DR JACKIE STONE

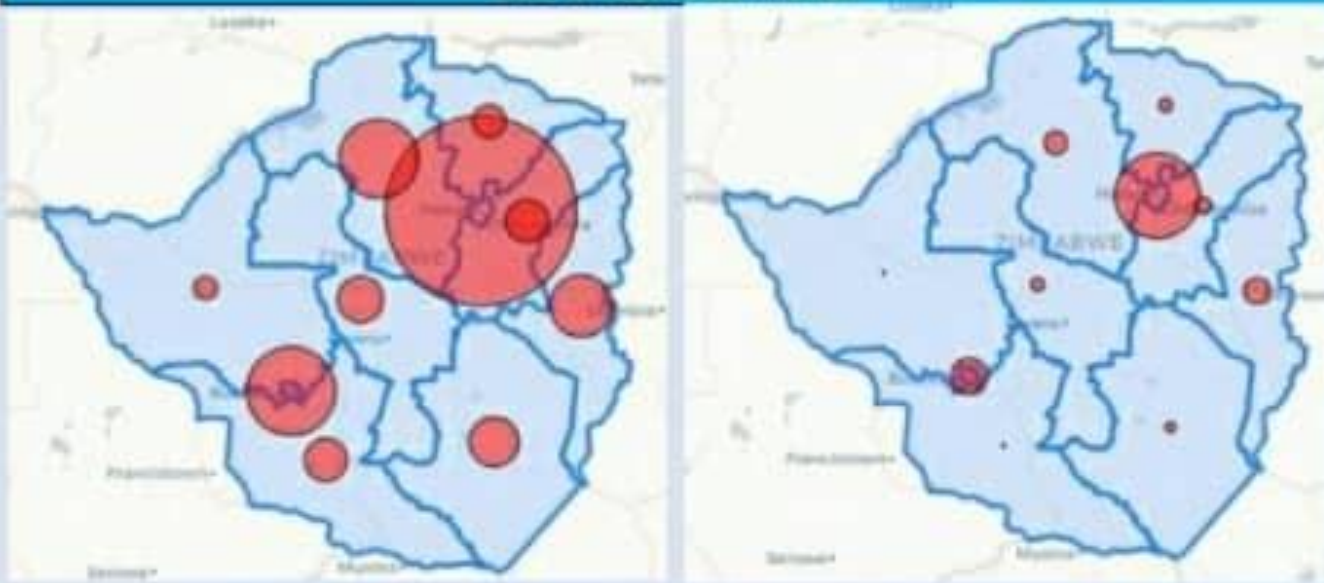
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GAUTENG PROVINCE AS AT 4 DECEMBER 2021  
 Comparison across 4 COVID-19 waves of death rates in relation to case rates



Graph by Prof Jonny Myers & Dr Fareed Abdullah  
 Raw data from the South African National Department of Health COVID-19 Dashboard <https://sacoronavirus.co.za/>  
 Curves are smoothed using locally estimated scatterplot smoothing (LOWESS) in STATA 16

CASES AND DEATHS DISTRIBUTION



Total Cases  
145 632

5 deaths  
per 11908

0.042%

Province	PCR Tests + Ag	Cum Cases (New)	Recovered Cases (New)	Active Cases	Deaths (New)
Bulawayo	503	14 620(342)	12 666(3)	1216	738(0)
Harare	2864	31 397(1176)	26 117(0)	3752	1 528(4)
Manicaland	2867	15 879(409)	13 940(2)	1473	466(0)
Mash Cent	330	8 797(109)	8 220(0)	318	259(0)
Mash East	474	15 760(601)	13 978(0)	1431	351(0)
Mash West	1064	17 164(429)	15 921(0)	745	498(1)
Midlands	1459	11 230(279)	9 886(27)	940	404(0)
Masvingo	1082	12 235(356)	11 148(6)	900	187(0)
Mat North	457	8 631(133)	8 141(2)	386	104(0)
Mat South	435	9 919(197)	8 989(0)	747	183(0)
<b>Total</b>	<b>11535</b>	<b>145 632(4031)</b>	<b>129 006(40)</b>	<b>11 908</b>	<b>4 718(5)</b>

\*Provinces with new cases but zero PCR tests conducted respectively received results from NMRI, NTBRI & Pvt Labs

# COVID-19 – The Zimbabwean Reality.

Feb 2020

## DOWNSIDE

- ▶ Low-Middle Income Country. Under-resourced.
- ▶ Minimal Access to Hospitals/ICU/Oxygen/Ventilation.

## UPSIDE

- ▶ African Trained Doctors understand infectious Disease
- ▶ Lessons from Malaria?
- ▶ Lessons from HIV?



**KEEP**

**CALM**

**BE ZIMBABWEAN**

**AND MAKE**

**A PLAN**

# Principles of Infectious Disease

## AGENT

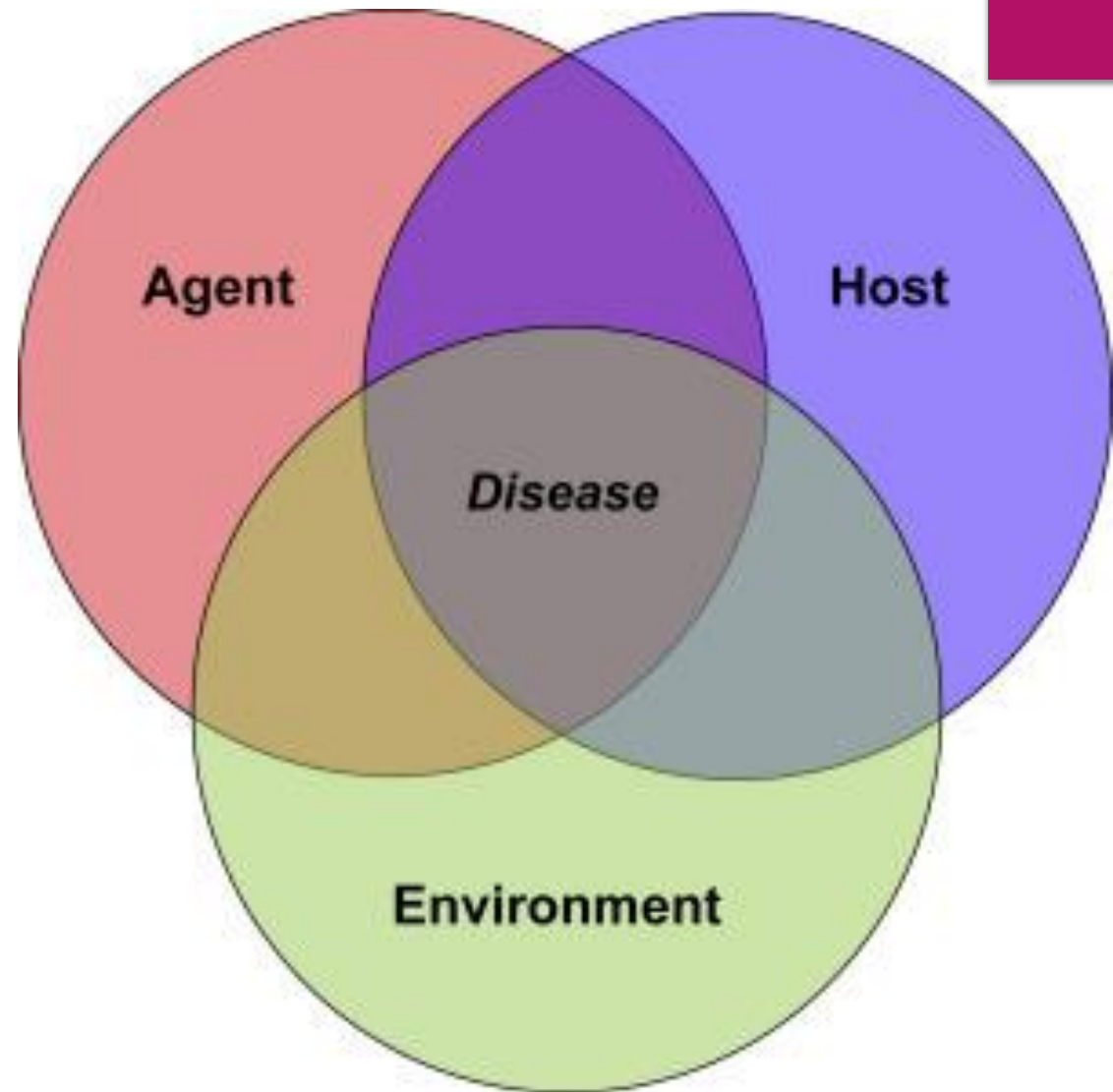
- ▶ Treat Early with Combination therapy
- ▶ Monotherapy/ Incomplete therapy = Mutations = Resistance
- ▶ Supportive therapy

