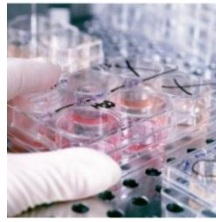




NATIONAL INSTITUTE FOR  
OCCUPATIONAL HEALTH

Division of the National Health Laboratory Service



# Principles of Workplace Health Risk Assessment (with HBAs Focus)

Presenter:

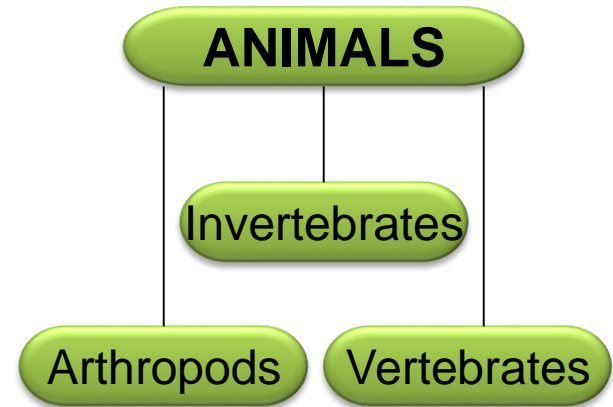
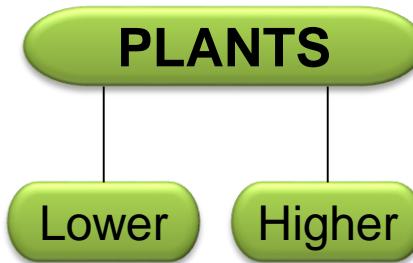
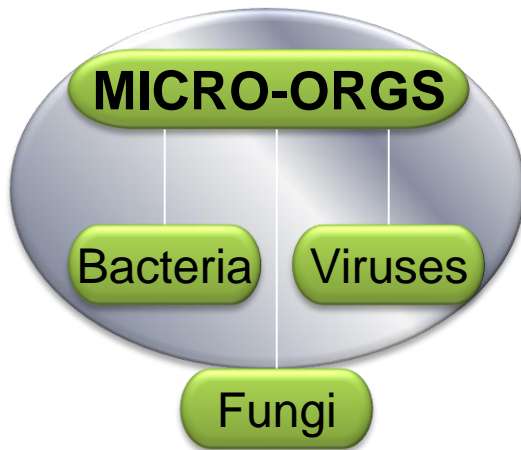
Gabriel Mizan (NIOH)

