NATIONAL HEALTH LABORATORY SERVICE

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH
Division of the National Health Laboratory Service

Preparing the Workplace for Coronavirus

TIME FOR RADICAL ACTION

FRONTLINE WORKERS

Directly interact with customers/clients and is contrasted with back offices workers who rarely meets a customer/client. Many are essential workers.

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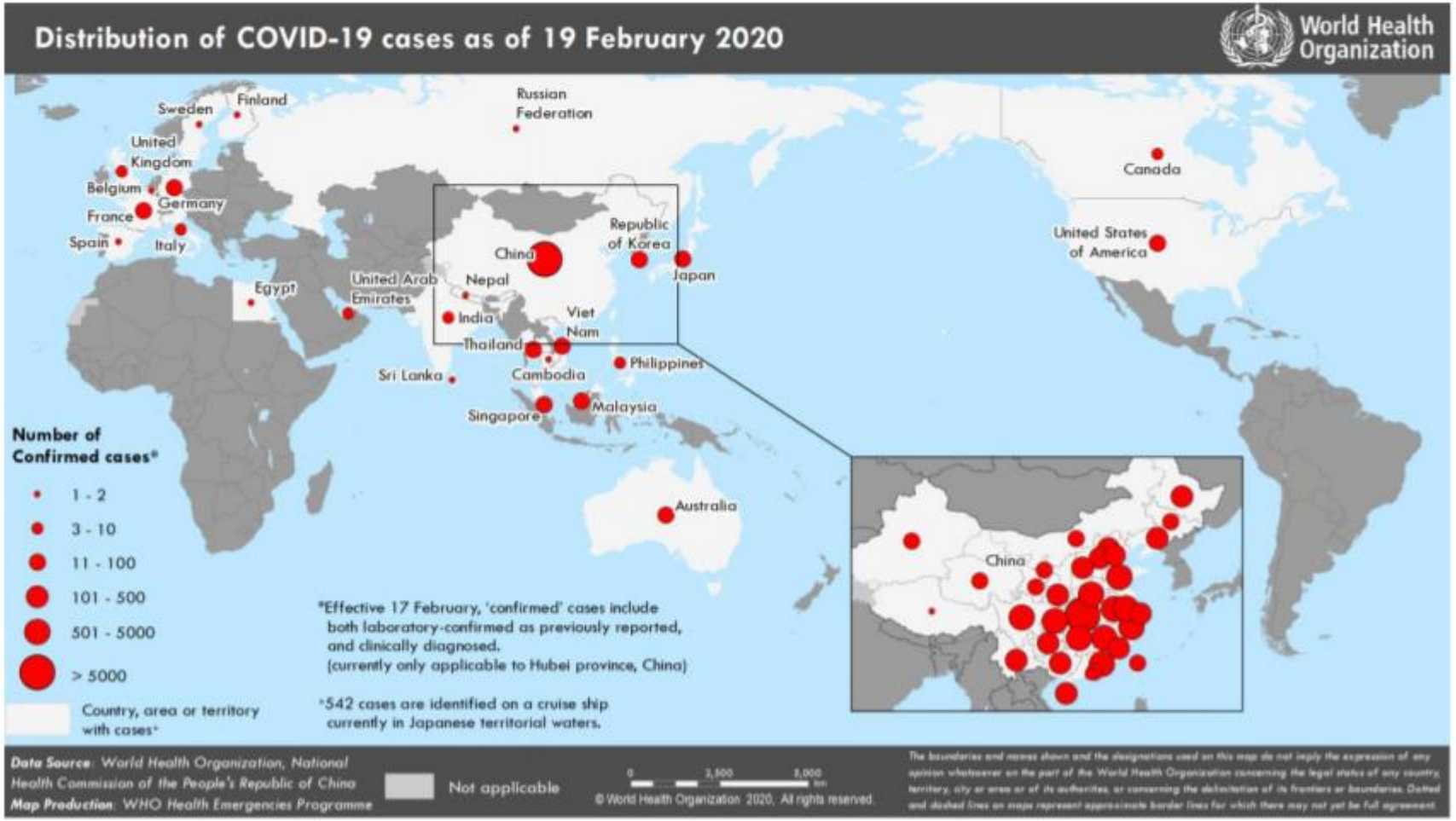
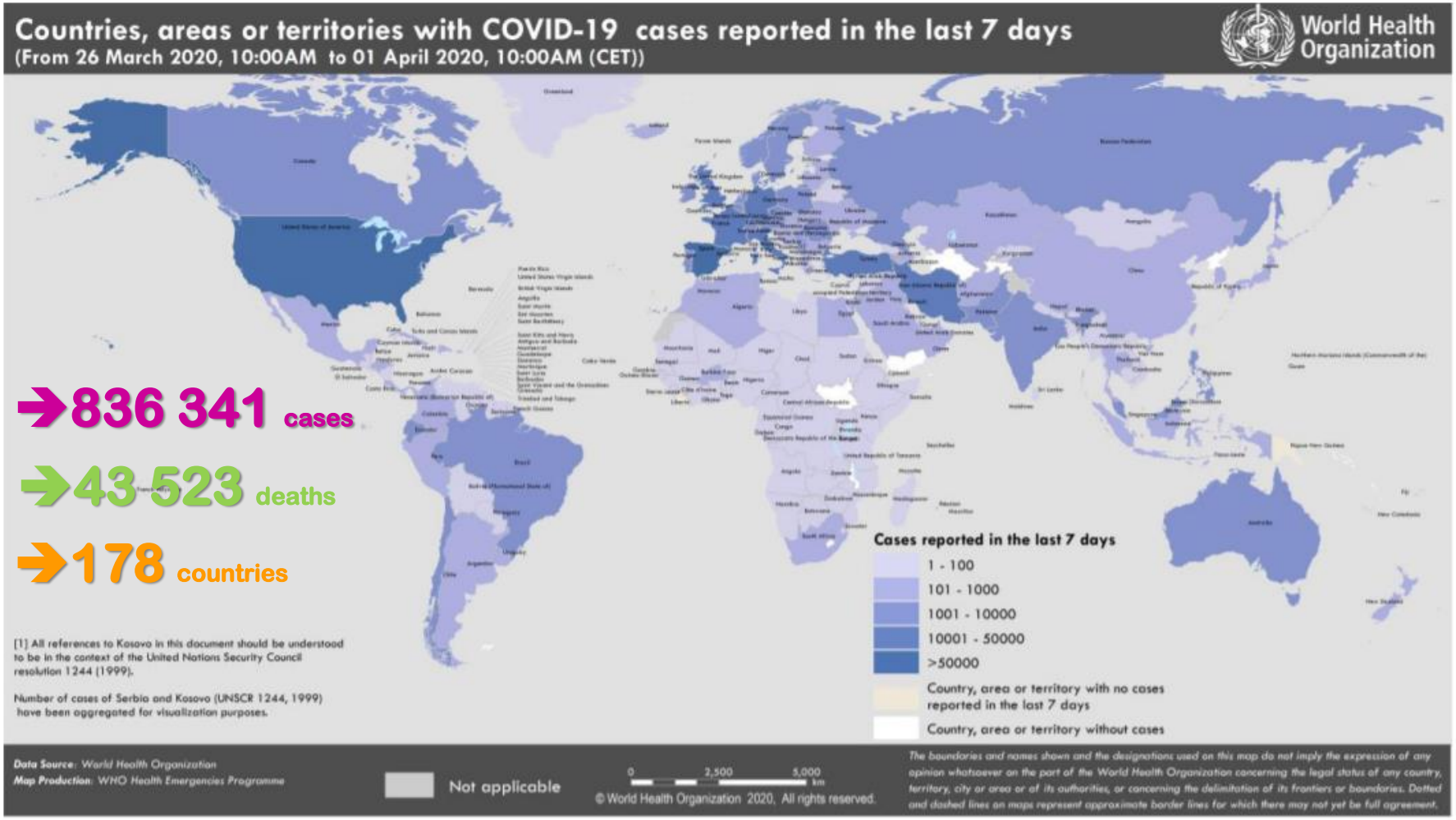
Globally 75 204 cases & 2009 deaths
25 countries worldwide, AS AT 19/02/2020