## HOST

- ▶ Susceptibility
- ▶ Innate Immune Response
- ▶ Adaptive Immune Response

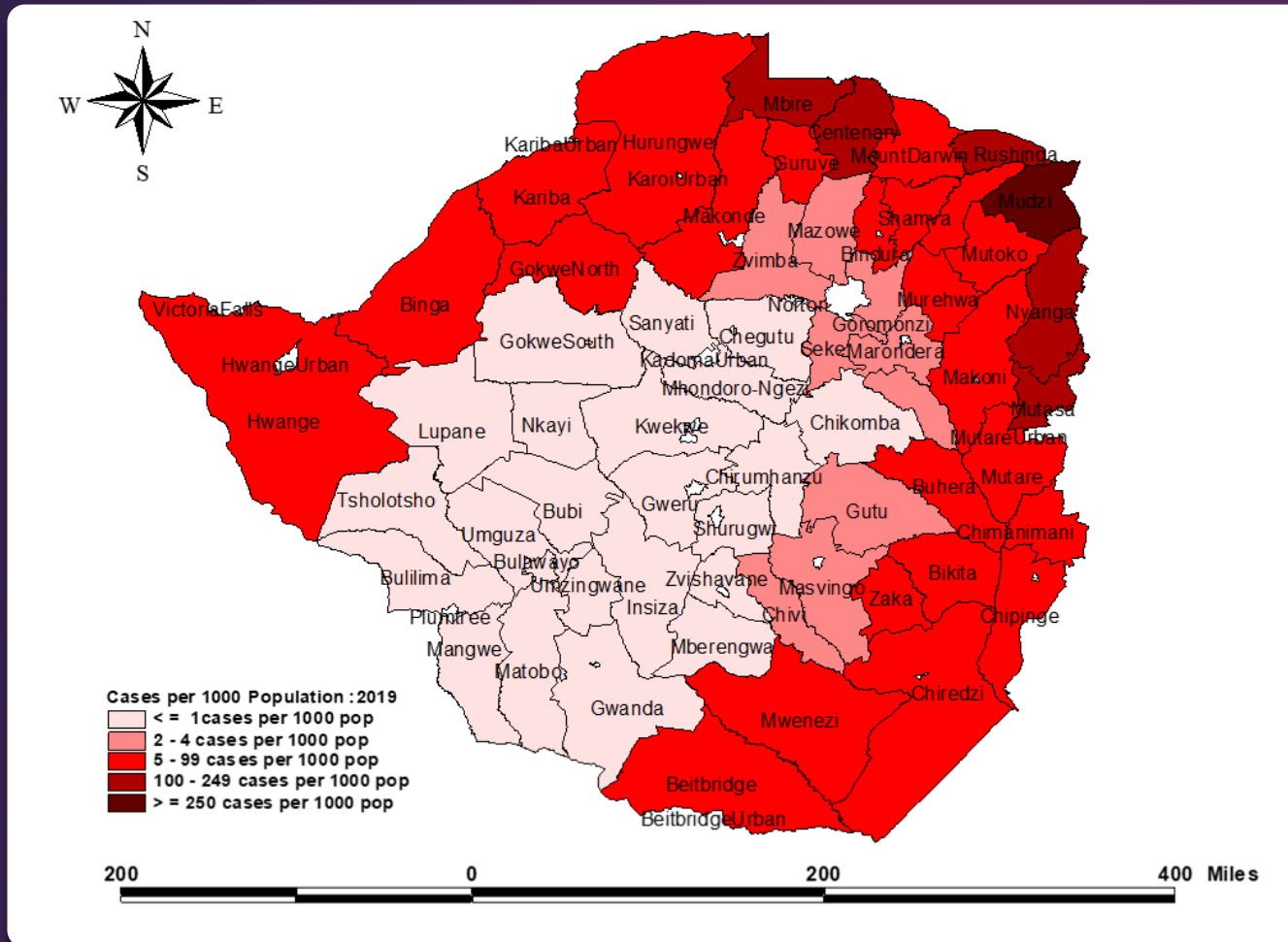
## ENVIRONMENT

- ▶ Vulnerability to infectious diseases include physical, social, behavioral, cultural, political, and economic factors.



# HIV

- ▶ COVID 19 – similarities to HIV
  - ▶ RNA virus
  - ▶ Rapidly replicating
  - ▶ High mutation rate – mutates its way around Monotherapy and Vaccines
  - ▶ Only thing that worked was combination antiviral therapy
  - ▶ Need to treat early to prevent progression
  - ▶ Need to treat early to prevent transmission



Malaria:  
310 000 cases/year

Some areas  
>250 cases per  
1000

Death rate 0.086%



# HOW DO WE MANAGE MALARIA?

- ▶ Malaria is also a rapidly replicating microbe that affects the circulation
- ▶ Also causes cytokine storm and haemagglutination
- ▶ 310 000 cases a year in Zimbabwe.
  
- ▶ Imagine if we tried to manage it by sending patients home until they `needed hospitalisation and only researching patients admitted to ICU – Negligent.
  
- ▶ **EARLY TREATMENT IS CRITICAL TO A GOOD PROGNOSIS.**
- ▶ **CLINICAL DIAGNOSIS.**
- ▶ HIGH CLINICAL SUSPICION – MANY CLUES - TREAT BEFORE TEST IS AVAILABLE

What decreases  
viral replication?

RNA viruses

Corona Virus

Are they safe and  
affordable and  
available?

IONIC AND NANO  
PARTICULATE SILVER

ZINC

ZINC IONOPHORES

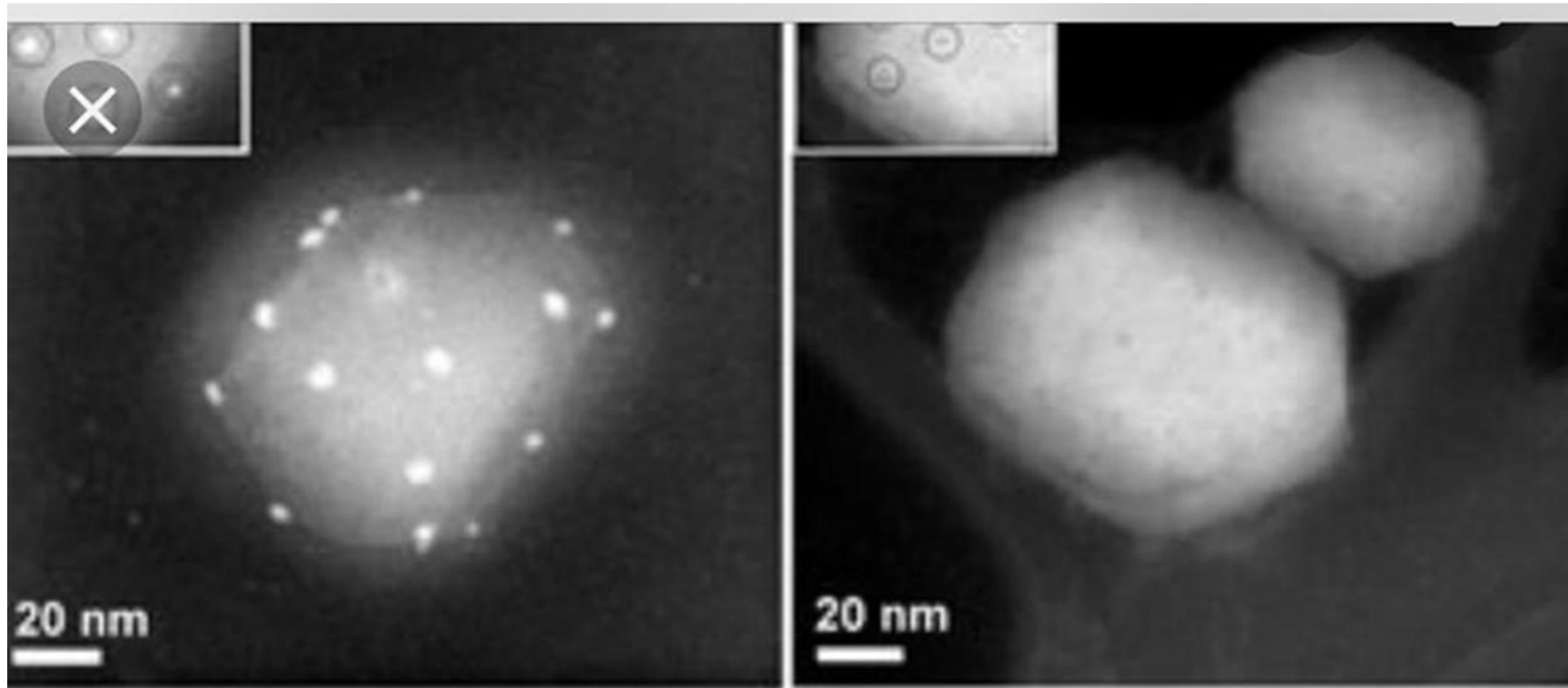
# Ionic Silver - 2003

- ▶ Medical literature shows that a variety of viruses have been successfully treated with silver-based drugs.
- ▶ State-of-the-art, electrolytically produced 'oligodynamic' Ag<sup>+</sup>, however, offers distinct advantages and versatility of use over older and cruder formulations.
- ▶ Possessing much smaller, subnanometer-sized particles, greater electrical potential and lower concentrations, it is more bio-available than other formulations.
- ▶ Efficacy against the SARS-related coronavirus, for example, may be enhanced when nebulized Ag<sup>+</sup> is inhaled.

# References: Ionic and Nanoparticulate Silver

- ▶ [Viral Pathogens and Severe Acute Respiratory Syndrome: Oligodynamic Ag+ for Direct Immune Intervention](#)
- ▶ <https://www.tandfonline.com/doi/abs/10.1080/13590840310001594061?journalCode=ijne20>
- ▶ [https://www.researchgate.net/publication/340270205\\_Nanomedicine\\_Formulations\\_for\\_Respiratory\\_Infections\\_by\\_Inhalation\\_Delivery\\_-\\_Covid-19\\_and\\_Beyond](https://www.researchgate.net/publication/340270205_Nanomedicine_Formulations_for_Respiratory_Infections_by_Inhalation_Delivery_-_Covid-19_and_Beyond)

# Nanoparticles Coat Glycoproteins



# Cytokine Reduction – Interleukin 6

## Cytokine Suppression

Concentration Ionized Ag	Factor decrease in IL-6	Factor decrease in TNF- $\alpha$
4.503 ppm	5.8	4.9
2.252 ppm	2.5	2.4
1.126 ppm	3.5	3.0

- Conclusion
- The results obtained clearly show the anti-inflammatory action of ionized Ag in vitro.
- **At a final concentration of 4.503 ppm ionized Ag was able to inhibit the production of IL-6 and TNF- $\alpha$  around 5 times compared to the stimulated control.**
- This anti-inflammatory activity was still demonstrated at a final Ag concentration of 1.126 ppm (6.25%) and inhibited the release of the cytokines by a factor of 3.

### ▶ IN VITRO

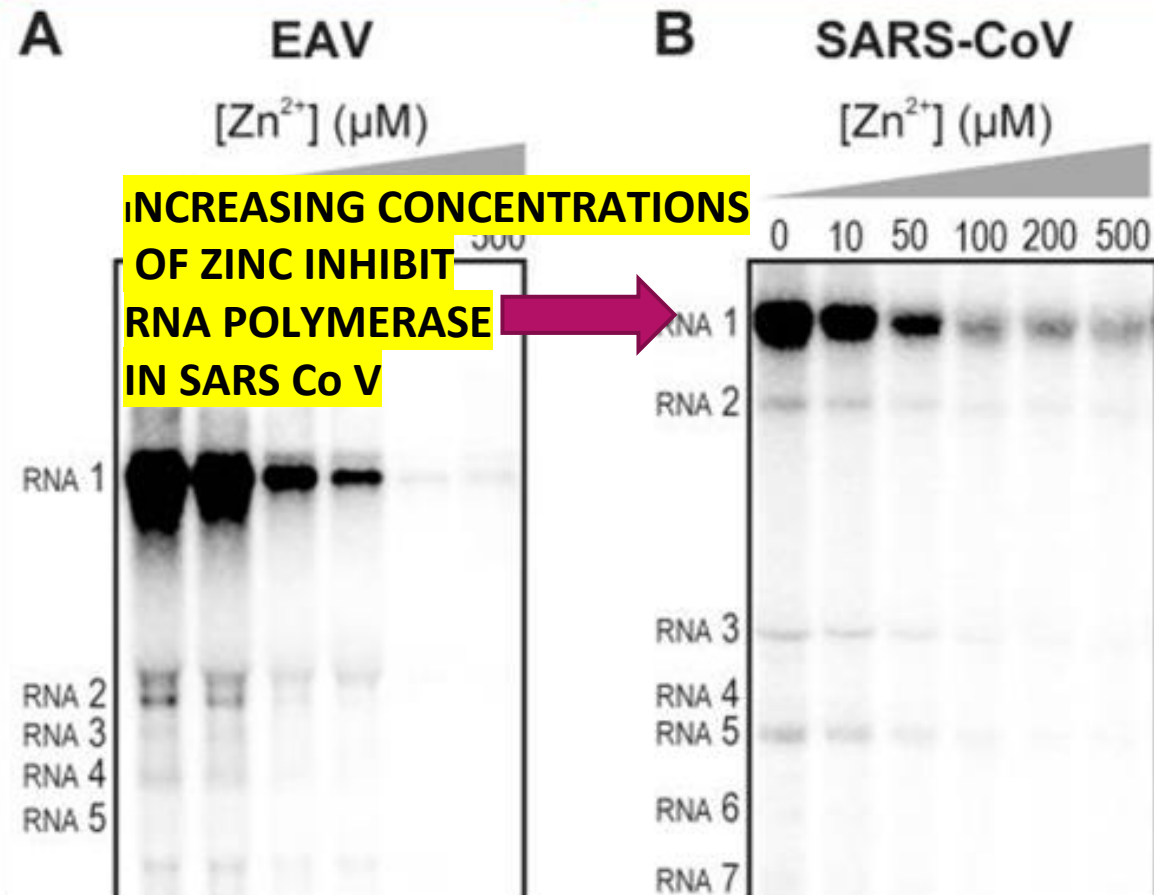
- ▶ Silver
- ▶ Ivermectin
- ▶ Doxycycline