24 February 2021

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# Categories of HBAs



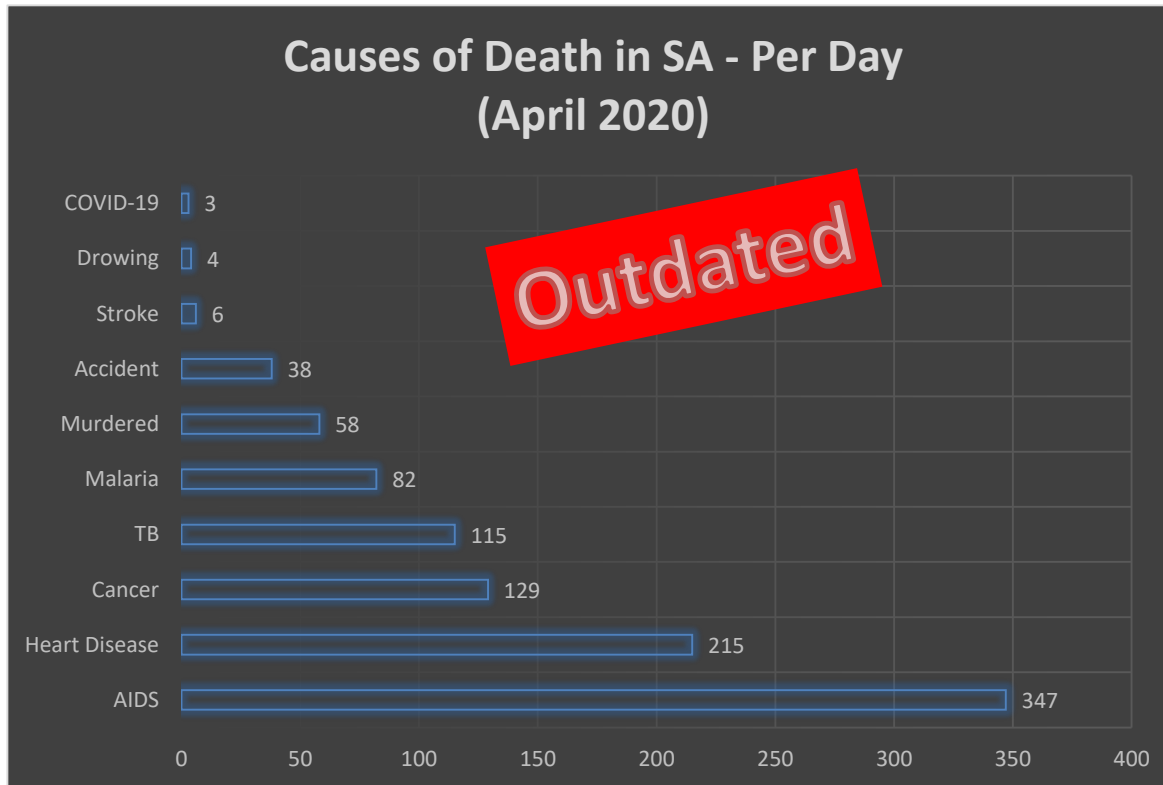


# Causes of Death in SA

(Rate from high to low risk)

- Stroke
- Motor accident
- Malaria
- TB
- Drowning
- Heart disease
- COVID-19
- AIDS
- Murder
- Cancer

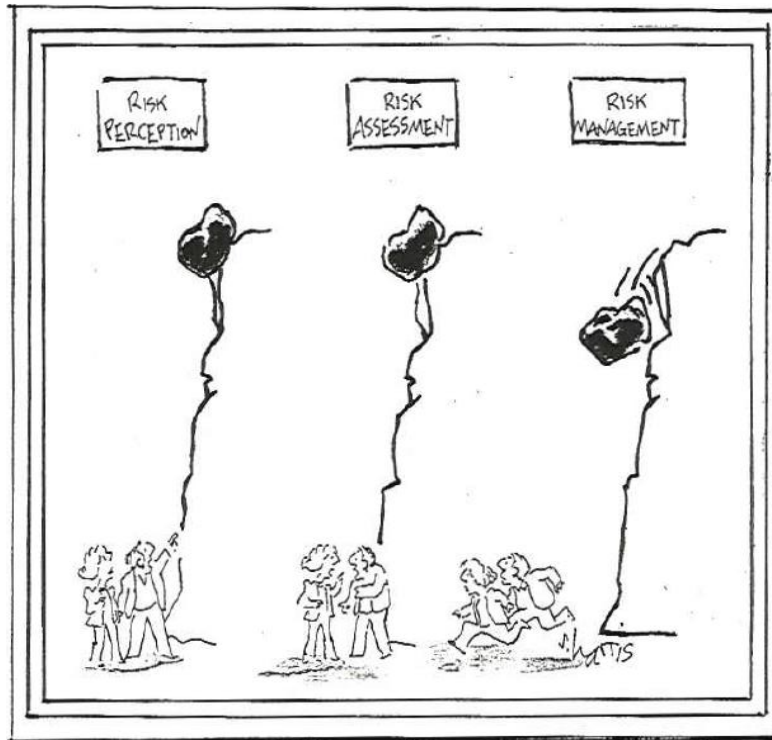




Source: social media (caution!)



# Introduction





# What is a Health Risk Assessment?

Information gathering and review process leading to:

- Valid and informed judgment about health hazards and risks
- Taking steps to achieve & maintain adequate control
- Decisions on workplace monitoring and health surveillance