Figure 1. Countries, territories or areas with reported confirmed cases of COVID-19, 19 February 2020



Globally 911 545 cases & 45 532 deaths 203 countries worldwide, AS AT 01/04/2020

Figure 1. Countries, territories or areas with reported confirmed cases of COVID-19, 1 April 2020



Ranking Global Pandemic Preparedness

This COVID-19 report found that no country was truly prepared to manage a pandemic

The Global Health Security Index measures the state of health security around the world. The index is composed of **6** categories:

PREVENTION
Prevention of the emergence or release of pathogens

RAPID RESPONSE
Rapid response to and mitigation of the spread of an epidemic

DETECTION AND REPORTING
Early detection and reporting for epidemics of potential international concern

HEALTH SYSTEM
Robust health system to treat the sick and protect health workers

RISK ENVIRONMENT
Overall risk environment and country vulnerability to biological threats

COMPLIANCE WITH GLOBAL NORMS
Commitments to improving national capacity, financing plans, and adhering to global norms

Here's how countries scored in terms of health security:

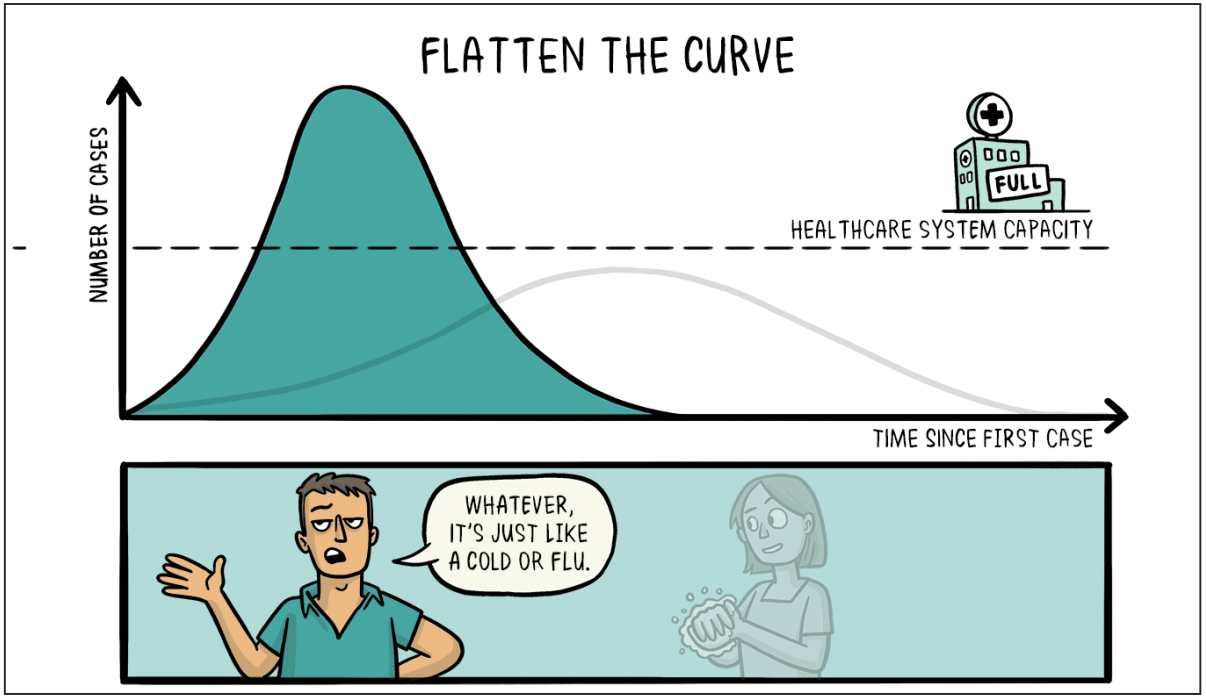
Countries with a population of over 5 million

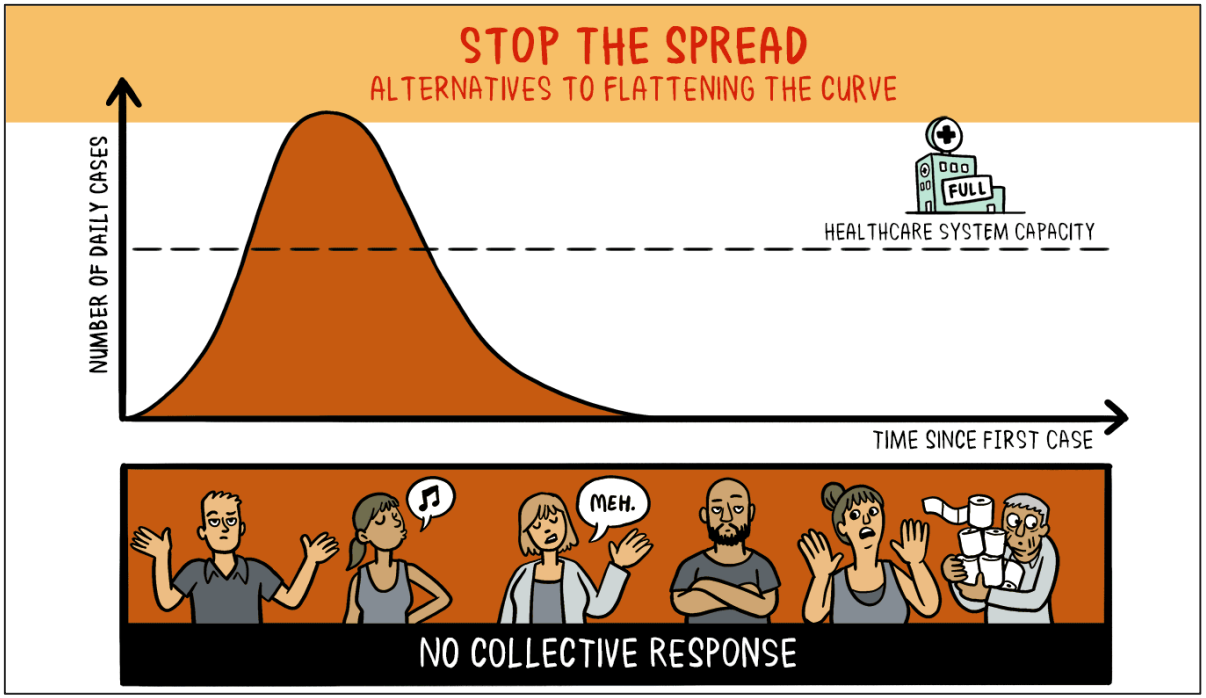
https://www.visualcapitalist.com/global-pandemic-preparedness-ranked/

Country, Other	Total Cases	New Cases	Total Deaths	New Deaths
World	911,545	+53,226	45,532	+3,230
USA	205,035	+16,505	4,516	+463
Italy	110,574	+4,782	13,155	+727
Spain	102,136	+6,213	9,053	+589
China	81,554	+36	3,312	+7

73% of the world's population lives in countries that scored below 50 in the Health Security Index.

The report found that most countries lack foundational health systems capacities vital for epidemic and pandemic response.