### ▶ ALL REDUCE CYTOKINES

# Zinc

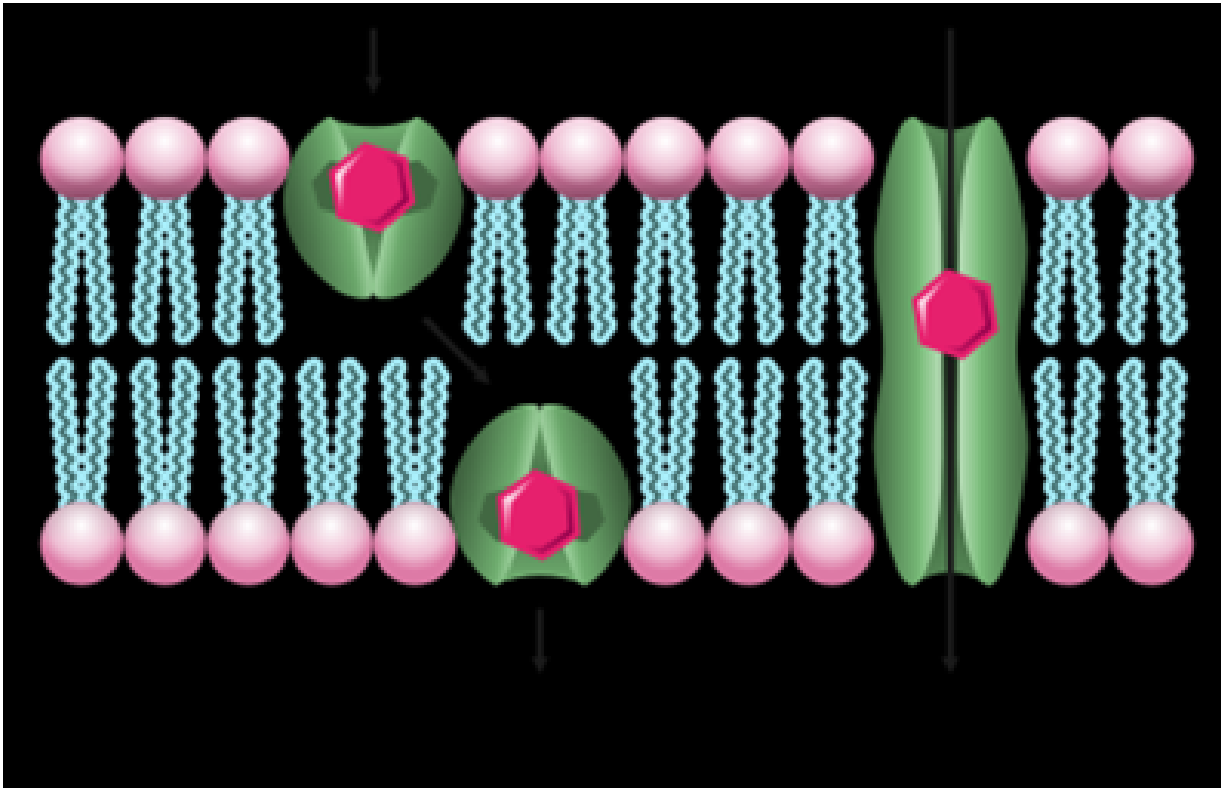
## Figure 2

- Inhibition of the in vitro RNA-synthesizing activity of isolated RTCs by Zn<sup>2+</sup>.
- Incorporation of [ $\alpha$ -<sup>32</sup>P]CMP into viral RNA by EAV (A) and SARS-CoV (B) in RTC assays in the presence of various Zn<sup>2+</sup> concentrations, as indicated above each lane



## WHAT IS AN IONOPHORE?

- Ionophore (from Greek ion and -phore, "ion carrier") is a chemical species that reversibly binds ions.
- Ionophores catalyze ion transport across hydrophobic membranes

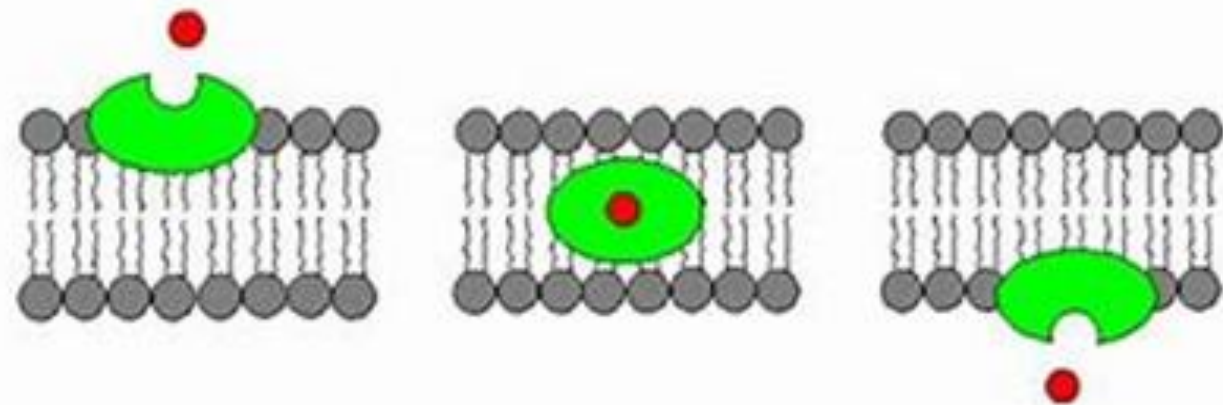


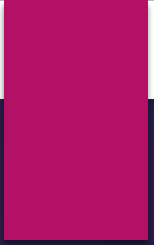
(a) Carrier ionophores reversibly bind ions and carry them through cell membranes.  
(b) Channel ionophores create channels within cell membranes to facilitate the transport of ions



## ZINC IONOPHORES

- Quercitain
- Chloroquine
- Hydroxychloroquine.
- Ivermectin
- Doxycycline





# Combination Therapy Use in Zimbabwe for Covid 19 over the last 16 months

DR JACKIE STONE

MBCHB, BSC MED HONS, MRCP, FRACGP, DAV MED, FACASM

AUGUST 2021 - BOTSWANA PRESENTATION

Tuesday  
31/3/2020

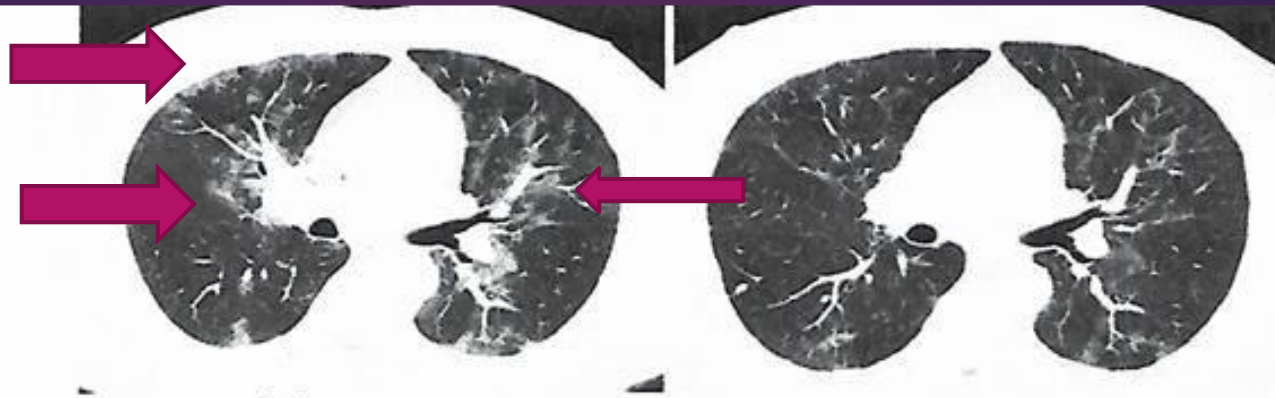


Figure 1a and 1b

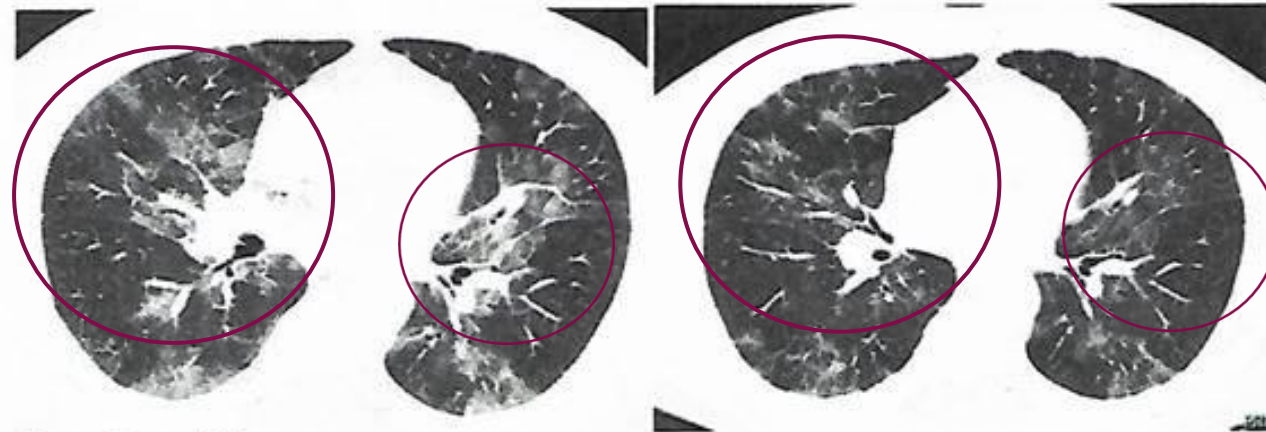


Figure 2a and 2b

Selected comparative axial images from high resolution computed tomography (HRCT) reconstructions. Figure 1a and 1b are at the level of the pulmonary trunk, and Figure 2a and 2b are at the level of the left atrium. The images from the initial scan at presentation (a) show extensive patchy ground glass opacities in both lungs, while the images from the follow up examination three days later (b) show significant improvement of these changes.