# Hazard and Risk

**Hazard** = The capacity or potential to cause harm





- Relates to intrinsic properties
- Remains the same

**Risk** = The likelihood or probability that harm will occur

- Depends on the circumstances
- Varies



# HBA: Hazard Groups

Hazard Group	Characteristics	Examples
1 	<ul style="list-style-type: none"> <li>Unlikely to cause human disease</li> </ul>	Fungi and yeasts
2 	<ul style="list-style-type: none"> <li>Can cause human or animal disease</li> <li>Laboratory exposures may cause serious infection</li> <li>Effective treatment / prophylaxis available</li> <li>The risk of spread of infection is limited</li> </ul>	Legionella, Influenza A & B, Meningitis
3 	<ul style="list-style-type: none"> <li>Causes serious human or animal disease</li> <li>May spread to the community</li> <li>Effective treatment / prophylaxis available</li> </ul>	Anthrax, HIV, TB
4 	<ul style="list-style-type: none"> <li>Causes serious human disease</li> <li>High risk of spreading to the community</li> <li>No effective treatment / prophylaxis</li> </ul>	Ebola, Congo fever <b>SARS-COV-2?</b>





# Calculating and Prioritising Risks

- The severity / consequences of exposure (**the health hazard**)
- Probability / frequency of **exposure**

**Risk = Hazard x Exposure**

# The Risk Matrix

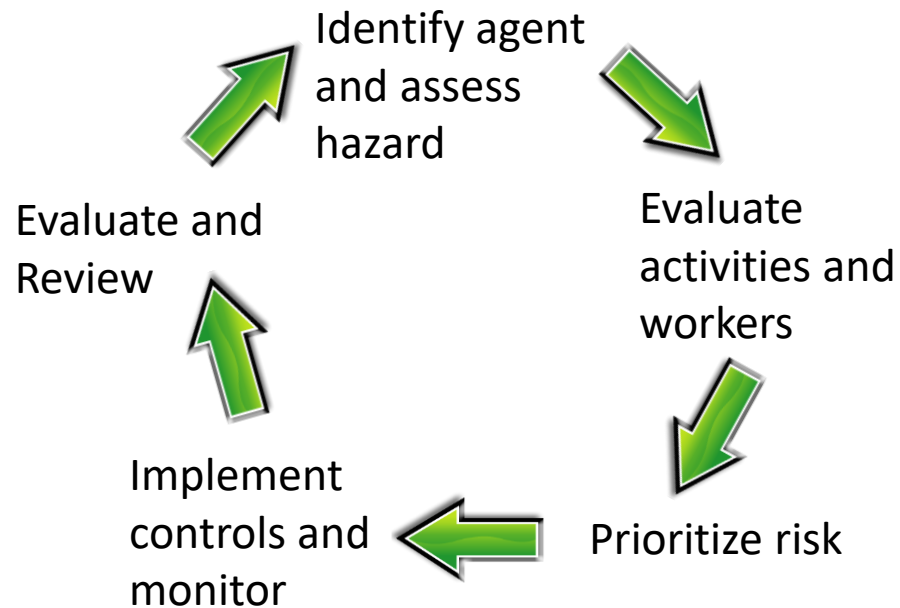
Health Hazard Rating	Exposure Rating				
	Very Low (0)	Low (1)	Moderate (2)	High (3)	Very High (4)
0					
1		Low Risk			
2					
3			Medium Risk		
4				High Risk	
5					

# The Risk Matrix (worker)

		EXPOSURE RISK GROUPS			
		LOW	MEDIUM	HIGH	VERY HIGH
EMPLOYEE VULNERABILITY GROUP	LOW	1	2	3	4
	MEDIUM	2	4	6	8
	HIGH	3	6	9	12
	VERY HIGH	4	8	12	16