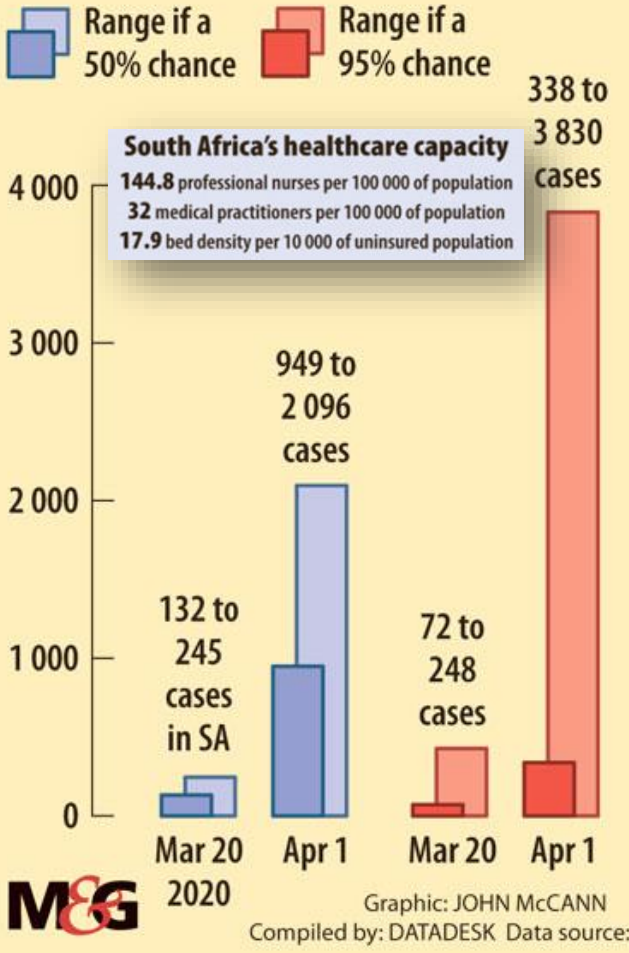
https://en.wikipedia.org/wiki/Coronavirus_disease_2019#/media/File:Covid-19-curves-graphic-social-v3.gif

National State of Disaster 21 Day lockdown

Estimates of coronavirus cases in SA by April 1

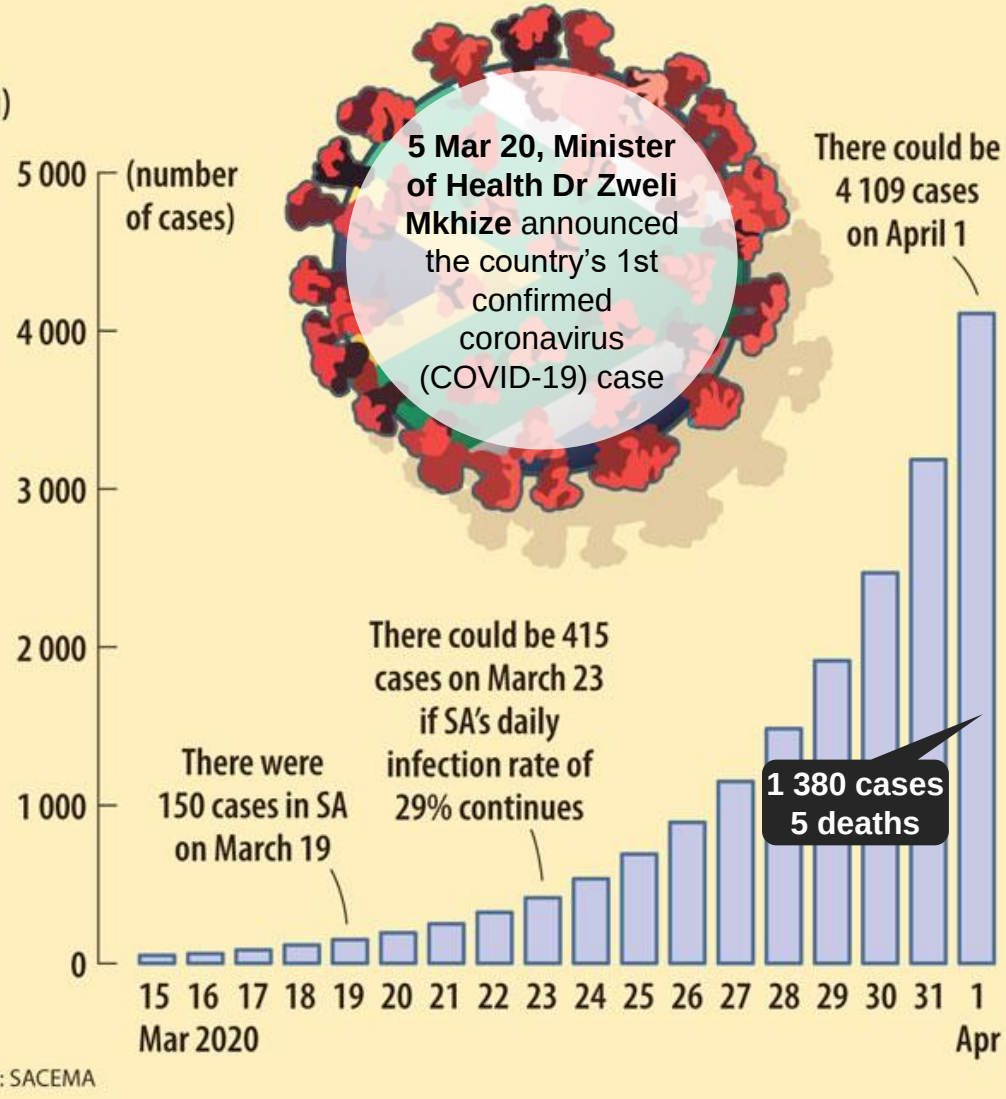
Sacema projections

SA Centre for Epidemiological Modelling and Analysis — 50% chance of cumulative number of identified cases on March 20 and April 1 (taking variables into account, including preventative measures such as social distancing)



Datadesk projections

Based on SA's existing daily infection rate of 29% as of March 19 using growth rate calculations