Friday  
3/4/2020

Tuesday

Friday

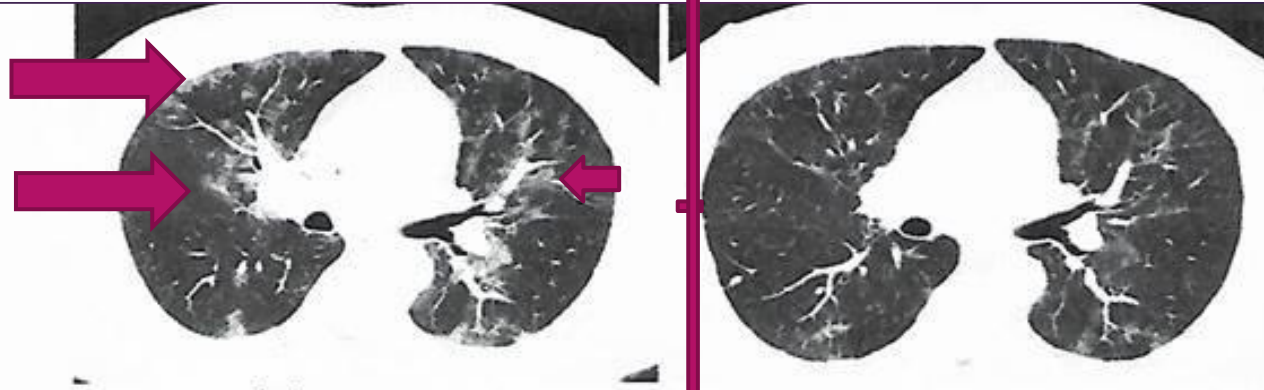


Figure 1a and 1b

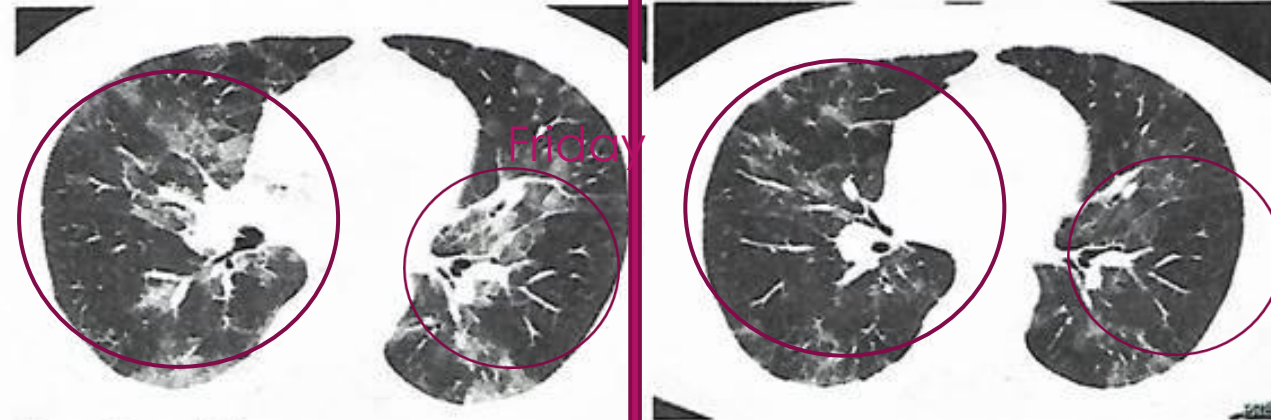


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# Evolution

- ▶ 19 Feb 2020 – Silver solutions steamed/nebulised – Traditional Medicine. Approved as a TM 6 May 2020
  - ▶ Silver introduced me to Dr Gill
- ▶ Ivermectin: 8 August 2020
  - ▶ Started with single 10mg dose. No further deaths but prolonged recovery
  - ▶ Sept 2020 – Professor Borody's triple therapy protocol: 12mg D 0/4/8 Plus Doxycycline and Zinc
  - ▶ Nov 2020 - Bangladesh study plus FLCCC – 12mg od for 5/7
  - ▶ Dec 2020 – Stat dose 0.6mg/kg noted to be effective in dramatically improving symptoms and reducing duration of the illness
  - ▶ May 2020 – Dr Peter McCullough Sequenced Multi Drug Therapy



# The SIDDz PROTOCOL

**Silver**

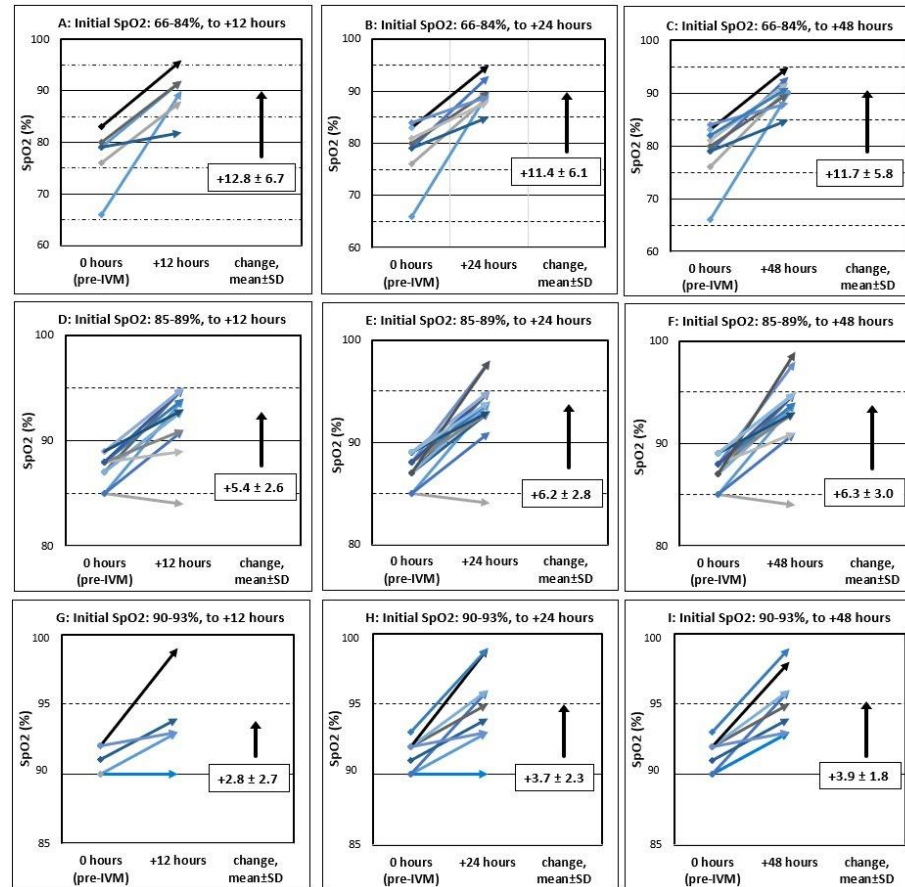
**Ivermectin**

**Vitamin D3**

**Doxycycline**

**Zinc**

# Increase in Oxygen Saturations in the Outpatient setting









# Improvement in Saturation And Circulation within 12 hours

Sats improved ↓

Circulation Improved ↓

D Dimer increased as patient recovered

Presenting Sats were 63%



Today



# 26<sup>th</sup> Jan 2021

**RE: AUTHORISATION OF STRATEGIC STOCKS FOR INVESTIGATIONAL COVID 19 TREATMENT ALTERNATIVES**

In these difficult times of Covid 19 treatment, we have to be careful to protect the patients as well as not to deny them effective treatment regimes.

It is in this regard that authority is hereby granted for you to proceed under Section 75 of the Medicines and Allied Substances Control Act to allow importation and use of these medicines under the supervision and guidance you outlined.

Ivermectin can be evaluated for both treatment and prophylaxis.



PRINCIPAL DIRECTOR - Policy  
Planning, Monitoring & Evaluation



Reference:

Ministry of Health and Child Care  
P.O. Box CY1122  
Causeway  
Zimbabwe



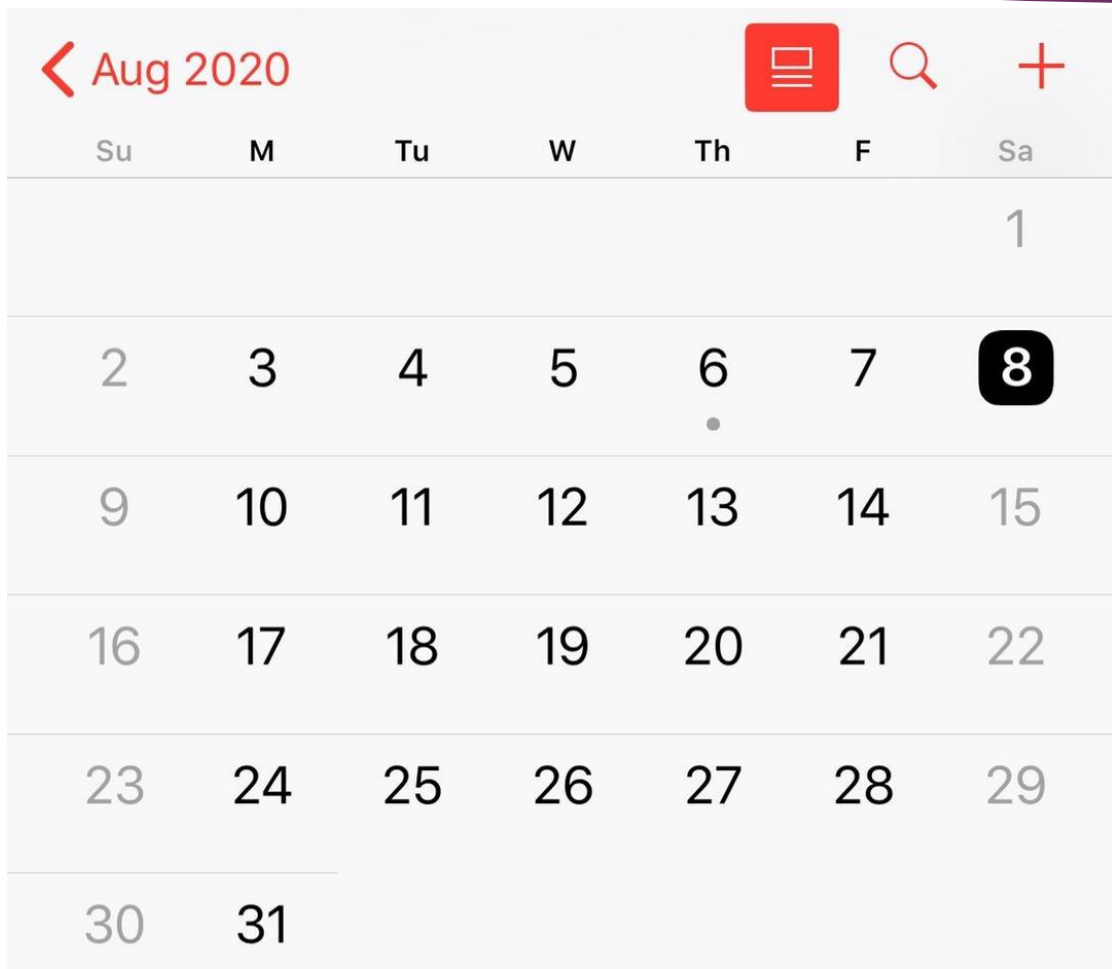
In these difficult times we have to be careful to protect the patients as well as not to deny them effective treatment regimes.