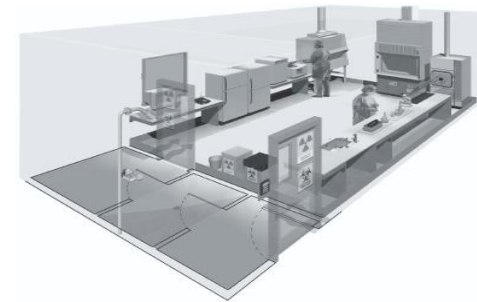


# Basic Steps in Workplace Risk Assessment

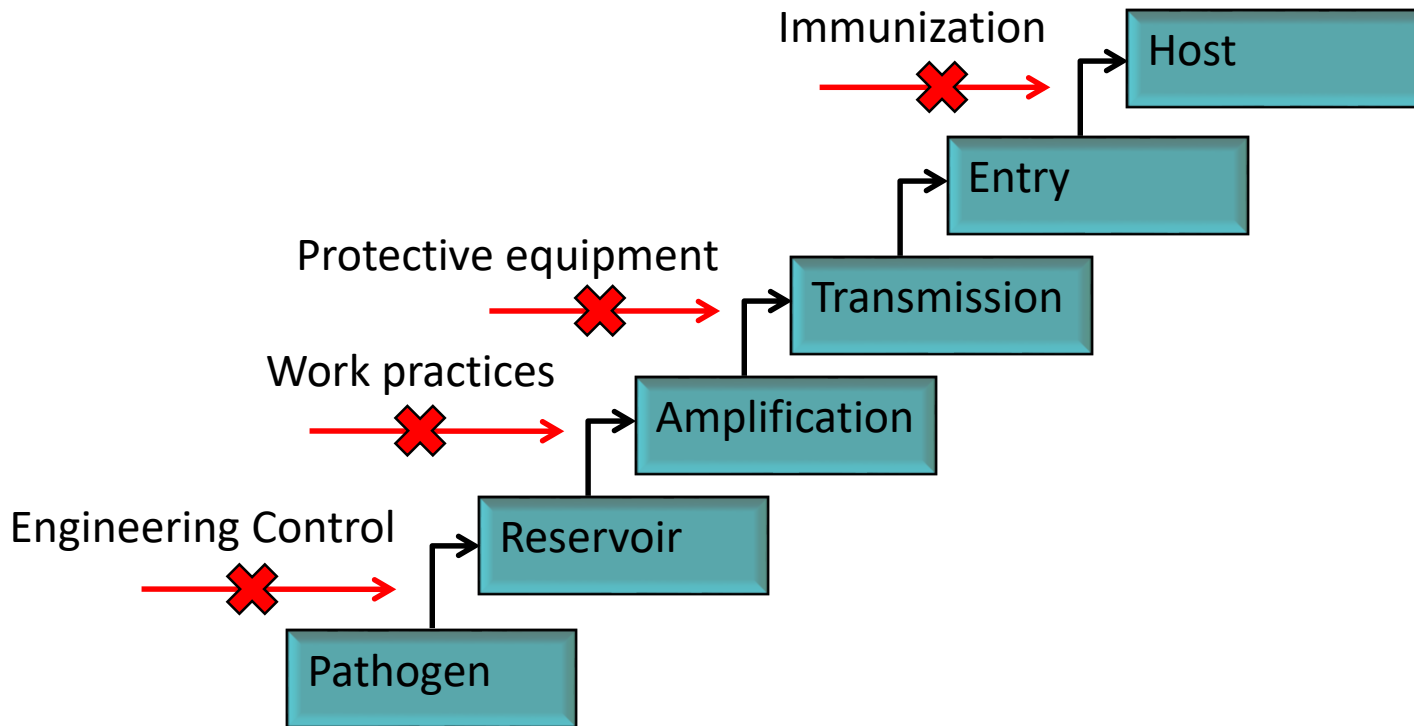


# Risk Control (Hierarchy)

- Prevention
- Engineering
- Administrative
- PPE

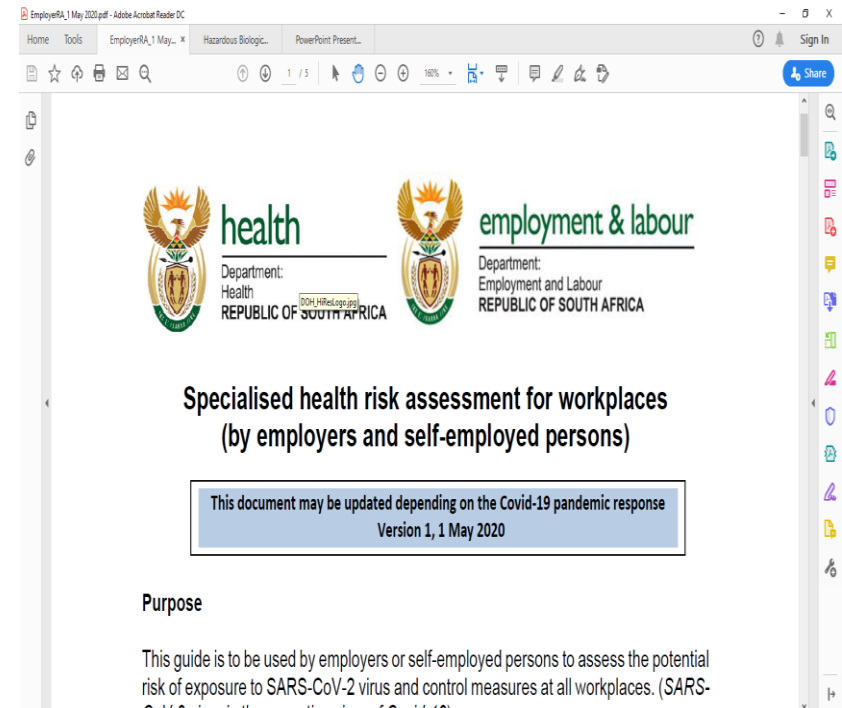


# HBAs – Control Interventions



# Legal Requirements – HBA Risk Assessment

- Required under Reg. 6 (1) of the HBA Regulations (2001)
- Specialised health risk assessment for workplaces, 1 May 2020
- H&S reps and committee must be informed
  - Before the assessment
  - Make findings available
- A record of the assessment must be kept, including:
  - The nature of work processes and activities
  - The nature and route of potential exposure to SARS-CoV-2
  - Who might be exposed, and how