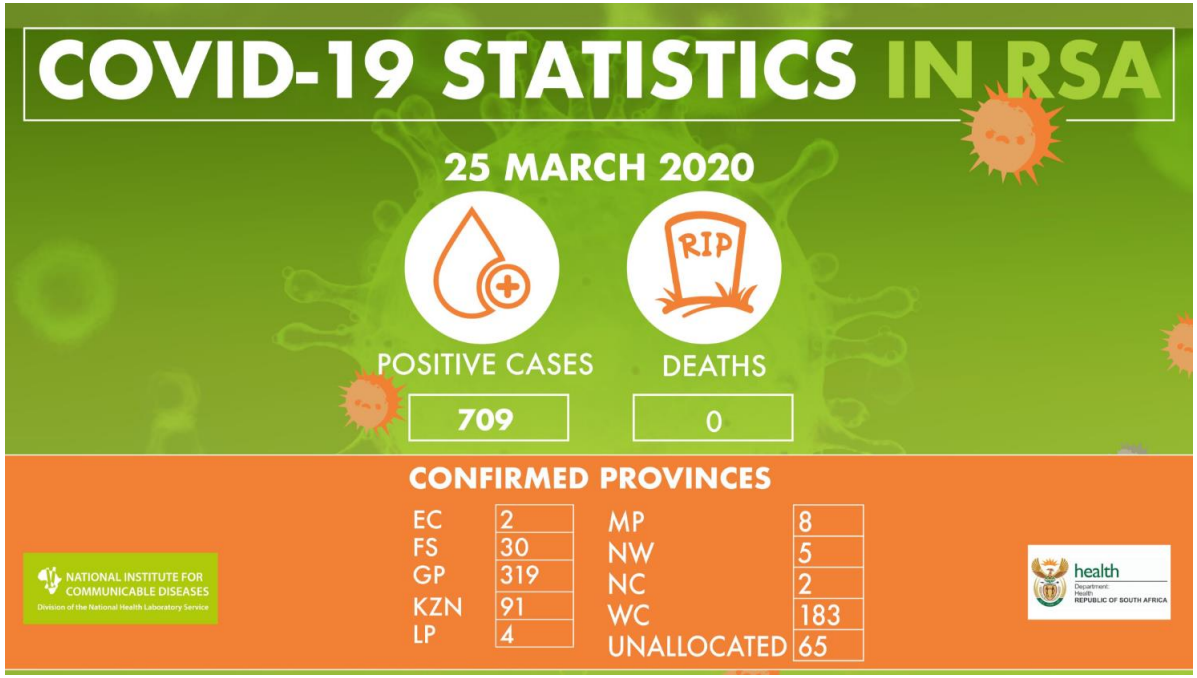


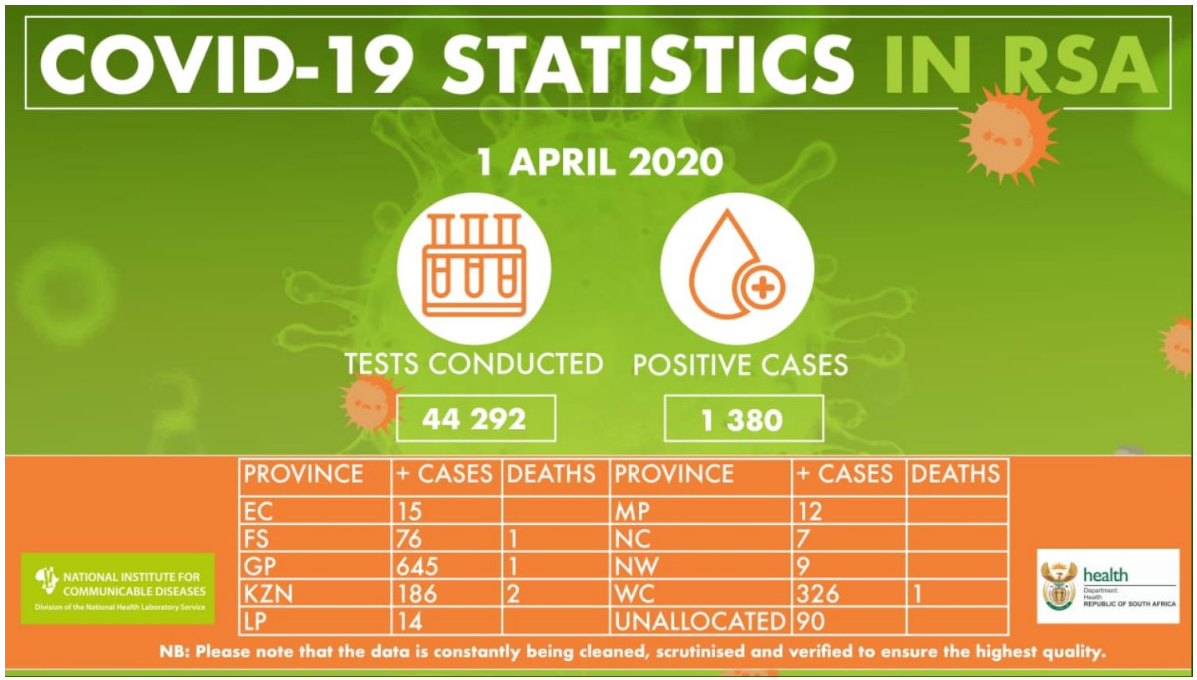
Some numbers have been rounded off. Cumulative numbers include any possible recovered cases or deaths

M&G

Graphic: JOHN McCANN
Compiled by: DATADESK Data source: SACEMA

Graphic: JOHN McCANN Compiled by: M&G DATADESK Data sources: DATADESK, SA HEALTH REVIEW, WORLDOMETERS, WHO, HEALTH SYSTEMS TRUST





Total number of new cases: 671

GP: 326c, 1d

WC: 143c, 1d

KZN: 95c, 2d

FS: 46c, 1d

EC: 13c

LP: 10c

MP: 8c

NW: 4c

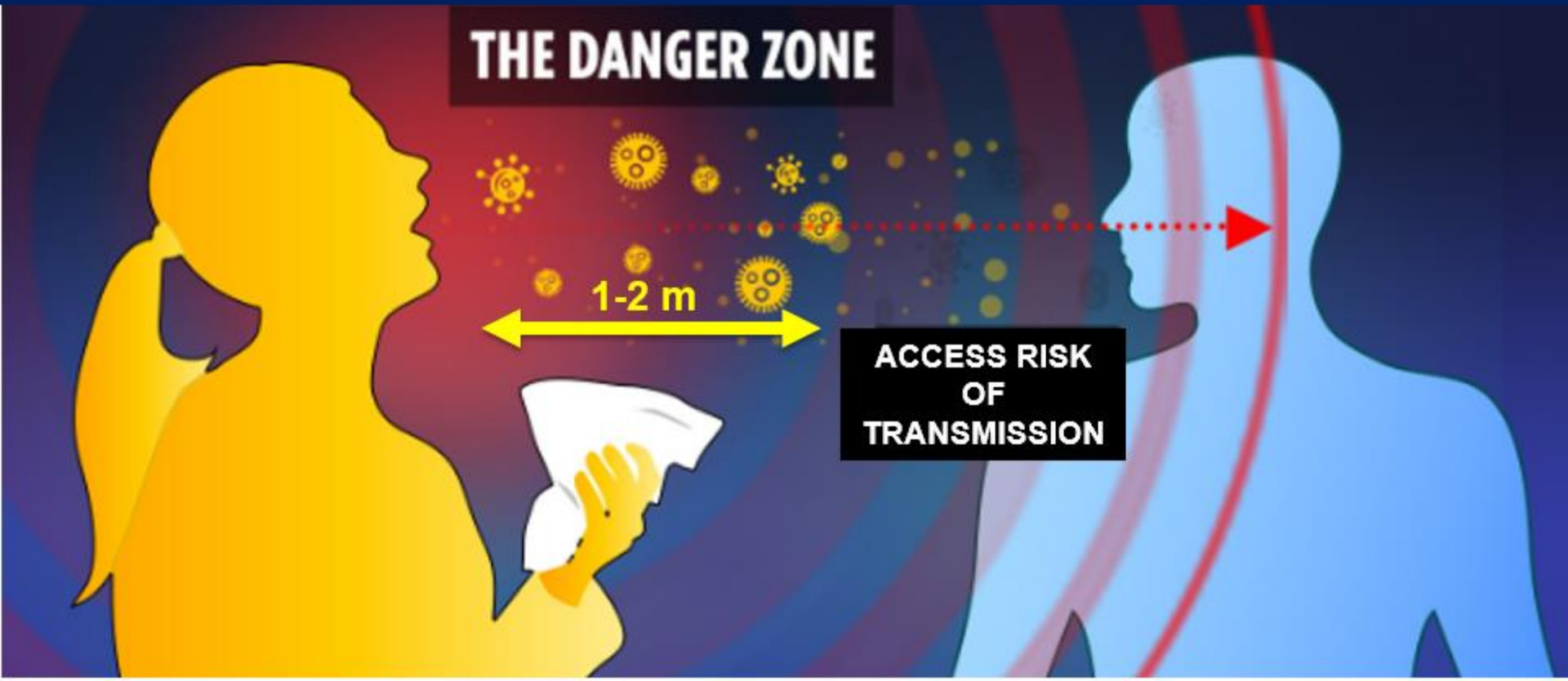
NC: 5c

90 unallocated

Occupations:

Teacher, Scientist, Priest

TRANSMISSION

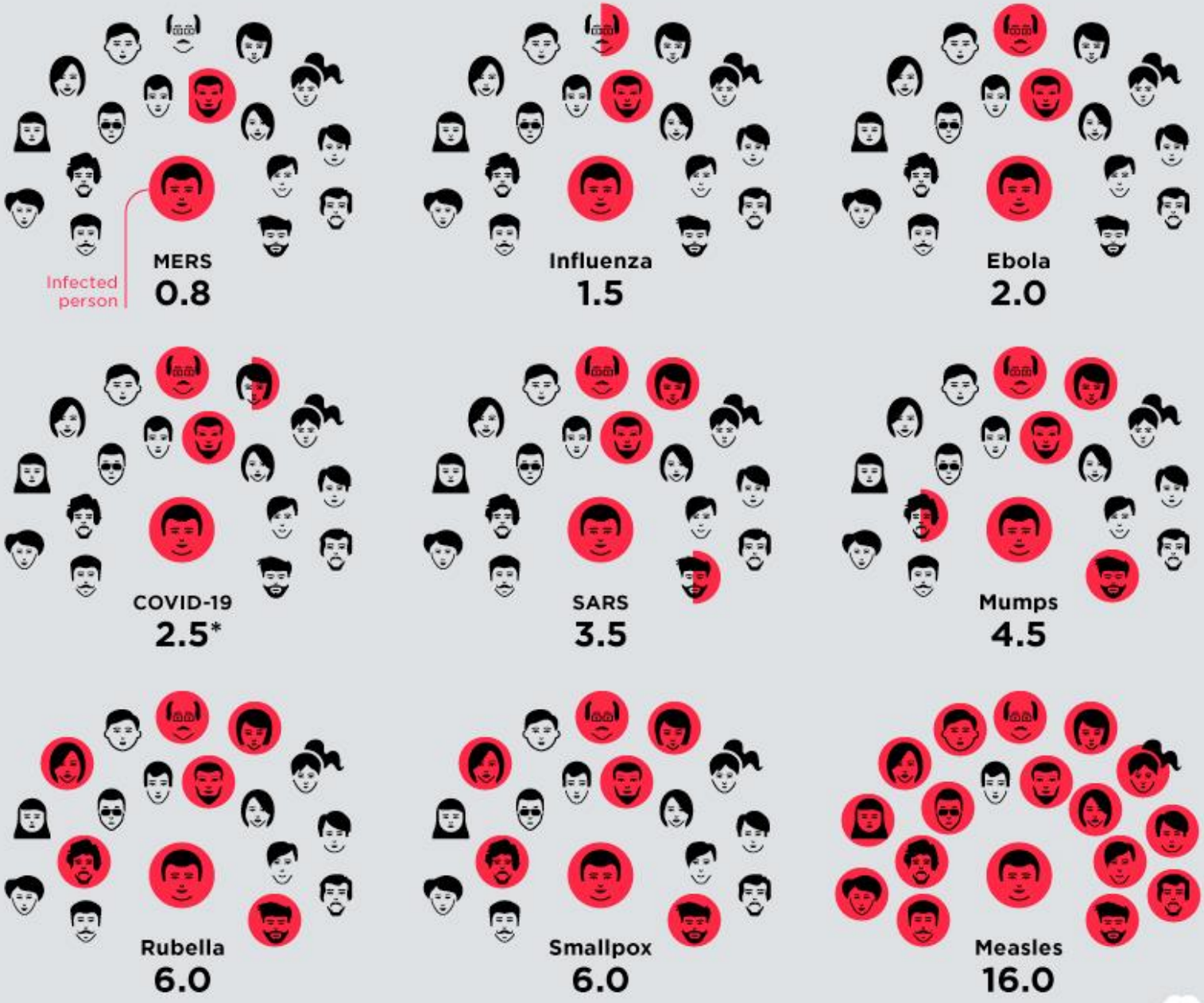


Direct contact: Touching an ill person or a contaminated surface
Droplet transmission: inhaling droplets

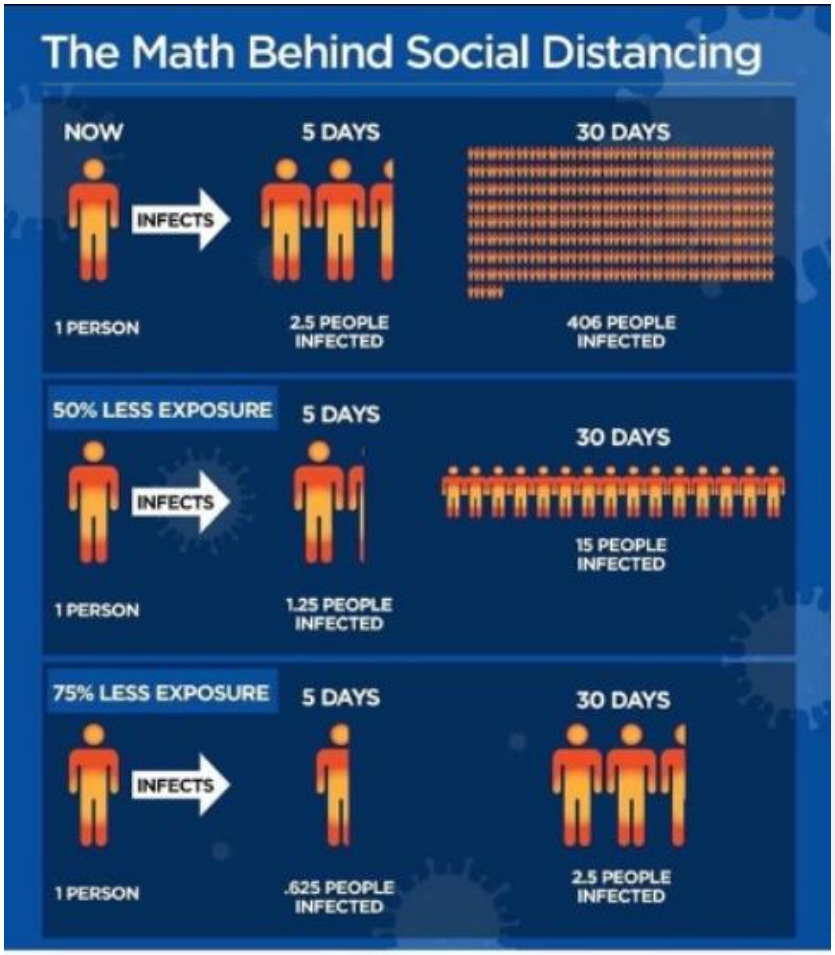
- Coughing & sneezing generates droplets of different sizes
- Average incubation period = 5.2 days (range 4.1 – 7.0) can be 27 days
- Generally not infectious during the incubation period
- More infectious when symptoms show (e.g. coughing & sneezing)

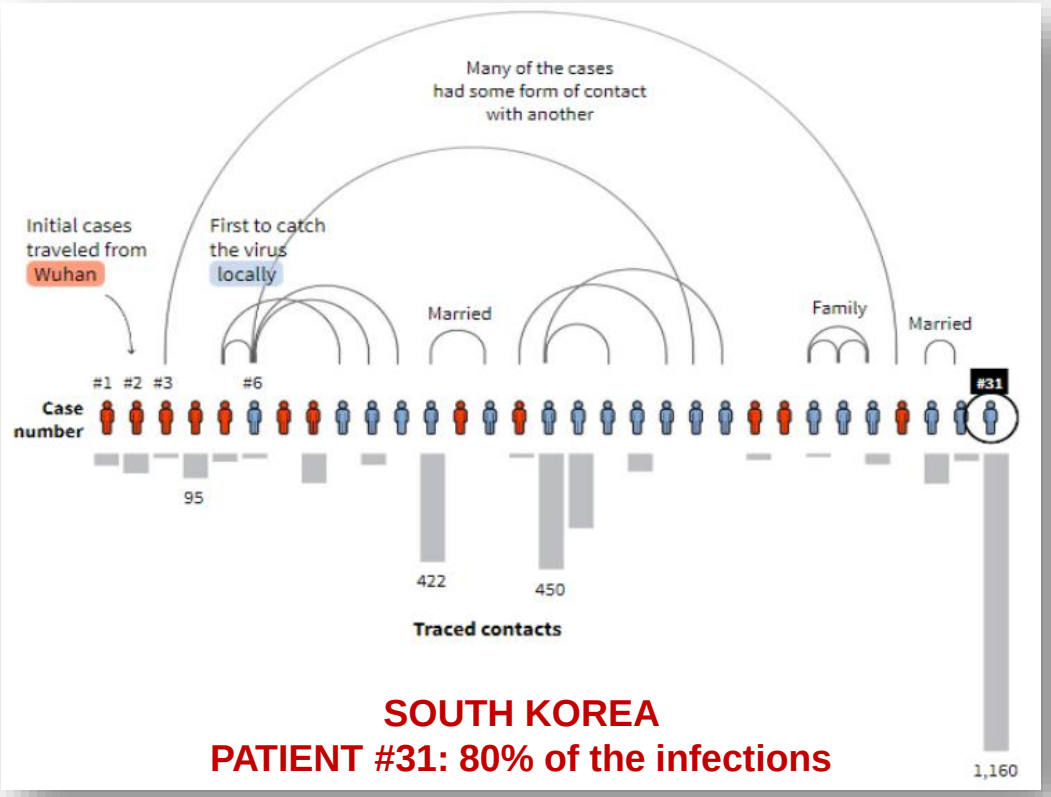
R0 (basic reproduction number) of diseases