Zimbabwe Ministry of Health

8<sup>th</sup> August 2020

ADDED IVERMECTIN TO OUR PROTOCOLS

26<sup>TH</sup> January 2021- Approval for mass importation



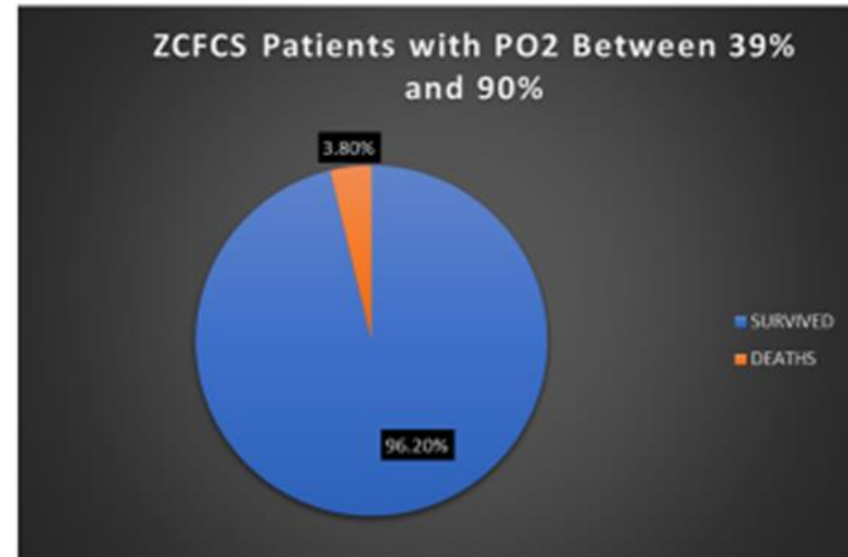
# Reduction in Mortality: almost tenfold

## Mortality

**State Hospital RED Zone  
Follows WHO guidelines**



**Hospital at Home – Ivermectin and  
Adjuvant Therapy**



## HOSPITALISATIONS

```
graph LR; A[HOSPITALISATIONS] --> B[This protocol allows patients in Zimbabwe saturating above 50% to be managed largely in their home environment allowing reduction of pressure on the hospital system];
```

This protocol allows patients in Zimbabwe saturating above 50% to be managed largely in their home environment allowing reduction of pressure on the hospital system

ACV'S

**HIT HARD**

**HIT EARLY**

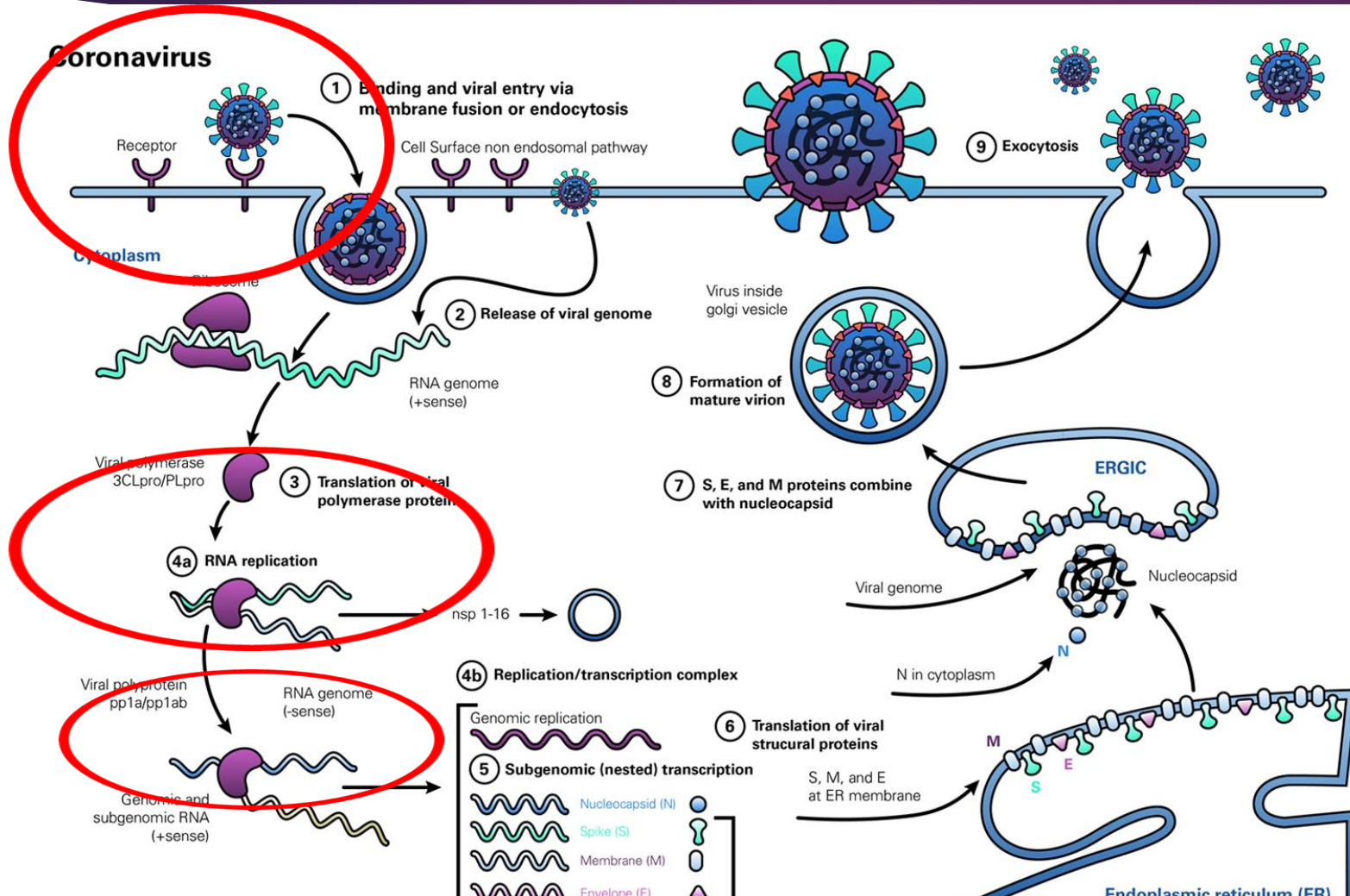
**HIT WITH COMBINATION  
THERAPY**

**Increased doses** of IVM with titration to effect saves lives and shortens illness in our experience.

**Combination therapy** with Ivermectin is more effective than monotherapy and reduces mortality, hospitalization and oxygen requirements in our experience.



# Ivermectin acts at many stages of Viral replication – as do the adjuvants



## Ivermectin

- ▶ Fusion Inhibitor – Coats the virus
- ▶ RNA Polymerase Inhibitor
- ▶ RNA Helicase inhibitor
- ▶ Prevents entry into the nucleus

## Silver

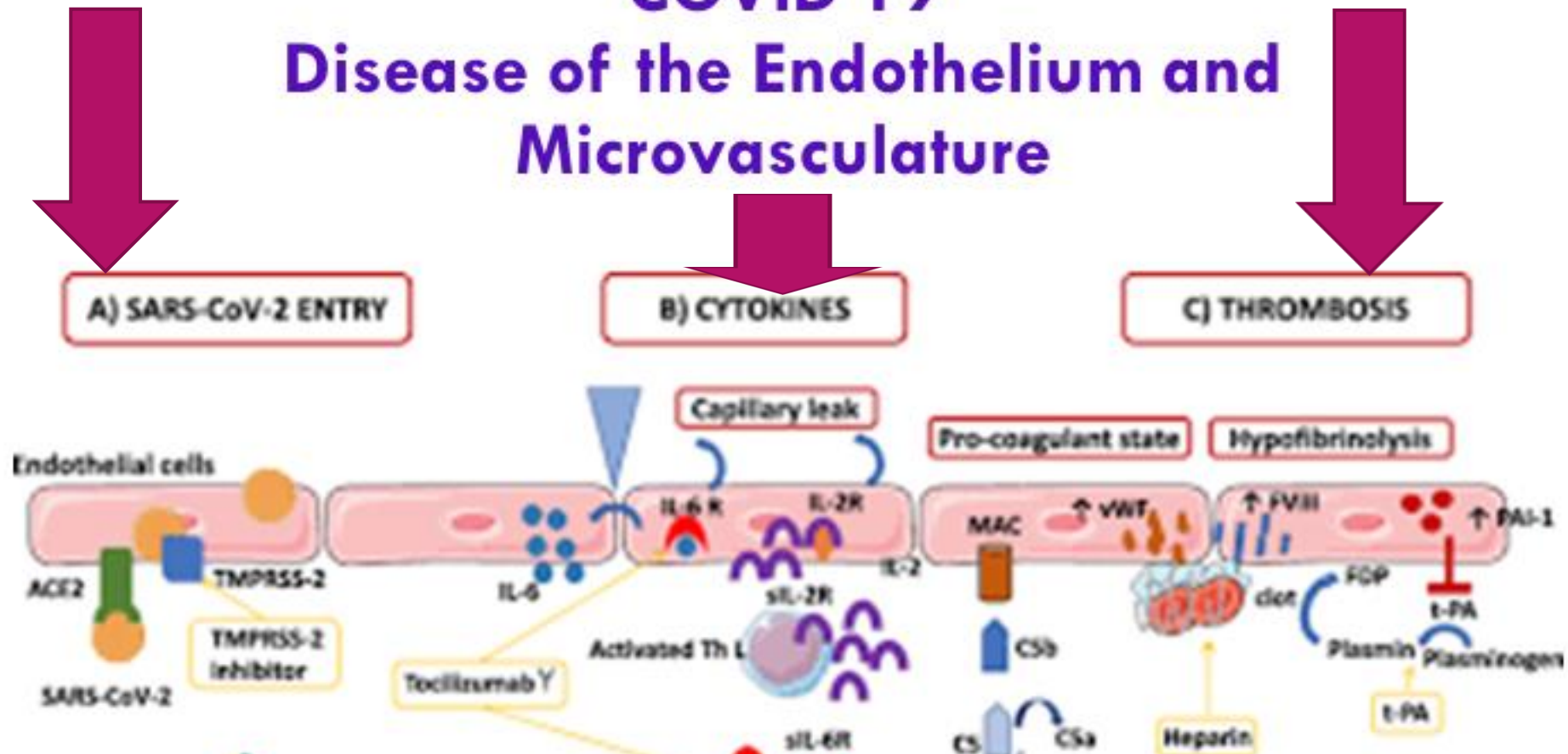
- ▶ Fusion inhibitor, RNA polymerase inhibitor, ATP inhibitor so will stop helicase