  - Existing control measures, including possible deterioration / failure thereof





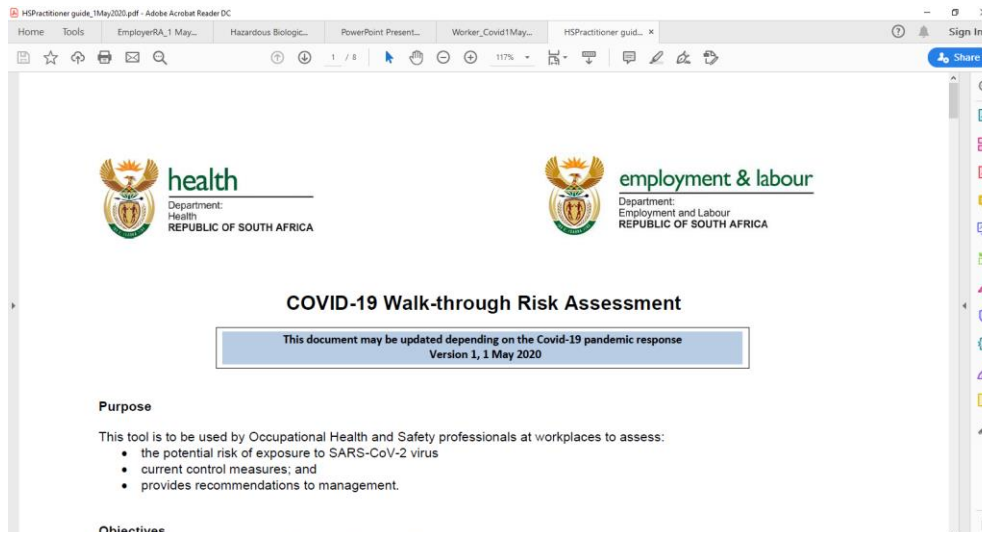
# Legal Requirements – HBA Risk Assessment (cont'd)

- Must be done by a “competent” person:
  - The risk assessment process
  - HBAs Regulations
  - SARS CoV-2 classification, health risk and control measures
  - Can be done in-house but a ROH or Safety Professional advisable
- Control – hierarchy of control
  - Standard precautions (hand washing, sanitising, distancing, PPE)
  - Transmission based precautions (droplets, aerosol, contact, airborne)
- Review the assessment
  - If the current one no longer valid
  - If methods, equipment or procedures change
  - Following a COVID-19 case
  - On-going