A measure of how many people each sick person will infect on average



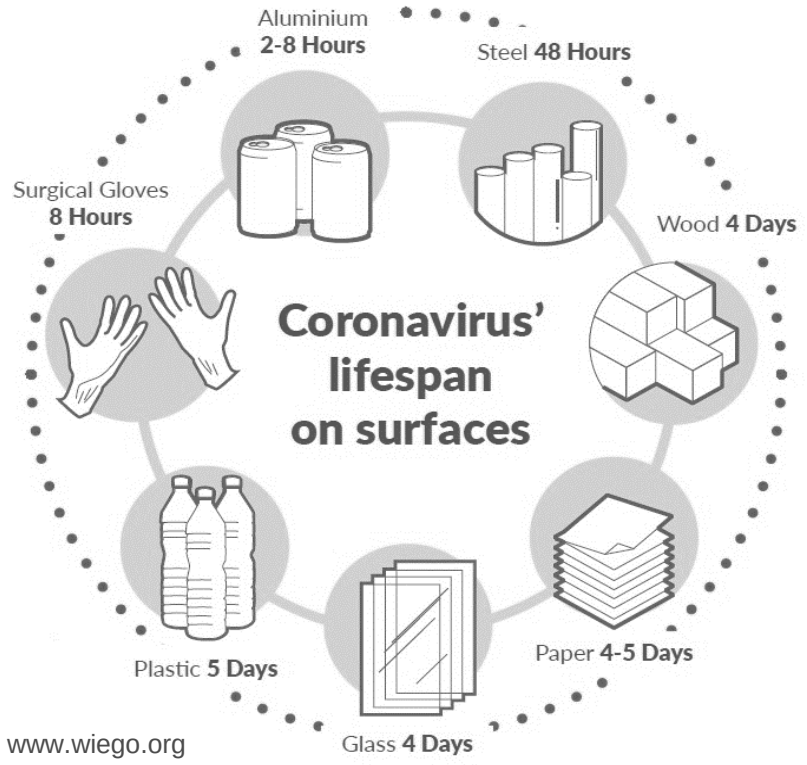
*This number may change as we learn more about this new disease





SOUTH KOREA
PATIENT #31: 80% of the infections

CORONAVIRUS SURVIVAL ENVIRONMENT



- Fragile outer membrane
- Less stable in the environment
- Studies have shown **survival** on inanimate surface – **12 hrs - 9 days**
- Survival time in the environment depends on
  - pH
  - Inoculum size
  - Dryness (humidity)
  - Temperature
  - Type of surface
  - **Exposure to disinfectants**
- **Killed by common disinfectants:**

  70% ethanol, bleach, QAC, gluteraldehyde (EPA website)

~2.3% die

~60% population Infected?

~5% critical cases

~15% severe cases

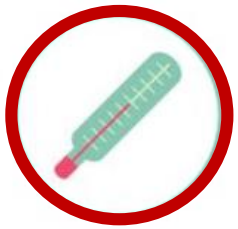
~80% mild cases

COMMON SYMPTOMS

SORE THROAT

COUGH

HEADACHE



HIGH FEVER

SHORTNESS OF BREATH

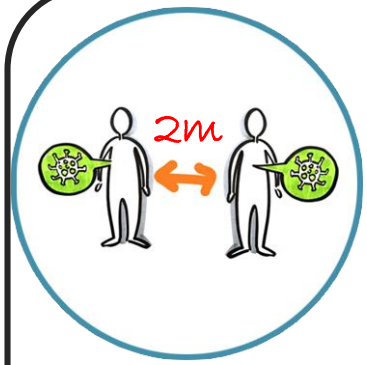
Cases that were not identified and not diagnosed

AND in the 14 days prior to onset of symptoms, meet at least one of the following epidemiological criteria:

https://en.wikipedia.org/wiki/Coronavirus_disease_2019#/media/File:Severity-of-coronavirus-cases-in-China-1.png

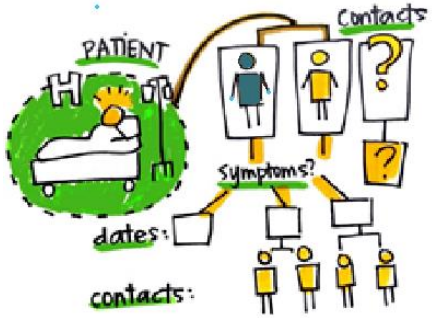
I think I may have COVID-19 – what now??

STAY CALM AND ANSWER THE FOLLOWING QUESTIONS & ALERT YOUR SUPERVISOR



Face-to-face or working in close environment

OR

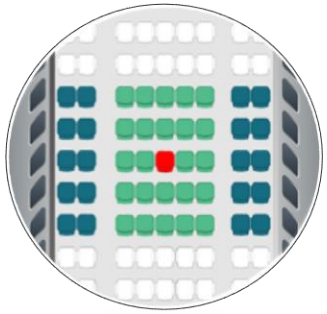


1. Admitted with severe pneumonia of unknown aetiology
2. HCW or other person providing care while not wearing recommended PPE
3. Visited a health facility where covid-19 case was treated

OR

Had a history of travel to areas with local transmission of SARS-CoV-2

OR



CDC's 2 row seating guidance for aeroplanes

Notify (*provincial CDC & NMC system*)

Complete forms
1. Submission
2. PUI
3. Contact list (*Email NICD*)

SARS-CoV-2 testing indicated (*follow IPC*)

YES

NO

Other aetiologies been excluded?

Contact NICD HOTLINE: 0820029999

NO

YES

Request respiratory panel (influenza, RSV)

Reassess if patient fails to improve & no alt diagnosis confirmed

Collect specimen (*according to guidelines from NICD*)

Send specimens & documents to designated labs

Initiate contact tracing

Monitor for symptoms for 14 days (*post exposure*)

Close contact

Home quarantine

Daily telephonic monitoring

Symptomatic contact

Casual contact

Avoid non-essential contact

Asymptomatic (*14 days post exposure*)

Monitoring stopped

Self monitoring

Negative Test SARS-CoV-2

Positive test SARS-CoV-2

Admit to hospital & isolate

Sequential swabbing

Positive test SARS-CoV-2

Negative Test SARS-CoV-2

Patient discharged

HOW IS COVID-19 DIAGNOSED

Who should be tested?

- Currently, only persons who are Person Under Investigation (PUI).
- All cases to be discussed with NICD doctor on call before collecting samples
- Costs - free of charge for patients meeting the case definitions
- For specific guidance on sample collection and transportation:

- http://www.nicd.ac.za
- TOLL-FREE NUMBER 0800 029 999

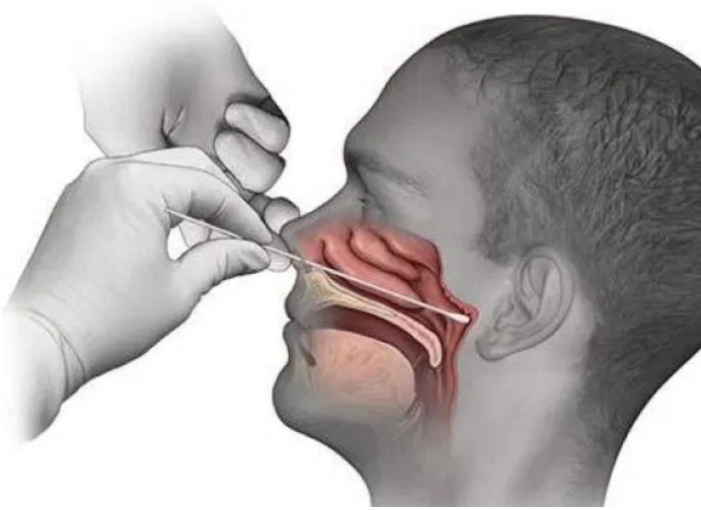
The test will only be positive if a person has active disease (which may vary from very mild to severe)

• Test does not identify persons who are incubating the infection

• A TAT of 48 – 72 hours after reaching the lab.