**Zinc** – RNA polymerase Inhibitor

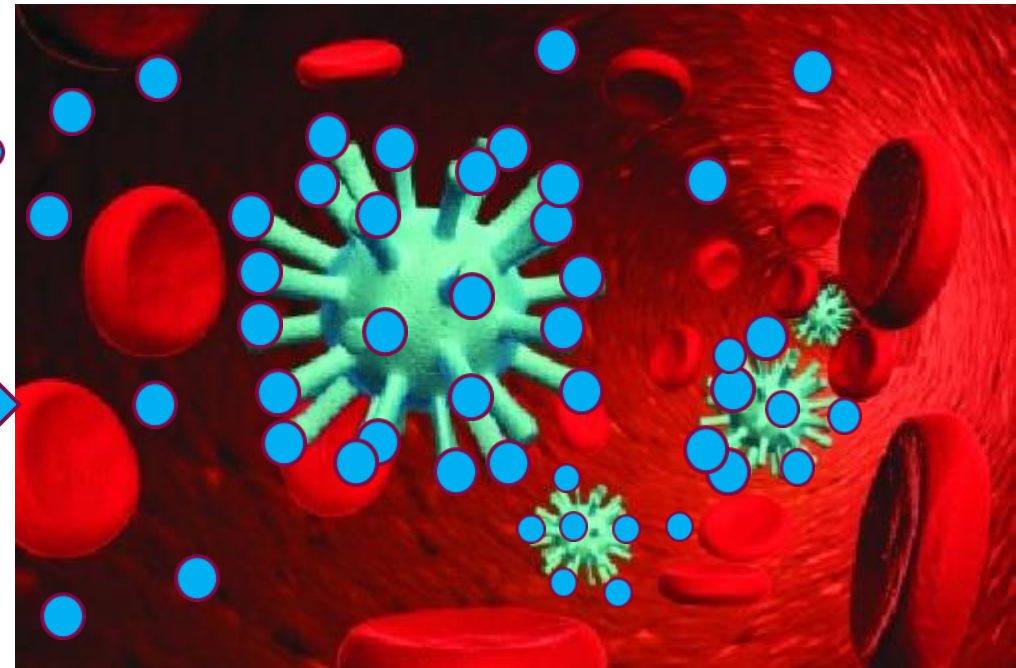
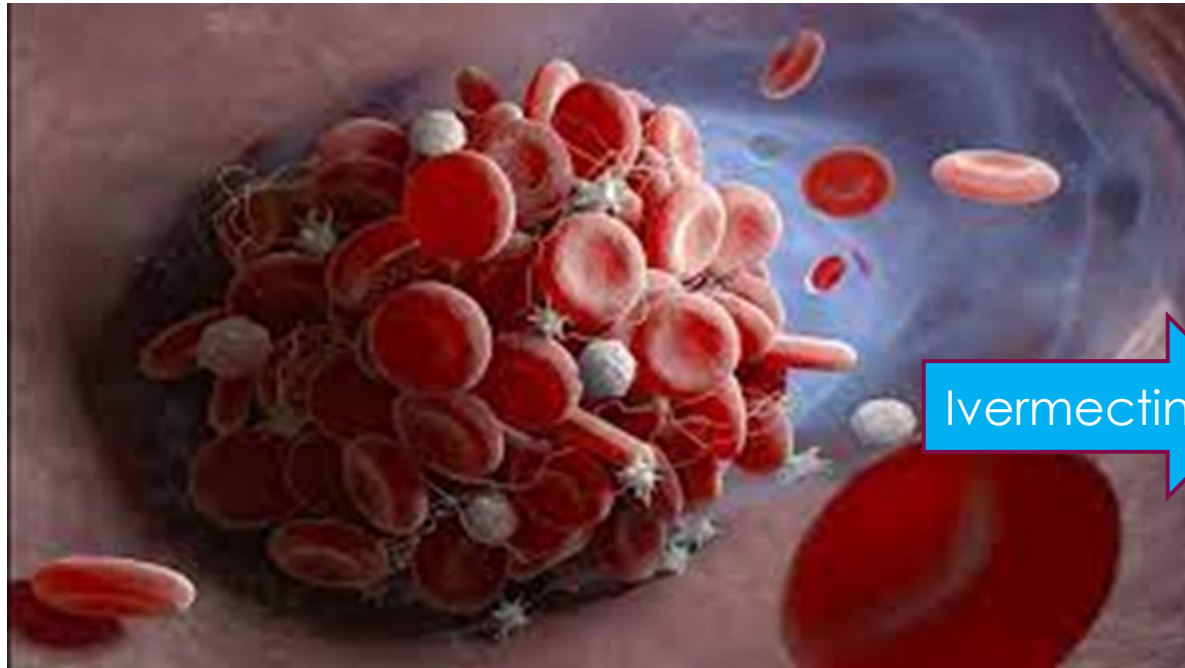
**Doxycycline** – Zinc Ionophore, fusion inhibitor, binds to dsRNA

# Combination therapy Ivermectin acts at all 3 stages

## COVID 19 Disease of the Endothelium and Microvasculature



# THROMBOSIS – PREVENTION WITH • IVERMECTIN •



# PROTOCOLS EVOLVED: ABCDEF



**Assessment:** Age, Comorbidity, Level of Consciousness, Respiratory Distress, Oximetry .

**Breathing:** Start oxygen if O<sub>2</sub> saturation under 80%, Nebulise if over 80% (after blood is drawn)

**Circulation/Cannulate:** Cannulate, draw blood for FBC, U&E, D Dimer, LDH, CK. (U&E/HbA1C)  
Once blood has been drawn, start silver nebulisation (on air if Sats are >80% and using oxygen if <80%)

**Drugs/Diabetes:** Drug 1: **IVERMECTIN Started at 0.15mg/kg, now 0.3-0.6 mg/kg – Titration to effect**  
Give Intravenous Ceftriaxone 1g stat, and Dexamethasone 8mg stat if cannulated plus 40-80mg of Zinc orally.  
If not give Doxycycline 100mg, Prednisolone 1mg/kg, and Zinc 40 -80 mg po.  
Anticoagulate with Enoxaparin (100mg) if distressed or if D Dimer raised.  
Check blood sugar, institute diabetes protocol if appropriate,

**Exit from Unit.** Is home nursing or oxygen required? Discharge on Ivermectin , Doxycycline, Zinc, Silver and Oxygen if needed plus Rivaroxiban and Prednisolone.

**Family** (prophylaxis). Home Packs. Ivermectin, Zinc and Doxycycline

# Ivermectin as part of Triple therapy with Adjuvants

2 December 2020



25 YEAR OLD MALE  
DAY 5 OF ILLNESS

BILATERAL PNEUMONIA

POSITIVE RAPID ANTIGEN

**Seen in a GP clinic with no Oxygen**

**TREATED IMMEDIATELY WITH**

**NEBULISED IONS AND IVERMECTIN**

2 December 2020

After 45 minutes



Blood taken  
TREATMENT INITIATED  
BEFORE THE RESULT WAS BACK  
IONS NANOSILVER NEBULISED

2 December 2020

90 minutes



**RATIO:**  
**325/1.14**  
**285**

**Full Blood Count**

WBC	11.56	H	10 <sup>9</sup> /l	4.00 -
RBC	5.13		10 <sup>12</sup> /l	4.20 -
Hb	16.1		g/dl	12.0 -
HCT	44.0		%	34.0 -
MCV	85.8		fL	80.0 -
MCH	31.4		pg	26.0 -
MCHC	36.0		g/dL	31.0 -
RDW	12.9		%	8 - 14
Platelets	209		10 <sup>9</sup> /l	150 -

**Differential Count**

Neutrophils	87.3	H	%	50.0 -
Lymphocytes	9.9	L	%	25.0 -
Monocytes	2.07		%	2.00 -
Eosinophils	0.08		%	0.00 -
Basophils	0.03		%	0.00 -
Neutrophil	2.09	H	10 <sup>9</sup> /l	1.50 -
Lymphocyte	1.14		10 <sup>9</sup> /l	1.00 -
Monocyte	0.24		10 <sup>9</sup> /l	0.20 -
Eosinophil	0.07		10 <sup>9</sup> /l	0.00 -
Basophil	0.03		10 <sup>9</sup> /l	0.00 -

Reported By: Kennedy Tsetere      Authen

Test	Result	Units	Refer
LDH	325	H U/L	140 -

Reported By: Courage Jombo      Authen

2 DECEMBER 2020

Discharged within 4 hours on the following

IVERMECTIN 12MG od

Zinc 40mg od

DOXYCYCLINE 100MG BD

*(High Neutrophil count)*

IONS 20ml nebulised

*(Until Sats >93%)*

Prednisolone 40mg od

*(CRP>20 and hypoxic)*





6 December 2020

How are his Sats? 9:18 pm ✓

And is he feeling well or is he still sick? 9:19 pm ✓

You

Have just seen Charity at the conference so I gather you have been looking after Alasdair by yourself for the last few days.

Yes, I have been, he's been doing very well. 9:19 pm

You

How are his Sats?