# COVID-19 Walk Through Risk Assessment

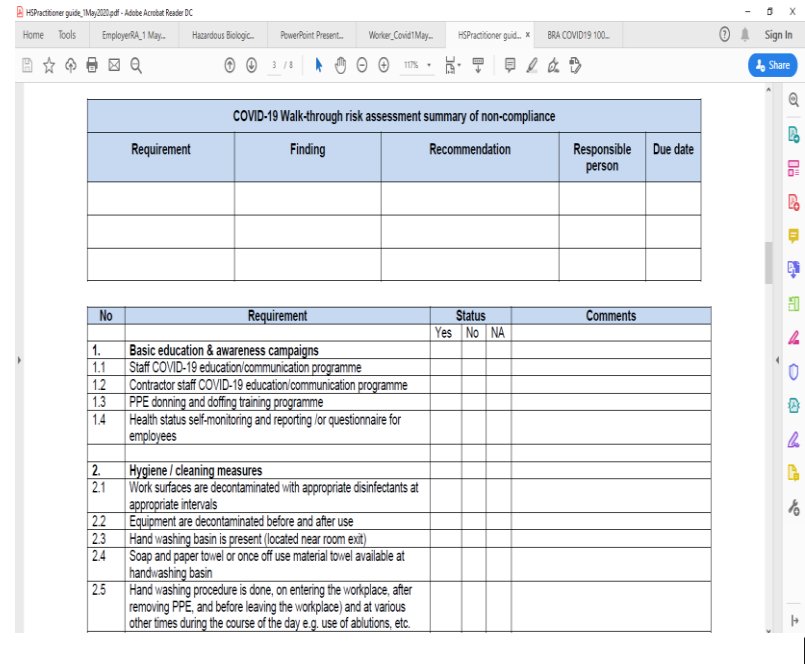
- Assess the risk of exposure to SARS-CoV-2 at workplaces
- Assess the effectiveness of existing control measures
- To inform the employer / employees of the potential risk and additional controls that might be required



The screenshot shows a PDF document titled "COVID-19 Walk-through Risk Assessment" displayed in Adobe Acrobat Reader. The document header includes the logos and names of the Department of Health and the Department of Employment and Labour, both of the Republic of South Africa. A central blue box contains the text: "This document may be updated depending on the Covid-19 pandemic response Version 1, 1 May 2020". Below this, the "Purpose" section states: "This tool is to be used by Occupational Health and Safety professionals at workplaces to assess:" followed by a bulleted list: "the potential risk of exposure to SARS-CoV-2 virus", "current control measures; and", "provides recommendations to management." The "Objectives" section is partially visible at the bottom.

# Topics to be Assessed

- Education, training and awareness
- Hygiene measures
- Physical (social) distancing
- Engineering controls
- Administrative controls
- Personal protective equipment (PPE)
- Safe work practices
- Waste management
- Safety equipment
- Emergency response



The screenshot shows a PDF document with a table titled "COVID-19 Walk-through risk assessment summary of non-compliance". The table has five columns: Requirement, Finding, Recommendation, Responsible person, and Due date. Below this table is another table with four columns: No, Requirement, Status, and Comments. The Status column has sub-columns for Yes, No, and NA. The table contains 14 rows of assessment data.

COVID-19 Walk-through risk assessment summary of non-compliance				
Requirement	Finding	Recommendation	Responsible person	Due date

No	Requirement	Status			Comments
		Yes	No	NA	
1.	Basic education & awareness campaigns				
1.1	Staff COVID-19 education/communication programme				
1.2	Contractor staff COVID-19 education/communication programme				
1.3	PPE donning and doffing training programme				
1.4	Health status self-monitoring and reporting /or questionnaire for employees				
2.	Hygiene / cleaning measures				
2.1	Work surfaces are decontaminated with appropriate disinfectants at appropriate intervals				
2.2	Equipment are decontaminated before and after use				
2.3	Hand washing basin is present (located near room exit)				
2.4	Soap and paper towel or once off use material towel available at handwashing basin				
2.5	Hand washing procedure is done, on entering the workplace, after removing PPE, and before leaving the workplace) and at various other times during the course of the day e.g. use of ablutions, etc.				



## Priority Areas to be Assessed (examples)

- Workplace entry / exit points
- Change house facilities
- Canteen / dining areas
- Waiting areas
- Conference / training areas





# Problems with HBA Risk Assessment

- No threshold (safe) level of exposure, although risk is related to dose
- No exposure limits
- HBAs are common in the environment
- Uncertainties regarding the routes of exposure
- Individual susceptibility / vulnerable workers
- Limited resources for risk mitigation





# Why Risk Assessment?

# CONTROL!

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Source: Dreamstime.com