Asymptomatic persons are not tested

Testing is not done to determine exposure or give the 'all clear'



COVID-19 AND THE WORKPLACE

ANY WORKPLACE: examples
- –Health care facility
- –SAPS
- –Factory
- –Retail
- –EMS
- –High population density work

ANY WORKER: examples
- –CEO
- –Technical staff
- –Field workers
- –Transport staff
- –Security officers
- –Sales
- –Visitors & contractors

Community acquired

Workplace acquired

HIGH RISK OCCUPATIONS: examples
- –Healthcare workers
- –Laboratory workers
- –Morgue & mortuary workers
- –Airline operators
- –Border control
- –Medical transport workers

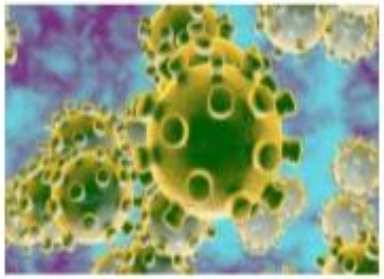
AT RISK WORKERS: examples
- –Immunocompromised workers
  - Chronic Lung Diseases, including TB, Asthma and COPD
  - Auto Immune Diseases of Any Kind
  - Chronic Kidney Diseases
  - Cancer, Diabetes
  - HIV +ve with low CD4 count

Legislation pertaining OHS in the workplace

Legislation	Provision
Occupational Health and Safety Act (OHSA) 85 of 1993	Health and safety of persons at work, and protection of persons other than persons at work against hazards arising out of or in connection with activities of persons at work
Regulations for Hazardous Biological Agents	Ensure that risk to HBA exposure in the workplace is controlled and/reduced
Mine Health and Safety Act (MHSA)	Ensures healthy and safe environment in mines and quarries
Compensation for Occupational Injuries and Diseases Act (COIDA), as amended	Notice on compensation for occupationally-acquired novel corona virus disease (COVID-19)
Occupational Diseases in Mines and Works Act, 1973 (ODMWA)	Occupational lung disease (cardiorespiratory) in mines and quarries

health
Department
Health
REPUBLIC OF SOUTH AFRICA

STANDARD OPERATING PROCEDURES FOR PREPAREDNESS, DETECTION AND RESPONSE TO A CORONAVIRUS (2019-NCOV) OUTBREAK IN SOUTH AFRICA



National Department of Health
Directorate: Communicable Diseases
30 January 2020

GOVERNMENT NOTICE

DEPARTMENT OF EMPLOYMENT AND LABOUR

No. R. 2020

COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993 (ACT NO 130 OF 1993)

NOTICE ON COMPENSATION FOR OCCUPATIONALLY-ACQUIRED NOVEL CORONA VIRUS DISEASE (COVID-19) UNDER COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 130 of 1993 AS AMENDED

1. I, Vuyo Mafata, Compensation Commissioner, after consultation with the Compensation Executive Committee, hereby make the following notice in terms of Section 6A of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No 130 of 1993) as amended. The proposed notice is attached as Schedule A.

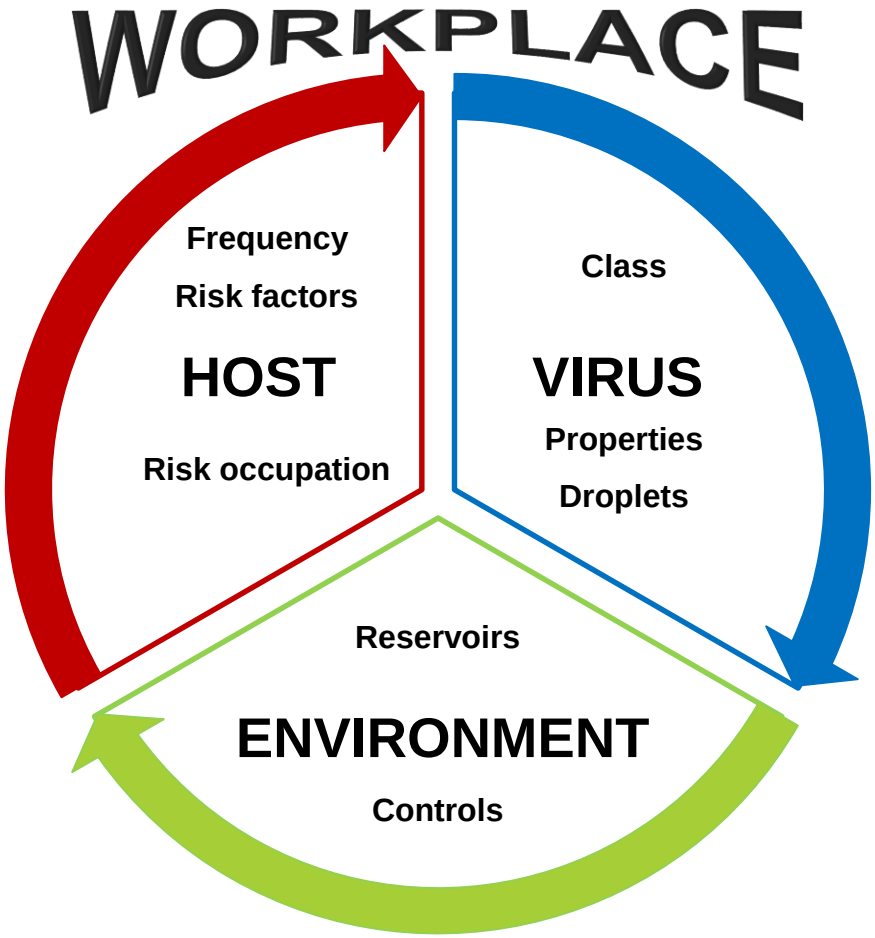
SCHEDULE

2. The notice for compensation of occupationally-acquired novel Corona virus disease (Covid-19) comes into effect on the date of publication hereof and shall be implemented with immediate effect thereon.
3. All employers and Medical Service Providers must follow the stipulated prescripts when submitting claims and supporting medical reports for Covid-19.
4. When submitting reports online through the CompEasy system or Mutual Association Claims systems, Medical Service Providers must use the emergency Covid-19 ICD-10 code: **U07.1** as proposed by the World Health Organization (WHO).

VUYO MAFATA
COMPENSATION COMMISSIONER
DATE: 2020/03/20

MINIMUM EXPECTATIONS OF THE EMPLOYER

- Top Management commitment
- Comply with legislation
- Provide a safe and healthy workplace
  - Occupational health & safety policy
  - Risk management
  - Incident management programme
  - Risk communication plan
- Finance
- HR support
- Business continuity plan



ANTICIPATION OF RISK

Step 1: Relax
Step 2: Rewind
Step 3: Review
Step 4: Reinforce

Different risk exposure profilesb ased on specific job function.