His stats are on 97 and heart rate is 77 9:21 pm

Excellent 9:32 pm ✓

When the heart rate comes down - we can all relax 9:34 pm ✓

Have you had any symptoms 9:34 pm ✓

Not really that I know of 9:35 pm

4 days later

Sats 97%

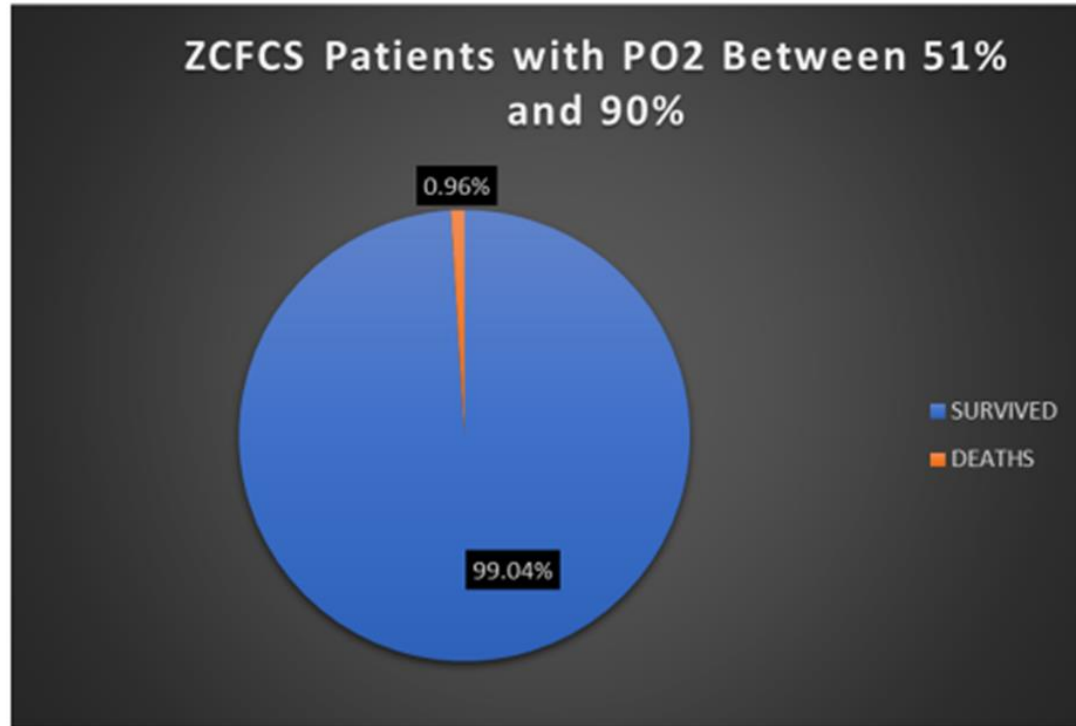
Pulse 77

Clinically recovered

Wife

Asymptomatic post prophylaxis

# Mortality in Moderate to Severe patients who should be in Hospital <1%

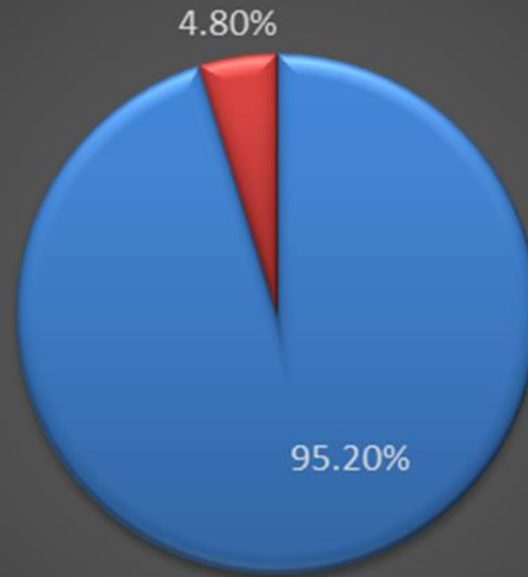


## MODERATE TO SEVERE PATIENTS

Of the 104 patients, 1 succumbed to COVID 19

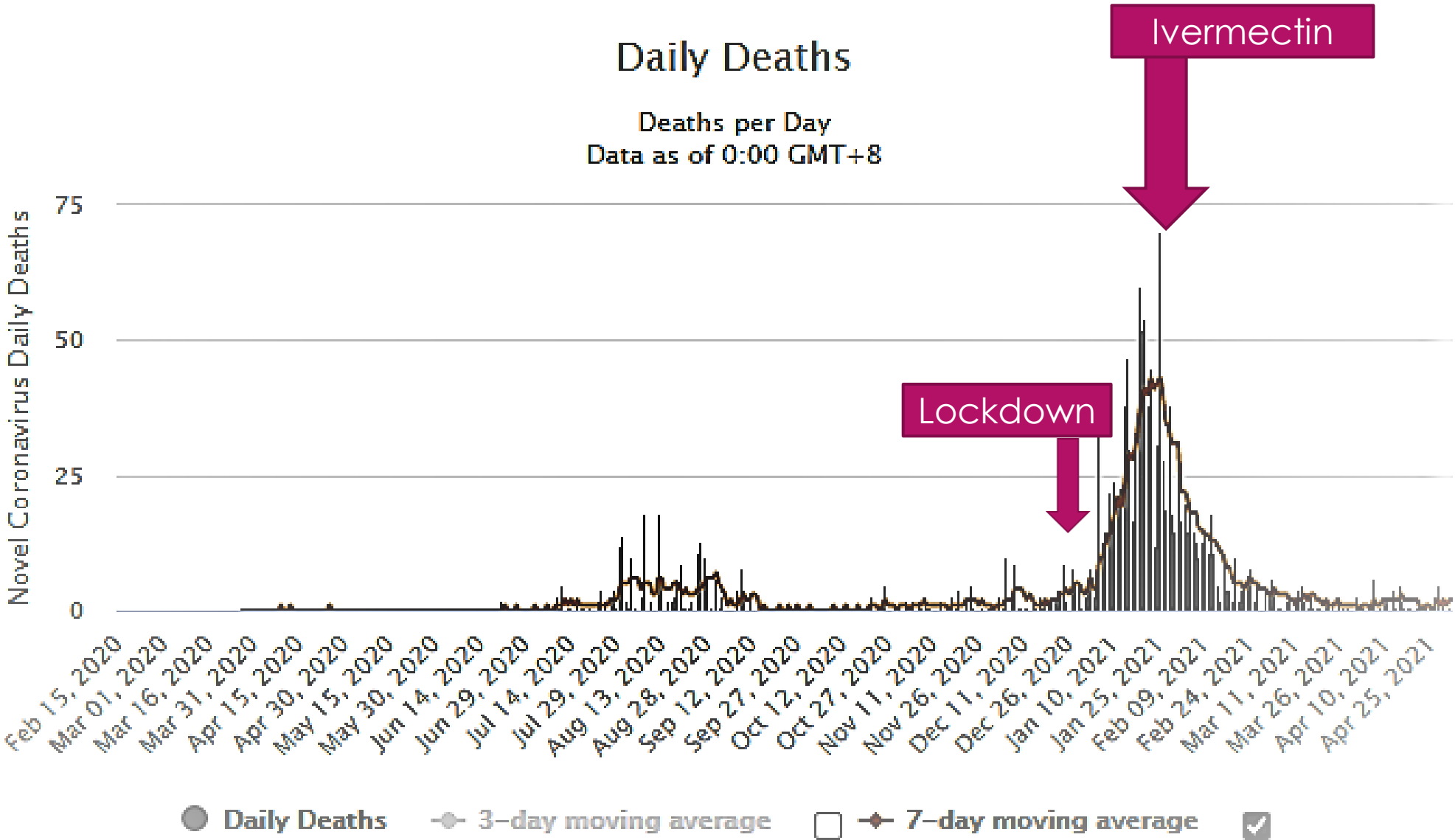
95% of patients who need to go to hospital are managed at home

### Hospitalisations - Total (39%-90%)



Managed as Outpatients Hospitalised

# Daily New Deaths in Zimbabwe



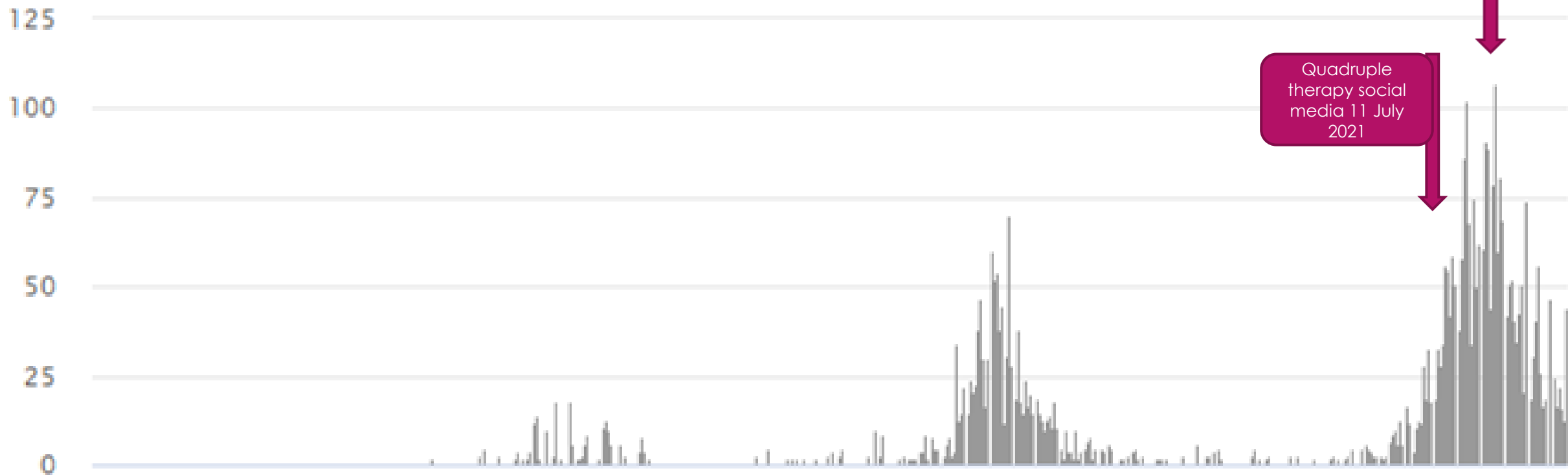
# Dose of Ivermectin

- ▶ 0.15,g/kg single dose: Took weeks to recover
- ▶ 0.2mg/kg Day 0,4,8 with Zinc and Doxycycline: Quicker
- ▶ 0.2mg/kg Day 1-5 even quicker
- ▶ 72-100 mg doses in the very ill during 2<sup>nd</sup> wave – dramatic improvement
- ▶ Now – Loading dose of 0.6mg/kg, followed by 0.3 - 0.6mg/kg daily for 5 days is the norm with a repeat dose if needed.

# Daily Deaths

Deaths per Day  
Data as of 0:00 GMT+8

Novel Coronavirus Daily Deaths



● **Daily Deaths**

● 3-day moving average

□ 7-day moving average

□

# A VIRUS THAT CANNOT REPLICATE, CANNOT MUTATE

COULD VACCINATING IN THE PRESENCE OF

- ▶ Ivermectin OR
- ▶ Combination Therapy

PREVENT MUTANT STRAINS DEVELOPING

SHOULD IT BE WIDELY USED UNTIL VACCINATION COMPLETED?



# WHAT IS THE BEST TREATMENT FOR THE PATIENT?

---





**SABRE**  
BUSINESS WORLD

IT TAKES  
NOTHING  
TO JOIN  
THE  
CROWD

IT TAKES  
EVERYTHING  
TO STAND  
ALONE

- HANS F HANSEN



**SABRE**  
BUSINESS WORLD

"We did not  
come to fear the  
future. We came  
here to shape it."

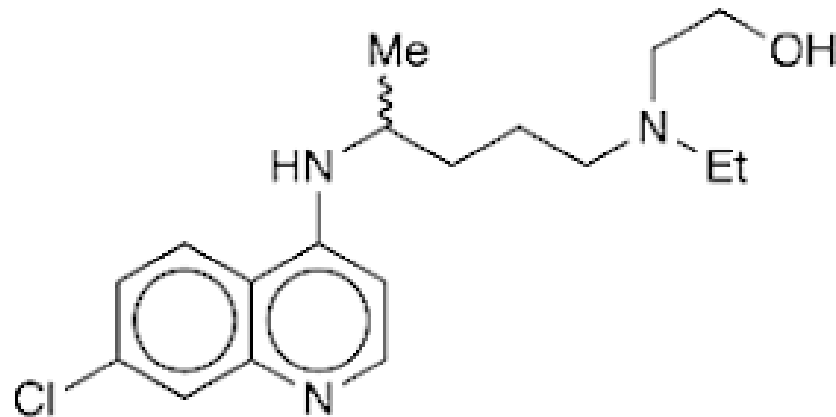
- Barak Obama



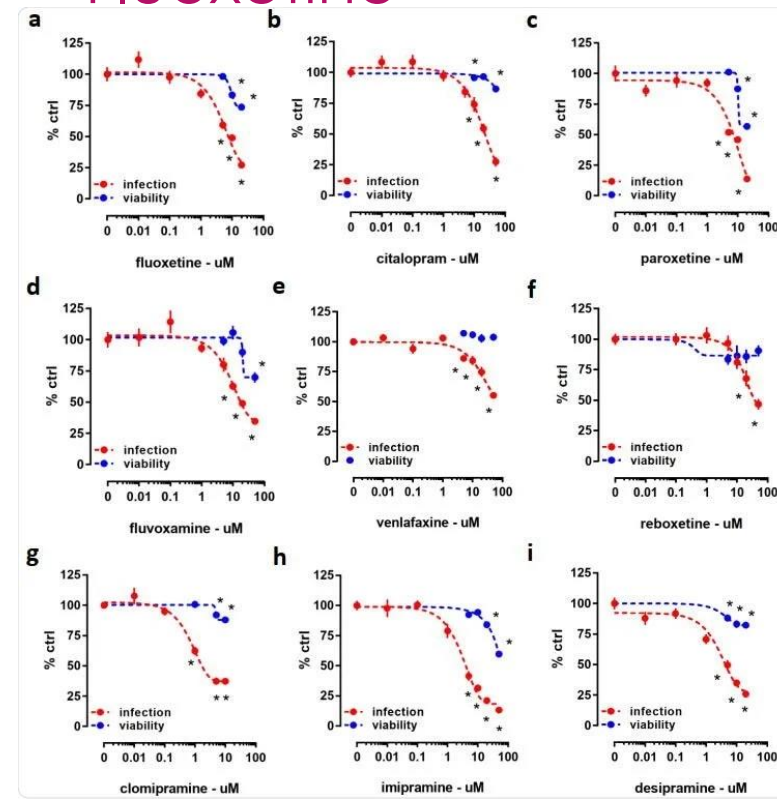
# Add Ons in Non Responders

<https://clinicaltrials.gov/ct2/show/NCT04570449>

## Hydroxychloroquine



## Fluoxetine

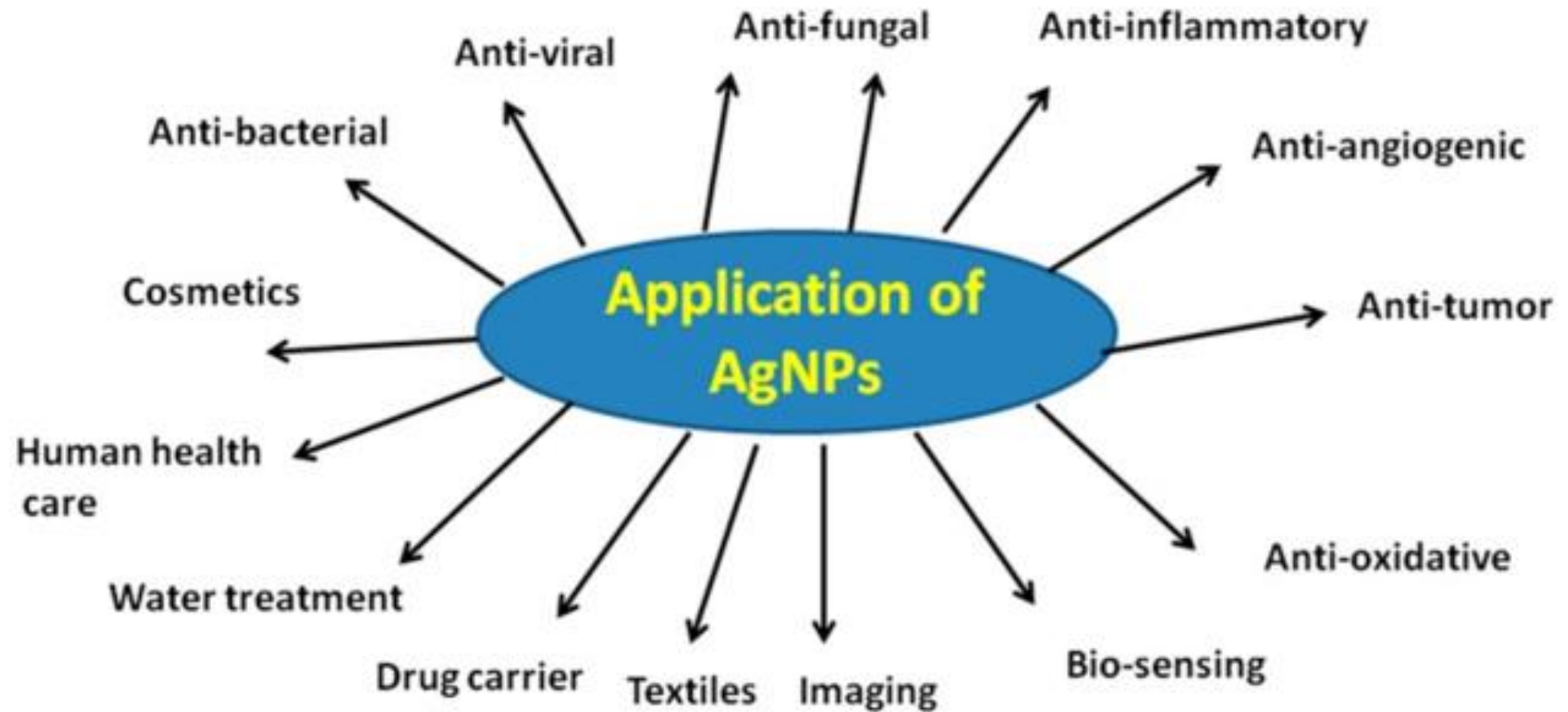


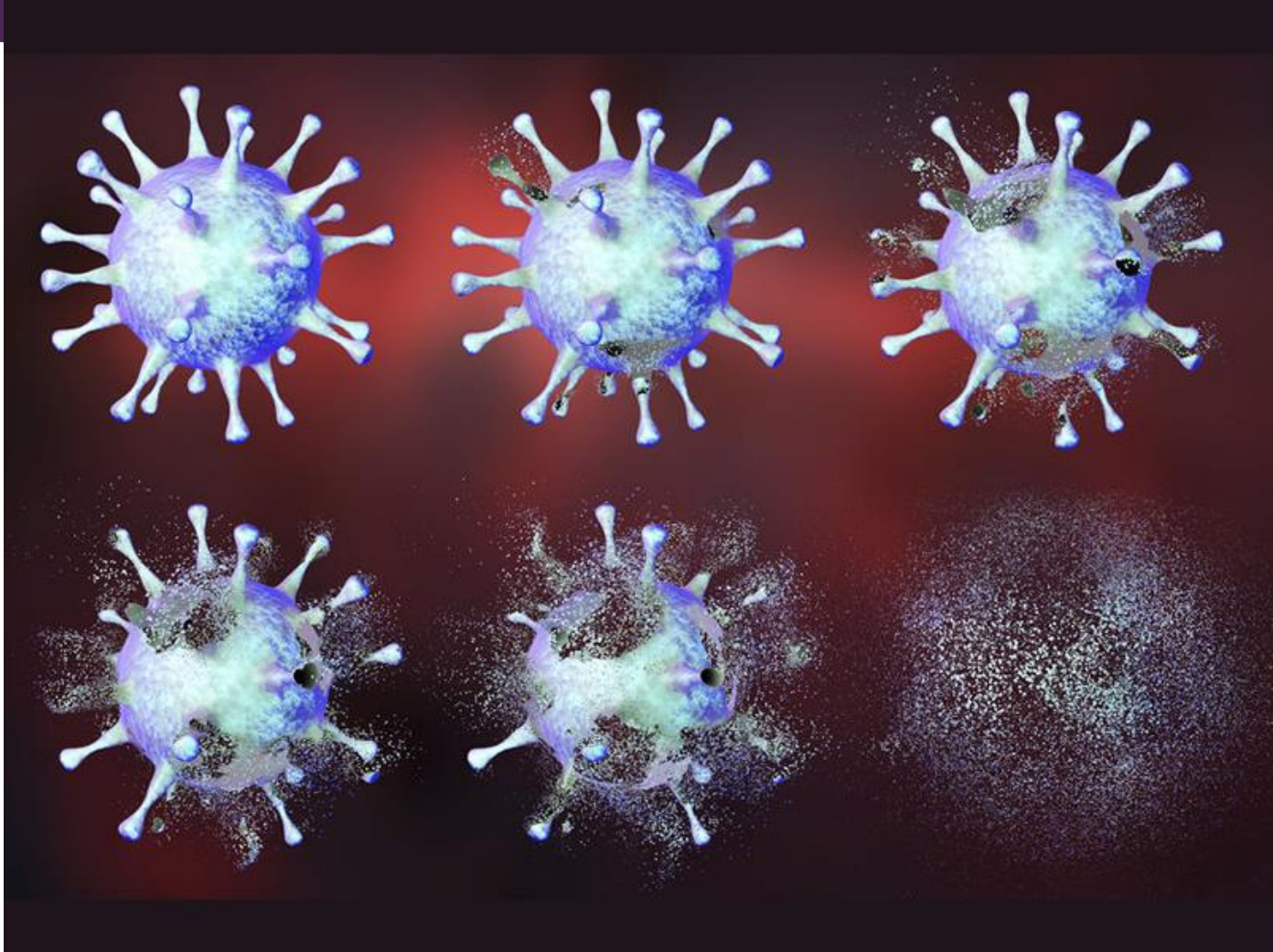


# What's next?

**CAN IVERMECTIN STOP THE  
EMERGENCE OF MUTANT  
STRAINS WHILE WE  
VACCINATE?**

# NANO-SILVER APPLICATIONS





# WHAT IS THE BEST TREATMENT FOR THE PATIENT?

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# Ivermectin – Covid 19 Management

- ▶ <https://www.youtube.com/watch?v=cy1kdZhXsP8>
- ▶ Paul Marik – Math + protocol East Virginia Medical School
- ▶ VIRAL PHASE VERSUS IMMUNE PHASE
- ▶ You want to catch this in the Viral Replication Phase
- ▶ **EARLY DIAGNOSIS AND TREATMENT IS ESSENTIAL**

Peak viral replication takes place at the earliest signs of symptoms, which include cold/flu-like symptoms, loss of taste and smell, myalgia (muscle pain) and general malaise.

From the time of symptom onset to the time that immune dysregulation starts to set in (accompanied by worsening symptoms) is about five or six days. During this time, you need to aggressively treat, whether you're at home (see the at-home treatment for symptomatic patients) or in the hospital.

The key remedies in this phase are antivirals (which is what



# Failed and Successful Rx for COVID-19 by Phase of Illness

	Pre-exposure/ Post-Exposure/ Incubation	Symptomatic Phase	Pulmonary/ inflammatory phase
Hydroxychloroquine	Unclear benefit	No benefit	?Trend to harm
Remdesivir <sup>1</sup>	n/a	?? Reduced time to recovery No mortality benefit	No benefit
Lopivinar-Ritonavir	n/a	No benefit	No benefit
Interferon $\alpha/\beta$	Inhaled ? Benefit	No benefit	?Trend harm
Tocilizumab	n/a	n/a	No Benefit
Convalescent Serum	n/a	Unlikely	No Benefit
Corticosteroids	n/a	Trend to harm	BENEFIT
Ivermectin	BENEFIT	BENEFIT	BENEFIT

# OXERA MASK:

## Oxygen Efficient Respiratory Aid



▶ REDUCES  
OXYGEN  
CONSUMPTION  
BY 60-70%