- Job specific Risk assessment
- All other hazards
  - Biological, Physical, Chemical, Ergonomic
  - Psychosocial - long working hours, fatigues, psychological stress new ways of working, occupational burnout, stigma, physical violence

RISK ASSESSMENT & EVALUATION

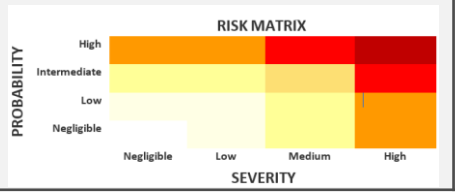
EXAMPLE 1: SEMI QUANTITATIVE

Consequence (severe, moderate, negligible)	Frequency Hazard event occurs	Likelihood (unlikely, possible, likely)

Risk score = Consequence x Frequency x Likelihood

⬇

Actions taken based on the risk score



EXAMPLE 2: QUALITATIVE

		Likelihood of exposure/release		
		Unlikely	Possible	Likely
Consequence of exposure/release	Severe	Medium	High	Very high
	Moderate	Low	Medium	High
	Negligible	Very low	Low	Medium
Laboratory activity/procedure		**Initial risk (very low, low, medium, high, very high)**	**Is the initial risk above the tolerance level? (yes/no)**	**Priority (high/medium/low)**
Select the overall **initial** risk.		☐ Very low	☐ Low	☐ Medium	☐ High	☐ Very high
Should work proceed without additional risk control measures?		☐Yes ☐No		

When **assigning priority**, **other factors** may need to be considered, for example, **urgency**, **feasibility/sustainability of risk control measures**, **delivery** and **installation time** and **training** availability

Mitigation of risk in the workplace

Primary prevention

- Business continuity & pandemic preparedness – policies, plans & procedures
- Minimise risks of transmission implementing hierarchy of controls
- Education and training / health promotion
- Risk communication

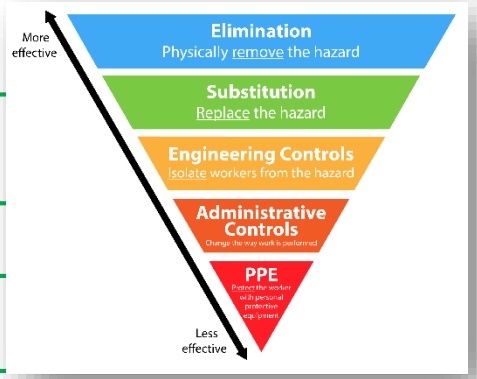
Secondary Prevention

- Identify persons at risk early and responding appropriately
- Medical Surveillance & employee monitoring

Tertiary prevention

- Respond appropriately to a case of COVID amongst staff - incident investigation and contact tracing
- Compensation / COIDA – new notice occupationally acquired COVID-19
- Leave
- Rehabilitation

HAZARD (COVID-19) AND RISK IDENTIFICATION



Preference — Most effective controls

ELIMINATION

- Eliminate the hazard
- Practical for intentional use
- Impractical for unknown exposure
- Early identification and isolation where necessary

If not practical then

SUBSTITUTION

- Replace infectious agent with less infectious strain
- Replace high exposure activity with less exposure
- Limit exposed workers

If not practical then

ENGINEERING & ENVIRONMENTAL

Re-design the work process. Reduce exposure without relying on worker behaviour – may be cost effective solution.

Building	Devices	Environment
Negative pressure Isolation rooms Ventilation HEPA filtration Access control Physical barriers Signage	Disinfection devices (e.g. UVGI) Sterilisation devices Safety instruments (e.g. BSC)	Environmental monitoring Air, surface decontamination Waste management

If not comprehensive then

ADMINISTRATION

Implement policies & procedures, health protection, enhance training

Policies & Procedures	Health protection	Training
OHS HR SHE: incident management Hand & resp hygiene Waste & laundry mgnt	Employee Assistance Prog Vaccination Medical surveillance Mental health	HBA regulation Hazards & risks Control measures PPE Incidents Advocate good hygiene

If not sufficient then complement with

BEHAVIOUR

The right attitude is the best tool to control transmission

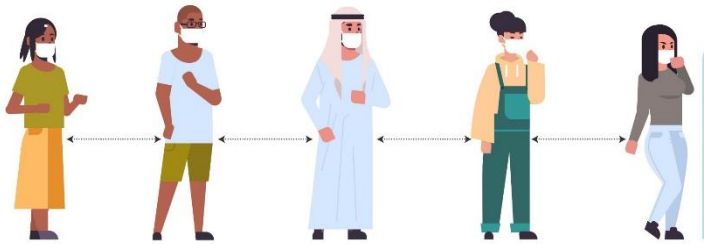
PPE

Correct type, fit, usage, maintenance & disposal. PPE may include gloves, goggles, respirators, face shield, surgical mask, coats, gowns, aprons, coveralls, hair covers

Low resource settings — Least effective controls

Occupational Health practices to review

- Limit mass gathering (<100) – evaluate the risk: rely on technology where possible
- Maintain social distancing (1 -2 m)



- Reduce waiting time in areas: clinics, labour centres, communal areas, etc.
- Specific procedures: access control methods (biometrics, breathalysers), aerosol generating procedures (consider method & assess risk), contactless points, etc
- Insist that symptomatic persons stay away / self-isolate

Personal Protective Equipment (PPE)

- PPE is an effective measure within a **complete package of mitigation and control strategies**
- Usage should be informed by the risk assessment
- Ensure adequate and appropriate PPE is available. Used PPE should be **considered contaminated and discarded in accordance with safe practice**
- Not recommended - **asymptomatic individuals** to wear a mask of any type

GENERAL PRECAUTIONS TO BE OBSERVED

Wash your hands often with soap and water. If you don't have soap and water, use a hand sanitizer that is at least 60% alcohol based.

Clean and disinfect frequently touched surfaces.

Stay home when you're sick, and keep your children home when they're sick.

Cover your mouth and nose with a tissue when you cough or sneeze. If you don't have a tissue, cough or sneeze into your upper sleeve or elbow, not your hands.

Try not to touch your face with unwashed hands.

Don't touch or shake hands with people who are sick.

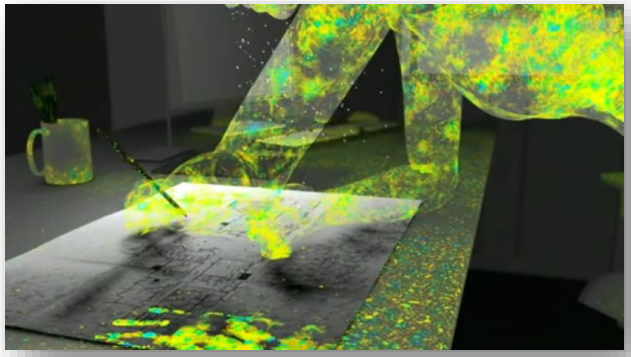
Ensure your general health is maintained. Chronic disease are well controlled.

Currently no vaccines for COVID-19 however its advisable to take the flu vaccine to prevent influenza and unnecessary testing for COVID-19

Travel prohibited in line with governments pronouncements. All non-essential local travel must be limited. Maintain a risk register of travel.

TAKE HOME MESSAGE

1. People carry the virus & people can stop the virus
2. Duty to adhere to President's pronouncements
3. Do the right thing, lead by example & keep the economy going
4. Develop and comply with workplace policies & procedures
5. Disruption leads to innovation: think creatively, simple and cost effective
6. **All risk is not the same and hence controls cannot be a one size fits all**
7. **CONDUCT A JOB FUNCTION RISK ASSESSMENT**



ACKNOWLEDGEMENTS

- NHLS Management
- NIOH Outbreak Response Team
- Zamani Miya (security officer)
- Lindo Khumalo (cleaning personnel)
- NICD

AWARENESS IS POWER & POWER SAVES LIVES

DO THE RIGHT THING!!

Note: The COVID-19 outbreak is evolving rapidly and information we know today may change tomorrow. It is therefore important that you keep abreast with the latest information. The material is prepared under emergency conditions, and has not been subject to its usual peer review processes and thus will contain errors and omissions. While care was taken in preparing the content using available resources and partners, and adapting it to the South African context we request that the material only be used as a guideline which does not replace official policies. We endeavour to update new information as soon as we're aware of it.

02/04/2020